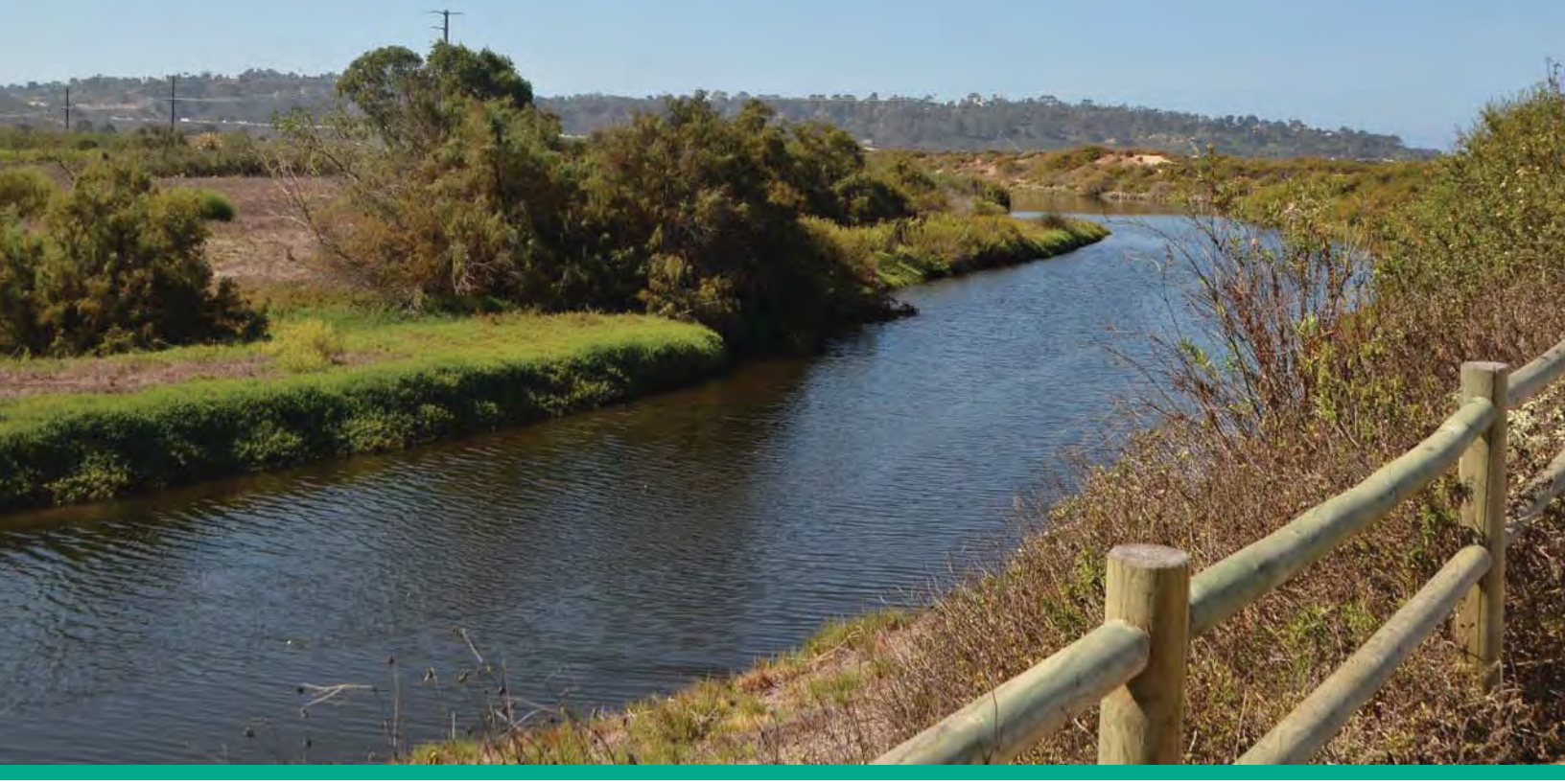
San Dieguito River Park

SAN DIEGUITO LAGOON W-19 RESTORATION PROJECT

Final Environmental Impact Report

San Diego, California
SCH # 2014081095

November 2018



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FINAL EIR

SAN DIEGUITO LAGOON W-19 RESTORATION PROJECT
SAN DIEGO, CALIFORNIA

SCH No. 2014081095

Prepared for:

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October 16, 2018

TO: Interested Agencies, Organizations, and Individuals

FROM: Shawna Anderson, Principal Planner

SUBJECT: Changes Incorporated into the Final Environmental Impact Report for the San Dieguito Lagoon W-19 Restoration Project, State Clearinghouse Number 2014081095

This document is being prepared and processed under the California Environmental Quality Act (CEQA) by the San Dieguito River Park Joint Powers Authority (JPA) as the lead agency. This document constitutes the Final Environmental Impact Report (EIR) and the title of the document has been updated to reflect that status.

A Draft EIR for the San Dieguito Lagoon W-19 Restoration Project (proposed project) was circulated for a 45-day public review beginning on March 9, 2017. A total of 14 comment letters and email comments were received by the JPA, including nine letters from agencies and organizations and five letters from individuals. The JPA prepared responses to all comments received during the public review period, which are included in the Final EIR as Appendix R, Public Comment Letters and Responses.

Following the public review period of the Draft EIR, clarifications and corrections were incorporated into the Final EIR in response to public comments received or the JPA's desire to clarify a matter. These changes reflect minor additions or clarifications and do not involve "significant new information" that requires recirculation of the Draft EIR under CEQA Guidelines, Section 15088.5. Key changes are identified and summarized in the table below. Text changes in the Final EIR are indicated by underline/strikeout text, including a line in the margin next to the modified text. Note that some minor text changes (e.g., typographical corrections) are not reflected in this table or in underline/strikeout format of the Final EIR.

DOCUMENT MODIFICATIONS

General Document Modifications

Issue 1

During review of the Draft EIR, the City of San Diego archaeological staff became informed of an archaeological site in proximity to the W-19 site. This site was originally recorded in 1980 and updated in 1983, then further expanded during monitoring and data recovery for another project. However, a site form was never prepared to reflect new information, which included the discovery of human remains. Discussions throughout the Final EIR have been updated to reflect this information. While the unanticipated presence of human remains within the W-19 site would be considered potentially significant, applicable sections of Mitigation Measure Cultural-1 detailed in the Draft EIR addressing human remains would be implemented to ensure impacts are less than significant. This update does not

constitute significant new information under CEQA Section 15088.5 because it does not result in a change to the significance conclusion from that disclosed in the Draft EIR and does not require additional mitigation beyond the previously proposed Mitigation Measure Cultural-1 in the Draft EIR.

Issue 2

The EIR was initiated before AB 52 went into effect; consequently, the proposed project is not required to meet the requirements of this regulation. However, potential impacts to Tribal cultural resources have been considered as a component of cultural resources in the Final EIR and discussions have been updated throughout the document. The addition of AB 52 does not constitute significant new information under CEQA Section 15088.5 because the proposed project is not required to meet the requirements of this regulation, as stated above.

Issue 3

Since release of the Draft EIR, additional information has become available regarding the design of the proposed project with respect to potential vector breeding conditions. Conditions of the freshwater/brackish portion of the proposed project site have been designed to encourage appropriate plant establishment. The updated vector discussion does not constitute significant new information under CEQA Section 15088.5 because the information further clarifies and expands on information in the Draft EIR, as allowed under CEQA Section 15088.5 and no new impact was identified. Implementation of the proposed project would not substantially increase the public health and safety risk associated with mosquito-borne diseases, resulting in no change to the significance conclusion.

Issue 4

In the response to public comments and agency coordination, an alternative haul route was suggested to reduce construction hauling distances to the disposal site. This haul route option has been included in the Final EIR. Additional analysis with respect to biological resources using this alternative haul route has been included in Section 5.6.3. This discussion does not constitute significant new information under CEQA Section 15088.5 because the alternative haul route has the potential to reduce impacts analyzed under the original haul route and would not alter the significance conclusion.

Summary of Key Revisions to the Final EIR

Location in Final EIR	Description of Change
Section ES.5.4	Clarification to maintenance volumes given a 50-year and 100-year storm event has been added.
Section 1.3.3	Discussion of prepared responses to comments has been added.
Section 2.1	Existing easement information has been added.
Table 3-2	Monitoring requirements of SWPPP included.
Table 3-4	Included consultation with the California Department of Fish and Wildlife in PDF-27.
Table 3-7	City of Del Mar and San Diego Gas and Electric added to potential regional/local project approvals and permits requirements.
Chapter 4	Discussion of predicted habitat conversion with sea level rise and sedimentation due to episodic storm events for alternatives has been added.
Section 5.1.1, Section 5.1.3	City of San Diego Land Development Code Historical Resources Regulations and Guidelines definition and analysis included.
Section 5.1.1, Section 5.1.3	State Marine Conservation Area definition and analysis included.
Section 5.1.1, Section 5.1.3	North Coast Corridor PWP/TREP definition and analysis included.
Section 5.1.3	Future trail connection with the El Camino Real Bridge/Road Replacement Project has been added.
Section 5.2.1	Fiber rolls and hydromulch included as soil stabilization measures.
Table 5.3-2	Error corrected in table; does not change the anticipated inlet maintenance volumes.
Section 5.3.3	Sediment deposition in SCE wetlands between existing conditions and with the proposed project or any alternatives is included. Increased sedimentation is not expected to occur with implementation of the proposed project.
Section 5.4.1	Corrected Construction General Permit number.
Table 5.4-1	Evaluation of the need for downstream post-construction monitoring, as part of the SWPPP process, has been included.
Section 5.4.3	Berm protection and minimizing sedimentation into established wetlands from storm events has been clarified.
Table 5.6-2, 5.6-5, 5.6-7, 5.6-11	Additional haul route and staging area acreages incorporated into tables and text.
Section 5.6.3	Discussion of alternative haul route alignment has been added.
Section 5.6.1, Figure 5.6-4	The number of light-footed Ridgway's rails observed during surveys has been corrected.
Section 5.6.3	Discussion of affecting lower-functioning perimeter areas along the edge of establishing wetlands has been added.
Section 5.6.3	Lighting eliminated from indirect temporary impacts to special-status species.
Section 5.6.3	Discussion of removing vegetation outside of the breeding season and adjacent available habitat has been added to clarify wildlife species would have the opportunity to be located at greater distances from noise-generating activities.
Section 5.6.3, Chapter 6	Approximate tidal salt marsh acreage (60 acres) proposed to establish with proposed project implementation has been revised.
Section 5.6.3	Rock slope protection, included in drainage improvements, has been clarified to not preclude wildlife from crossing the storm drain.
Section 5.6.3	Discussion of future maintenance activities and affected habitat given sedimentation has been expanded.

Location in Final EIR	Description of Change
Section 5.6.5	Exclusion of a mitigation measure requiring work outside of the nesting season was determined to be biologically undesirable and infeasible; discussion clarifying this decision has been added.
Figure 5.7-10	A cross section view from KOP 8 to represent disposal site heights and uninterrupted oceanic views from El Camino Real/Disposal Site has been included.
Section 5.7.3	Discussion of motorists' views as they pass through the KOP 8 vicinity has been expanded.
Table 5.9-3, Table 5.9-4	Estimated daily and annual construction emissions may be slightly less due to an option to shortened haul route distances to the disposal site. Clarification has been added as a footnote to the table.
Section 5.11.1	CEQA Section 15064.5, City of San Diego Land Development Codes Historical Resources Regulations and Guidelines have been included under the regulatory setting.
Section 5.11.3	Conclusion of no impacts to existing built environment resources has been included.
Table 5.11-1	Updated summary of cultural resources impact conclusions.
Table 5.15-1	Construction-related GHG emissions may be slightly less due to an option to shorten the haul route distances to the disposal site. Clarification has been added as a footnote to the table.
Table 8-1	Updated approval timeline for the El Camino Real Bridge/Road Replacement Project has been added.
Table 8-1	Fairbanks Ranch Golf Course Remedial Mitigation Project has been included under cumulative projects.
Section 8.3.6	Discussion of biological resources with implementation of cumulative projects has been updated.
Section 8.3.7, 8.3.8, 8.3.10	The widening of Via de la Valle has been more specifically considered in discussions of cumulative impacts.
Chapter 9	The required relocation of SDG&E utilities and the potential for no significant effects on the environment has been clarified.
Section 10.1	A discussion clarifying the evolution of habitat distribution for Alternatives B and C has been added. Habitats for both alternatives would be designed to allow for natural influences and evolution over time, and initial habitat distribution would change based on storm events and sedimentation.
Table 10-2	Habitat conversion with sea level rise for the proposed project and alternatives have been included.
Throughout document as necessary	Construction timeline of the proposed project has been updated.
Throughout document as necessary	Revisions to Mitigation Measures Traffic-1, Air Quality-1, and Noise-2 have been added.
Throughout document as necessary	Construction timeline and name of the El Camino Real Bridge/Road Widening Project have been updated.
Figures ES-3, 2-3, 3-4, 3-8, 5.1-1, 5.6-2, 5.6-3, 5.6-4, 5.6-5, 5.6-6, 5.6-7, 5.10-1	Figures have been updated to include an alternative haul route that crosses disposal sites currently used by SCE prior to connecting to the existing trail segment.

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LIST OF ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
AB	Assembly Bill
AME	Archaeological Monitoring Exhibit
APE	area of potential effects
ARB	Air Resources Board
AST	aboveground storage tank
B.P.	before present
BI	Building Inspector
BMP	best management practice
BSA	biological study area
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CCC	California Coastal Commission
CDFW	California Department of Fish and Wildlife
CDP	Coastal Development Permit
CEQA	California Environmental Quality Act of 1970
CH_4	methane
CHHSL	California Human Health Screening Level
CHRIS	California Historical Resources Information System
CM	Construction Manager
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2 equivalent
Concept Plan	San Dieguito River Park Concept Plan
Corps	U.S. Army Corps of Engineers
CRHR	California Register of Historical Resources
CSVR	Consultant Site Visit Record
CTC	Coast to Crest
CWA	Clean Water Act
cy	cubic yards
dB	decibels
dBA	A-weighted decibels
DG	decomposed granite
DO	dissolved oxygen
Dokken	Dokken Engineering

DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
EAS	Environmental Analysis Section
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
ESL	Environmentally Sensitive Lands
Feasibility Study	San Dieguito Lagoon W19 Restoration Project Feasibility Study
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
fps	feet per second
Framework Plan	North City Future Urbanizing Area Framework Plan
FTA	Federal Transit Administration
GHG	greenhouse gas
Geocon	Geocon Incorporated
GWP	global warming potential
HFC	hydrofluorocarbon
I-5	Interstate 5
I-805	Interstate 805
JPA	Joint Powers Authority
kcy	thousands of cubic yards
Konecny	Konecny Biological Services
KOP	key observation point
kV	kilovolt
LCP	Local Coastal Program
LDC	Land Development Code
LDM	Land Development Manual
L_{eq}	equivalent noise level
L_{max}	maximum noise level
L_{min}	minimum noise level
LOS	level of service
LOSSAN	Los Angeles to San Diego Rail Corridor
LRA	Local Responsibility Area
LUST	leaking underground storage tank
mcy	million cubic yards
mg/L	milligrams per liter
MHPA	Multiple Habitat Planning Area
MLD	Most Likely Descendant
MMC	Mitigation Monitoring Coordination
MMRP	Mitigation Monitoring and Reporting Program
MMT	million metric tons

MPA	marine protected areas
MSCP	Multiple Species Conservation Program
MT	million tons
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCFUA	North City Future Urbanizing Area
NEPA	National Environmental Policy Act of 1969
NF_3	nitrogen trifluoride
NGVD	National Geodetic Vertical Datum
NO	nitric oxide
NO_2	nitrogen dioxide
NOP	Notice of Preparation
NO_X	nitrogen oxides
NRHP	National Register of Historic Places
OCP	organochlorine pesticide
OES	Office of Emergency Services
OPP	organophosphorus pesticide
Park Master Plan	Park Master Plan for the Coastal Area of the San Dieguito River Valley Regional Open Space Park
PCE	passenger car equivalent
PDF	project design feature
PFC	perfluorocarbon
PI	Principal Investigator
PM	particulate matter
PM_{10}	particulate matter equal to or less than 10 micrometers in diameter
$PM_{2.5}$	particulate matter equal to or less than 2.5 micrometers in diameter
Precon	preconstruction
PWP	Public Works Plan
RAQS	Regional Air Quality Strategy
RE	Resident Engineer
REMP	Resource, Enhancement, and Mitigation Program
ROG	reactive organic gases
RSL	Regional Screening Level
RSP	rock slope protection
RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SCE	Southern California Edison
SCIC	Southern California Information Center
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District

SDG&E	San Diego Gas & Electric
SF_6	sulfur hexafluoride
SFEI	San Francisco Estuary Institute
SIP	State Implementation Plan
SLIC	spills, leaks, investigation, and cleanups
SMCA	State Marine Conservation Area
SO_2	sulfur dioxide
SONGS	San Onofre Nuclear Generating Station
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TDS	total dissolved solids
TREP	Transportation and Resource Enhancement Program
UCSD	University of California San Diego
USCS	Unified Soil Classification System
USFWS	U.S. Fish and Wildlife Service
UST	underground storage tank
V/C	volume to capacity ratio
VMT	vehicle miles traveled

EXECUTIVE SUMMARY

ES.1 INTRODUCTION AND OVERVIEW

This Environmental Impact Report (EIR) has been prepared by the San Dieguito River Park Joint Powers Authority (JPA) to evaluate potential environmental effects associated with the San Dieguito Lagoon W-19 Restoration Project (proposed project). This EIR has been prepared in conformance with the California Environmental Quality Act of 1970 (CEQA) statutes (Cal. Pub. Res. Code, Section 21000 et seq., as amended) and the CEQA Guidelines (Cal. Code Regs., Title 14, Section 15000 et seq., 2016). The JPA is identified as the lead agency for the proposed project under CEQA.

San Dieguito Lagoon is located in northern San Diego County and is fed by the San Dieguito River. While San Dieguito Lagoon spans the east and west sides of Interstate 5 (I-5), the proposed project site is located entirely east of I-5. The site is currently composed of disturbed riparian and upland areas mixed with nonnative species adjacent to lagoon wetlands and the San Dieguito River. The lagoon is surrounded by a mixture of hillside residential neighborhoods, commercial development, major transportation corridors, and the Pacific Ocean. The proposed project would supplement recent restoration efforts within San Dieguito Lagoon by creating and maintaining wetland habitat, which would be used as mitigation for transportation projects within the coastal corridor of north San Diego.

ES.2 PROJECT BACKGROUND

San Dieguito Lagoon historically supported a range of habitats including vegetated salt and brackish marsh, associated tidal embayments, sloughs, and mudflats. However, San Dieguito Lagoon has been degraded from historical conditions due to development and infrastructure expansion in the watershed, immediate surrounding areas, and within the lagoon itself. Since the 1990s, numerous federal, state, and local agencies and organizations have been involved in enhancement efforts within the lagoon to address these degraded conditions. The 1994 San Dieguito River Park Concept Plan proposed restoration of San Dieguito Lagoon, with additional detail and habitat designations provided in the subsequent Park Master Plan for the Coastal Area of the San Dieguito River Valley Regional Open Space Park (Park Master Plan; San Dieguito River Park JPA 2000) for the lagoon. The Southern California Edison (SCE) San Dieguito Wetlands Restoration Project (restoration project) restored the majority of the area analyzed in the Park Master Plan (approximately 440 acres) between 2006 and 2011.

The proposed project is identified as a mitigation opportunity within the I-5 North Coast Corridor Public Works Plan/Transportation and Resource Enhancement Program (PWP/TREP), which describes transit, environmental, and coastal access improvements along the I-5 North Coast Corridor over the next 30 years. Specifically, the PWP/TREP considers the San Dieguito W-19 Restoration Project as a mitigation opportunity for the establishment of 47.3 acres of coastal wetland and 9.6 acres of upland habitat, as well as the restoration of 19.8 additional acres of upland. The project is also identified as mitigation for the El Camino Real Bridge/Road Widening~~ Replacement~~ Project Recirculated EIR (SCH No. 1999071104), requiring the

establishment of approximately 15 acres of brackish wetlands and 3 acres of riparian habitat, as well as enhancement of 2 acres of riparian habitat.

To satisfy mitigation needs and create a wetland system that can be sustained into the future, potential effects of both sea level rise (e.g., higher water elevations) and storm events (e.g., sedimentation from water carried down the San Dieguito River) were taken into account as part of project development and identification of the proposed project.

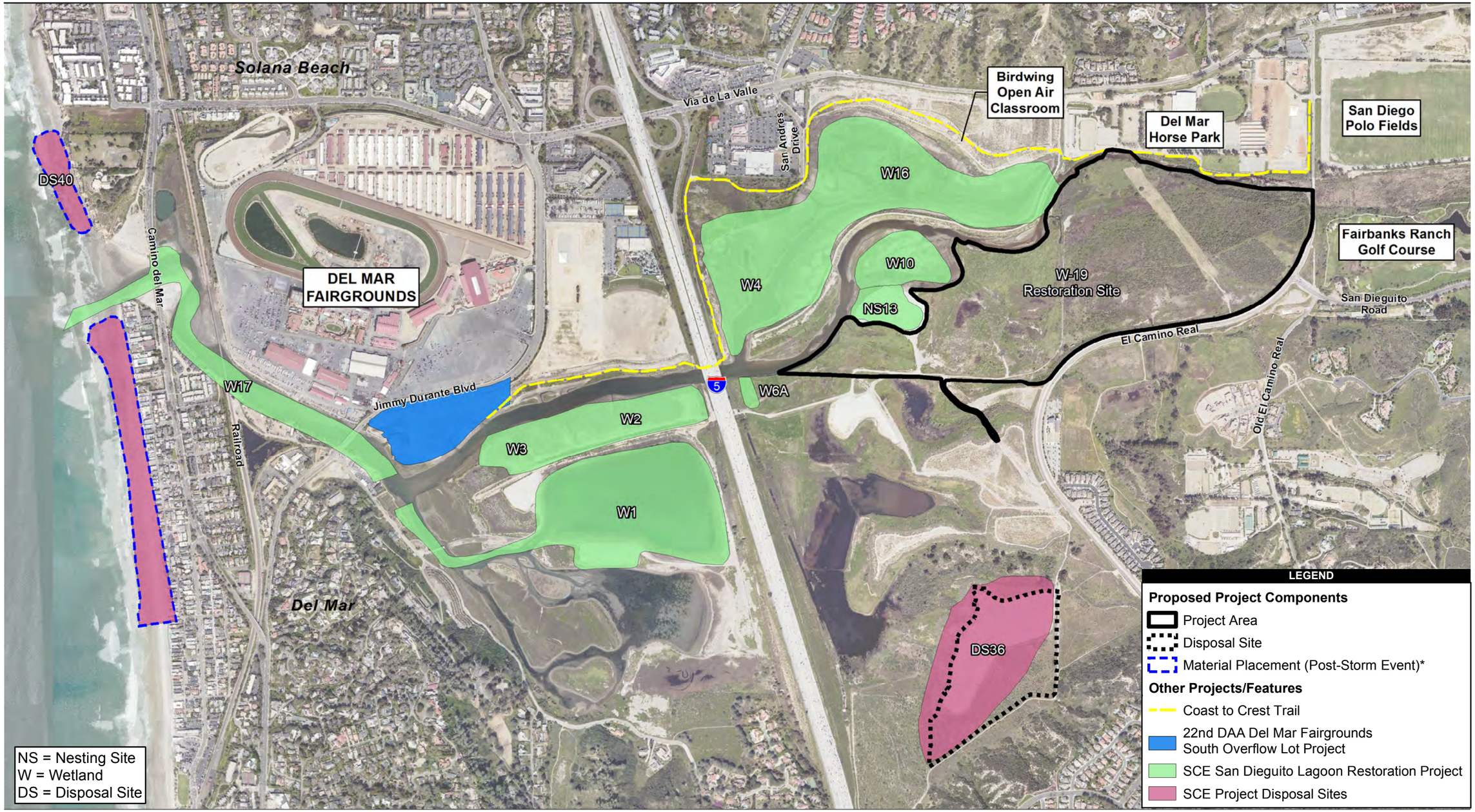
The W-19 site is located within the City of San Diego jurisdiction and is primarily owned by the JPA, while the California Department of Fish and Wildlife and 22nd District Agricultural Association each own a parcel in the northern area. The westernmost parcels are currently owned by the City of San Diego, which has an agreement to sell the land to the San Diego Association of Governments (SANDAG) once the W-19 site has received all necessary federal and state permits. SANDAG will transfer the property to the JPA after the site meets its success criteria. The City of San Diego owns the disposal site.

ES.3 PROJECT LOCATION AND SETTING

San Dieguito Lagoon is located at the terminus of the San Dieguito river valley in northern coastal San Diego County. The lagoon currently covers about 500 acres, the majority of which is salt marsh, but also includes transitional and upland buffer areas. The lagoon is bordered to the west by the Pacific Ocean, to the south by gradual hillsides and residential neighborhoods in the City of San Diego and Del Mar, and to the north by commercial and residential development in the cities of San Diego, Del Mar, and Solana Beach. While San Dieguito Lagoon spans the east and west sides of I-5, the proposed project site is located entirely east of I-5 and adjacent to the San Dieguito River, as shown in Figure ES-1, Vicinity Map. The overall proposed project area, approximately 141 acres, is located east of I-5, south of Via de la Valle, and west/northwest of El Camino Real. The disposal site is located south of the W-19 site (approximately 30 acres) to the west of El Camino Real. Two beach placement sites proposed for material placement during maintenance activities are located within the jurisdictional boundaries of the City of Del Mar. The material placement sites are located just north and south of the San Dieguito River inlet as shown in Figure ES-1.

ES.3.1 W-19 RESTORATION SITE CHARACTERISTICS AND BACKGROUND

Historically, San Dieguito Lagoon was composed of a mosaic of habitats including vegetated salt and brackish marsh, associated tidal embayments, sloughs, and mudflats. In the early 20th century, large portions of the San Dieguito Lagoon marsh plain were filled and developed and the surrounding area was also developed for a variety of commercial and residential uses. Today, less than half of the historical wetlands remain intact and the estuary's area is greatly reduced from its historical extent. Changes within the lagoon and its watershed have historically resulted in changes to the hydrologic function of the lagoon system, including reduced frequency and/or duration of an open inlet lagoon that diminish tidal influence and reduce the ecological function of the tidal marsh ecosystem components. However, recent lagoon restoration has improved these conditions.



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* The proposed materials placement sites are the same as those used for maintenance dredging required by the SCE Restoration Project (DS-40).

Figure ES-1
Vicinity Map

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The proposed W-19 restoration site was historically within the freshwater/brackish wetland area of the lagoon and more recently was used for tomato farming. Since the purchase of the site by the JPA in 2004, agricultural uses have been halted and habitat transition has occurred. Currently, the site primarily consists of nonnative grasslands, dense coyote bush scrub, and nonnative riparian areas.

Recent restoration efforts have taken place within the lagoon and river valley. Between 2006 and 2011, the SCE restoration project established large areas of salt marsh within San Dieguito Lagoon. The project restored approximately 440 acres within the lagoon, including the creation of tidally influenced wetlands, and returned much of the agricultural land within the lagoon complex to coastal sage scrub/native grassland vegetation. The Del Mar Fairgrounds South Overflow Lot Project recently restored approximately 3.2 acres of tidal wetlands along the northern bank of the river channel adjacent to the fairgrounds and a second phase currently under construction will restore the remaining 11.2 acres.

ES.3.2 DISPOSAL SITE CHARACTERISTICS AND BACKGROUND

The disposal site consists of two distinct areas. The northwestern portion is used as a disposal site (DS-36) for the SCE restoration project and consists of slightly elevated graded and terraced fill material. The southeastern portion of the disposal site is generally undisturbed vegetated terrain.

ES.3.3 MAINTENANCE MATERIAL PLACEMENT SITE CHARACTERISTICS AND BACKGROUND

Stretches of Del Mar Beach, located immediately to the north and south of the inlet, would be used for material placement during W-19 wetlands maintenance. These beach placement sites are the same as those designated for beach placement during inlet maintenance of the SCE restoration project. These beach areas are used for common beach recreation activities. Beach conditions can vary from sandy to exposed cobbles and rocky terrain. The area north of the inlet is the North Beach area, commonly known as Dog Beach.

ES.4 PROJECT OBJECTIVES

The purpose of the proposed project is to create coastal wetlands that can be maintained into the future, which would be used as mitigation for transportation projects within the coastal corridor of north San Diego, partially offsetting wetland losses within the San Dieguito Lagoon system.

Accordingly, the primary objectives of the proposed project include:

- Establish a functional mix of coastal wetlands that includes approximately 50 acres of tidal salt marsh and contribute to the upland mitigation need identified in Table 1 of the Resource Enhancement and Mitigation Plan of the PWP/TREP (Caltrans 2016a).
- Establish approximately 15 acres of brackish wetlands and 3 acres of riparian habitat, and enhance an additional 2 acres of riparian habitat as identified in the El Camino Real Bridge/Road Widening ~~Replacement~~ Project Recirculated EIR (SCH No. 1999071104).

- Enhance connectivity of the San Dieguito River to the river valley to promote functionality of the broader lagoon ecosystem.
- Promote a sustainable system of native wetland and terrestrial vegetation communities.
- Promote recreational trail connectivity and enhancement of public access within and adjacent to the San Dieguito River Park and San Dieguito Lagoon.
- Complement existing restoration efforts (e.g., SCE's restoration project).
- Maintain coastal littoral zone conditions along the beach/coastline.
- Maintain or enhance current flood protection, specifically for existing infrastructure and development.

ES.5 DESCRIPTION OF PROJECT COMPONENTS

The proposed project involves lowering existing elevations at the W-19 restoration site to establish wetland systems and habitat, disposal of the resulting material, relocation of a single set of utility poles that are outside of the existing utility corridor into the corridor, construction of a new trail, and a planning addendum to reflect current plans. Maintenance of wetlands within W-19 is also included.

ES.5.1 SAN DIEGUITO RIVER PARK MASTER PLAN ADDENDUM

The Park Master Plan (San Dieguito River Park JPA 2000) provides a framework for the restoration of the San Dieguito Lagoon ecosystem and for the provision of public trails/access for enjoyment and nature study. The Park Master Plan would be amended to reflect various elements of the project. The Park Master Plan would be amended to update Park Master Plan Area Boundary to include the W-19 site; redesignate the restored areas as W-19 and would incorporate the updated habitat designations; and the existing recreational trail system would be expanded to include the new trail. The Park Master Plan addendum is specific to the scope of this project and would not modify other elements or components of the Park Master Plan not affected by the project.

ES.5.2 HABITAT RESTORATION/CREATION

The proposed project would lower elevations within the W-19 restoration site to create two separate wetland systems (habitats shown in Figure ES-2, Proposed Project): a salt marsh system west of the utility corridor, and a brackish marsh system east of the utility corridor. To create the proposed habitat distribution, changes in site elevations must occur, because salt water wetland habitats require a certain frequency of tidal inundation to establish and survive.

The proposed project habitat distribution is shown in Table ES-1. Approximately 60 acres of tidal salt marsh, which includes mudflats, open water, and low to high salt marsh, would be established west of the existing utility corridor and south of the river. Upland/transitional habitats would be created adjacent to the wetland habitat to support ecological function of the restoration

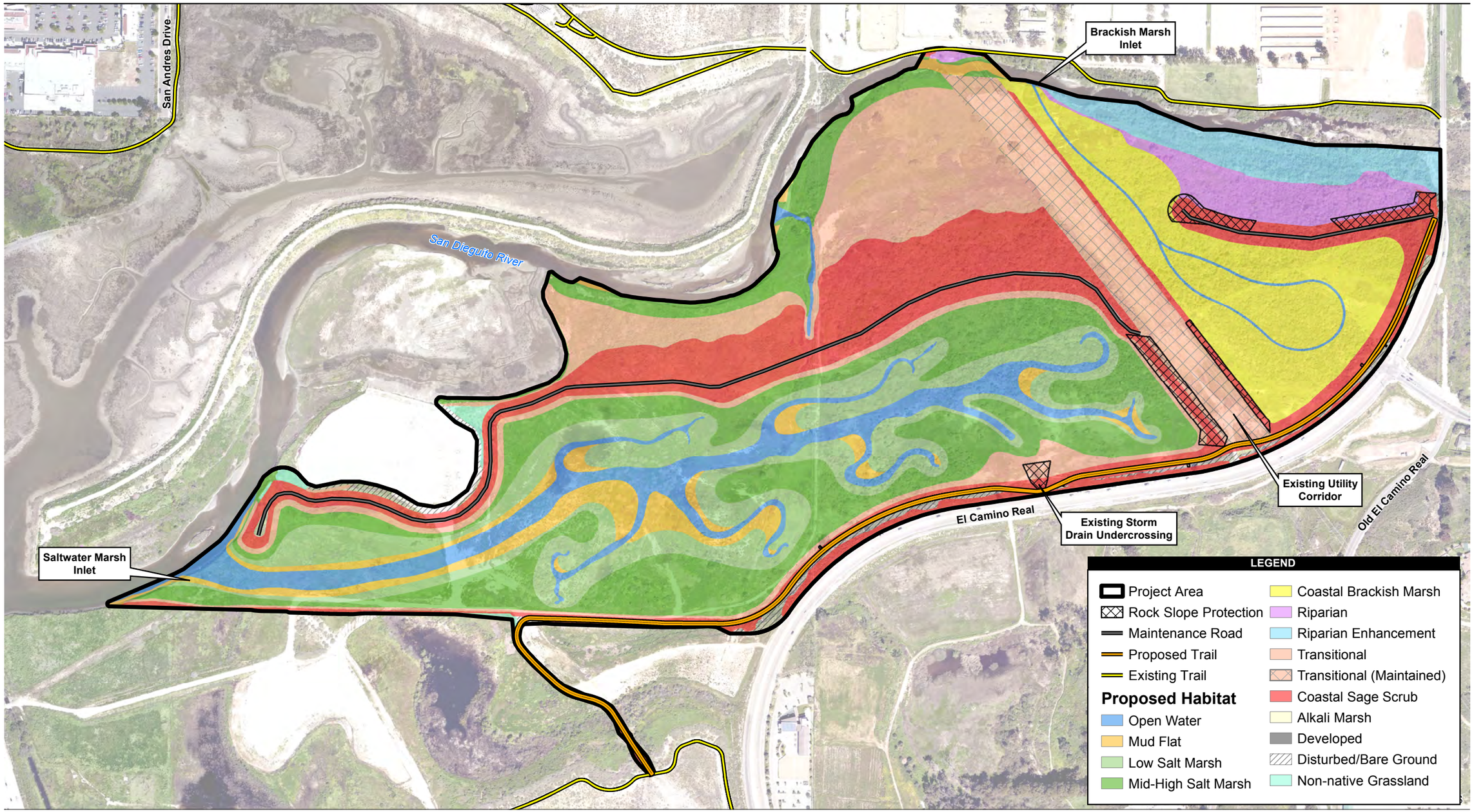

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Figure ES-2
Proposed Project

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project and provide resiliency for future sea level rise. Tidal connection with the San Dieguito River would be constructed at the west end of the site and in the vicinity of the existing least tern nesting island (designated NS13 in the SCE restoration project).

East of the existing utility corridor, approximately 14.9 acres of brackish marsh would be created as part of the proposed project. An open water channel from the San Dieguito River would be constructed through the brackish marsh area to provide drainage and circulation.

Table ES-1
Proposed Project – Habitat Distribution[1]

Vegetation Community or Cover Type	Wetland/Upland Tier Value[2]	Existing in W-19 Site (Acres)	Post Restoration (Acres)	Net Change in Acres
Wetlands and Riparian				
Alkali Marsh	Salt Marsh	2.4	0	-2.4
Brackish Marsh	Salt Marsh/ Freshwater Marsh	0.2	14.9	+14.7
Disturbed Wetland	Disturbed Wetland	0.3	0	-0.3
Freshwater Marsh	Freshwater Marsh	0.2	0	-0.2
Salt Marsh (Mid-High)	Salt Marsh	8.8	27.4	+18.6
Low Salt Marsh	Salt Marsh	0	17.7	+17.7
Mudflat	Salt Panne	1.2	6.1	+4.9
Open Water	--	0.5	10.6	+10.1
Riparian		8.2	9.3	+1.1
Native Riparian	*Riparian Forest/ Riparian Scrub*	*5.6*	*9.3[3]*	*+3.7*
Nonnative Riparian	--	*2.6*	*0*	*-2.6*
Wetlands and Riparian Subtotal		***21.8***	***86.0***	***+64.2***
Uplands				
Coastal Sage Scrub	II	1.9	25.6	+23.7
Coyote Bush Scrub	--	41.1	0	-41.1
Nonnative Grassland	IIIB	11.1	0.6	-10.5
Saltbush Scrub	--	9.5	0	-9.5
Tree Tobacco	--	0.4	0	-0.4
Transitional	--	4.3	25.2	+20.9
Uplands Subtotal		***68.3***	***51.4***	***-16.9***
Cover Types				
Bare Ground/Disturbed/Ornamental[4]	IV	51.9	3.3[2]	-48.6
Developed[5]	--	0.2	1.7[3]	+1.5
Cover Types Subtotal		***52.1***	***5.0***	***-47.1***
Grand Total		**142.2**	**142.4**	**+0.2**

[1] Totals may not sum due to rounding.
[2] Wetland/Upland Tier values that are not categorized by the Land Development Code Biology Guidelines (City of San Diego 2012) are blank.
[3] Includes 4.9 acres of riparian enhancement.
[4] Includes 1 acre of proposed trail.
[5] Includes existing plus 1.5 acres of maintenance road proposed at the top of the berm.

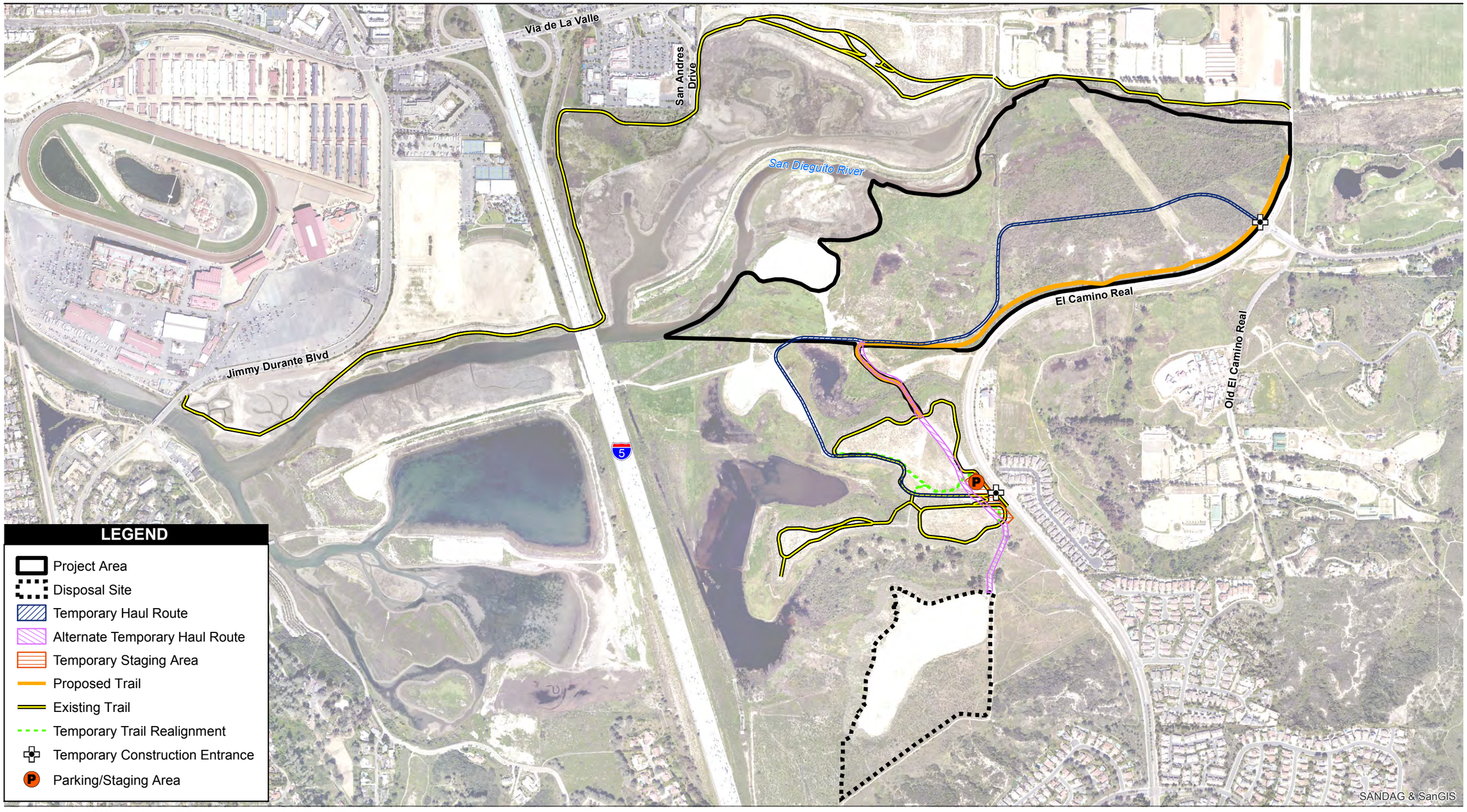
Berm Protection

A berm with a maximum elevation of 20 feet National Geodetic Vertical Datum (NGVD), planted with a mix of transitional and upland habitat, would be constructed between restored salt marsh and the San Dieguito River channel to protect the newly established wetlands from damage due to flood and sedimentation, and to maintain sand movement downstream through the river channel. Protection from erosion within the site would be provided along the utility corridor, as well as at the outlet of the existing stormwater culvert extending under El Camino Real. Access to the existing nesting area and the inlet to W-19 would be provided via a decomposed granite (DG) access road located along the vegetated berm. Similar to the salt marsh area, a vegetated berm with a maximum elevation of 22 feet NGVD would be constructed between brackish marsh habitats and the San Dieguito River channel to protect the wetlands from damage and to maintain sand movement. This berm would include a DG access road for maintenance vehicles and would be planted with coastal sage scrub. As shown in Figure ES-2, the brackish marsh berm is protected from erosion by rock slope protection (RSP) at both the east and west ends.

ES.5.3 MATERIALS DISPOSAL

Approximately 1.1 million cubic yards of soil and 150,000 cubic yards (cy) of vegetation is anticipated to be removed from the W-19 restoration site to lower areas to wetland elevations. Vegetation would be buried either on W-19 or the disposal site or stockpiled for use after construction as cover on exposed soils. Due to soil composition, the material is not suitable for beach placement; thus, an upland area located approximately 0.4 mile south of the W-19 restoration site has been identified as the disposal site. This 31.5-acre site is located on public, City-owned land and is shown in Figure ES-1. While outside the W-19 boundaries, this disposal site is inside the overall San Dieguito Lagoon complex, would not require transport on public roadways, and is therefore considered onsite.

The disposal site would be partially located on an area used for materials disposal for the SCE restoration project (DS-36). The disposal site for the proposed project would extend beyond the boundaries previously used and have a higher finished elevation. Material placement across the site would be designed to vary in height to blend with surrounding natural landforms, but material placement height would not exceed a maximum elevation of 145 feet, which represents a maximum increase of approximately 55 feet from the existing grade. The average increase from existing grade would be approximately 21 feet. This height would maintain finished soil elevations lower than the height of El Camino Real along the line of sight from the road to the coast to avoid blocking westerly ocean views. After construction is complete, the disposal site would be revegetated as coastal sage scrub and include the use of salvaged topsoil. Access to the disposal site would occur via off-road haul routes from the project area, as shown in Figure ES-3, Staging/Access.



Source: Dokken 2015; AECOM 2013; Konecny 2012; Caltrans 2011; Nordby 2012, 2013; SANDAG 2017.

850 425 0 850 Feet

Scale: 1:10,200 1 inch = 850 feet

Figure ES-3
Staging/Access

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ES.5.4 W-19 INLET MAINTENANCE

Hydraulic modeling by the U.S. Army Corps of Engineers predicts sediment carried down the San Dieguito River by large storm events would settle out in the W-19 restored wetland areas and large storm events (25-year storm or larger) have the potential to result in measurable sediment accumulation in the salt marsh and brackish marsh inlet connections to the San Dieguito River. These inlet connections are located at the western end of the proposed salt marsh and northern end of the proposed brackish marsh, respectively, as shown in Figure ES-4, Proposed Project Wetland Maintenance Areas.

Left in place, sediment deposits within the river inlet connections could change the habitat distribution within the adjacent restored wetlands by smothering habitat, increasing ground elevations, or reducing the tidal range and/or water elevations. Inlet closure could also lead to water quality issues associated with reduced circulation and tidal exchange. Therefore, to avoid large-scale conversion of habitat and/or water quality issues in restored wetland areas, maintenance to remove accumulated sediment from the inlets after large storm events would be required. The following criteria were used to determine when sediment maintenance would be required:

- If sediment delivered by a storm is blocking tidal flows to wetlands;
- If sediment has created stagnant areas; and/or
- If 6 or more inches of sediment is deposited in wetlands designated for adaptive management, and replanting on top of the sediment would not support the habitat type present just before the storm event.

Maintenance Sediment Removal

Sediment removal activities considered part of the project would be limited to the two river inlet maintenance areas and adaptive maintenance areas that have been identified for a range of storm scenarios. Anticipated maintenance volumes for a range of storm events are shown in Table ES-2. Vegetation may be temporarily impacted from sedimentation during storm events and/or maintenance activities after storm events but is anticipated to recover over time. Because the frequency of storm events severe enough to warrant inlet maintenance is highly variable and difficult to predict, and because sediment deposition is anticipated to occur primarily during these events rather than accumulating steadily, maintenance intervals are unknown and volumes are based on deposition anticipated after specific storm events (25-, 50-, 100-year).

Land-based equipment would access the designated inlet maintenance areas, shown in Figure ES-4, via the proposed access roads extending through the W-19 site, as well as the utility corridor easement. Figure ES-4 also shows interior lagoon areas anticipated to require additional sediment maintenance following a 50-year or larger storm (these volumes are discussed separately under monitoring, maintenance, and adaptive management). Modeling predicts the volume of inlet maintenance to be greater under the 50-year storm event than the 100-year event. This is anticipated to occur because, under a 100-year flood event, higher velocity and water level keep sediment suspended while water is passing through the proposed project site. Conversely, under the 50-year storm event, slower moving water allows for more sediment to

leave the water column and settle within the proposed project site. Thus, higher maintenance volumes result from the 50-year storm event because more sediment settles, resulting in more maintenance activities.

Table ES-2
Proposed Project – Anticipated Inlet Maintenance Requirements after Storms of Varying Intensity

Storm Frequency	Maintenance Area	Maintenance Volume (cy)[1]	Truck Round Trips (8 cy/trip)	Duration (working days)[2]
25-year	**Total**	**5,000**	**625**	**13**
	Salt Marsh Inlet	*1,000*		
	Brackish Marsh Inlet	*4,000*		
50-year	**Total**	**20,000**	**2,500**	**43**
	Salt Marsh Inlet	*1,000*		
	Brackish Marsh Inlet	*19,000*		
100-year	**Total**	**15,000**	**1,875**	**33**
	Salt Marsh Inlet	*1,000*		
	Brackish Marsh Inlet	*14,000*		

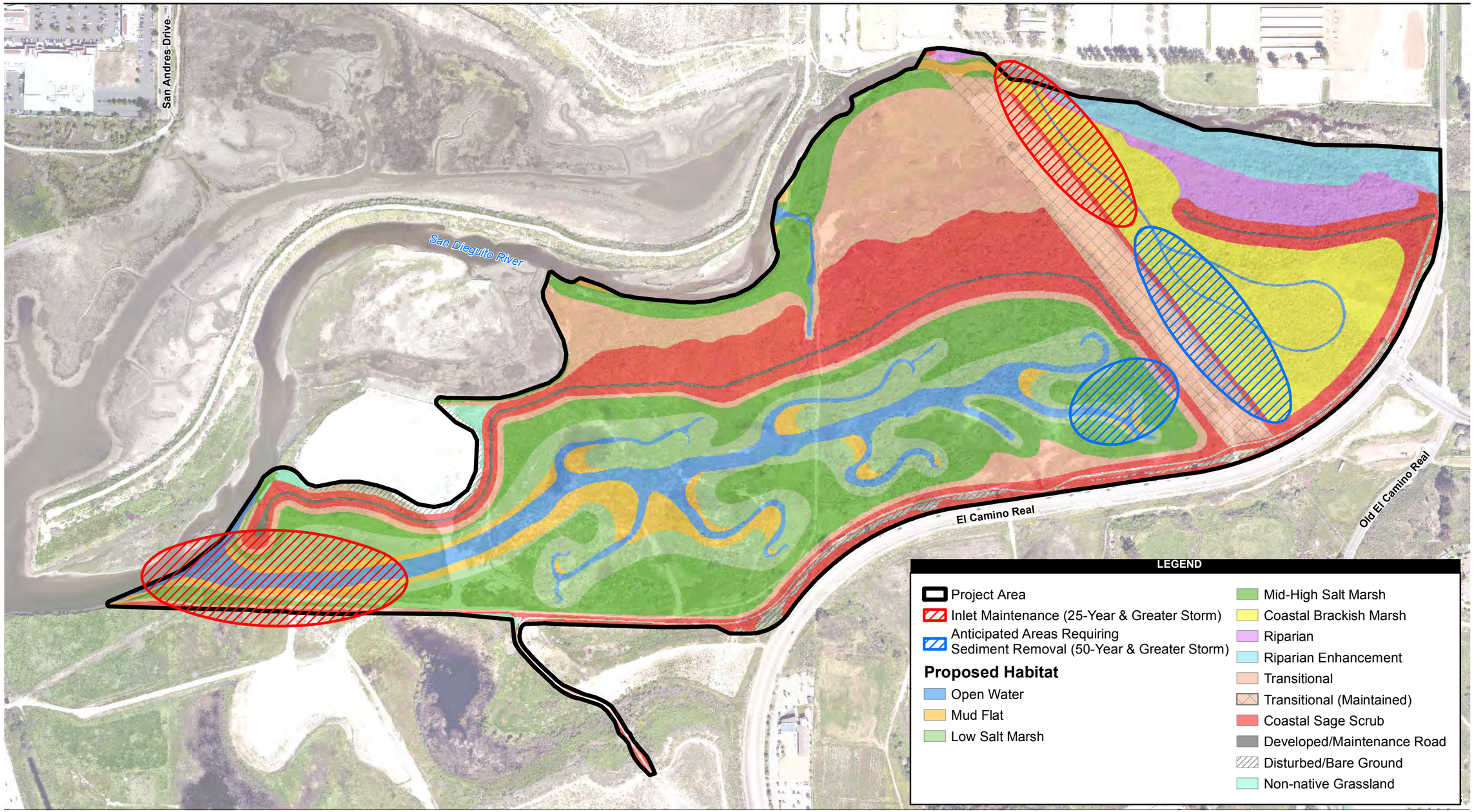
cy = cubic yards, cy/trip = cubic yards per trip
[1] Maintenance volumes assume 25 percent of deposited material would remain in place and would not be removed.
[2] Activities on the beach would be 2 days less than overall maintenance activities; rates for removal/transport are assumed to be 500 cy per day, working 10 hours per day. Mobilization and demobilization and construction of temporary access roads would require an additional 3 days.

Maintenance Material Placement

The deposited material removed from the W-19 site during maintenance is anticipated to be primarily composed of material suitable for placement in the littoral zone (e.g., beaches and/or nearshore) and would be transported by trucks to nearby beaches for placement/disposal. Once material is removed from the inlet maintenance areas, trucks would travel along El Camino Real north to Via de la Valle, west on Via de la Valle to Camino Del Mar, and then south along Camino Del Mar to beach access points either north of the river for access to Dog Beach, or south of the river at the ends of 20th and/or 18th Streets. Once on the beach, trucks would deposit the material on the beach or in the nearshore. Material placed on the beach would then be spread by bulldozers, similar to the process used during San Dieguito River inlet maintenance. Anticipated maintenance volumes from inlets, as well as required truck trips (in round trips) and estimated durations for maintenance activities after storms of varying intensities, are provided in Table ES-2.

ES.5.5 RECREATIONAL TRAIL

The proposed project would construct a new trail adjacent to El Camino Real along the eastern project site boundary to expand recreational opportunities, as shown in Figure ES-2. This new trail would be approximately 1 mile long and extend north from the northern loop of the existing Dust Devil Nature Trail along an existing maintenance/access road before turning east toward El Camino Real. The trail would then travel northeast, west of and adjacent to El Camino Real. The trail would terminate immediately south of the San Dieguito River and no access across the river would be provided. However, the termination would be designed to allow for future access to new pedestrian facilities associated with the City's replacement realignment of the El Camino Real Bridge. Once the new El Camino Real Bridge is constructed, trail users could access



Source: SANDAG 2014: Dokken 2015.

400 200 0 400 Feet

Scale: 1:4,800 1 inch = 400 feet

Figure ES-4
Proposed Project
Wetland Maintenance Areas

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El Camino Real from the trail, cross the river via the new pedestrian lanes on the bridge, and then connect on the north side of the river to the Coast to Crest (CTC) Trail. Initially, the trail would only be accessible from the south. Hikers could park at the Dust Devil Nature Trail parking lot located off of El Camino Real.

Starting from where the trail connects to the Dust Devil Nature Trail, it would generally be 6 feet wide and surfaced with DG. The trail would have 1-foot-wide dirt shoulders and be designated for hikers only (no bicycles or equestrian use). The trail would widen at the approach to the El Camino Real Bridge from San Dieguito Road. The widened trail section would be multi-use, with a 6-foot-wide DG surfaced section for hikers and bicycles, a 4-foot-wide soft dirt section for equestrian users, and 1-foot-wide dirt shoulders. Split rail fencing would extend along portions of the trail, particularly adjacent to slopes, to enhance public safety and deter trail users from entering adjacent areas of sensitive vegetation.

ES.5.6 UTILITY RELOCATION

In addition to the utilities contained within the existing utility corridor that traverses the W-19 restoration site, a single set of utility poles also crosses the project site in the north-south direction. Relocation of these poles and the transmission lines they carry would be required for project implementation. The City of San Diego plans to underground these transmission lines within existing and planned roadways in the future. This action, if implemented prior to the proposed project, would preclude the need for relocation during project implementation. However, timing of that action is unknown; thus, potential relocation is addressed as part of the proposed project.

Relocated transmission lines would be incorporated onto electrical facilities within the existing utility corridor that have capacity or on relocated poles within a 20-foot-wide expansion of the existing utility corridor, running parallel to the corridor on the westerly side. In either scenario, the relocated lines would connect to existing electrical infrastructure north of the site by connecting to an existing utility pole west of the utility corridor and south of Via de la Valle. At the southern end of the corridor, the relocated lines would extend west along El Camino Real, approximately 10 feet from the north side of the roadway, before connecting to the existing electrical alignment. New poles along El Camino Real would be 60 to 70 feet high to maintain required clearances. It is assumed poles would be steel, although wood poles may be used if consistent with San Diego Gas & Electric (SDG&E) policy.

ES.6 CONSTRUCTION METHODS AND SCHEDULE

Project construction would primarily involve removing vegetation and altering existing ground elevations within the project area to create the proposed habitat distribution. Long-term inlet maintenance within W-19 would also be implemented after larger storm events.

Construction equipment would be brought to the W-19 restoration site via El Camino Real. To the extent practicable, temporary impact areas would be located within disturbed areas such as access/maintenance roads and parking lots. Temporary construction areas would also have controlled access to maintain public safety during construction. Trails temporarily used for

construction access or traversed by access roads would be closed Monday through Friday, when project construction would occur, to minimize the potential for safety hazards during construction. Staging areas, access routes, and other temporarily disturbed areas located within sensitive vegetation areas would be decompacted, revegetated, and restored to pre-construction conditions or as specified in the construction documents. Temporary equipment, structures, or utilities (e.g., water and power) installed at the project site would be removed at the completion of construction.

It is anticipated that 30 months ~~2 years~~of active construction would be required to complete the project. Construction would take place 7 a.m. to 7 p.m., 5 days a week, year-round, with the exception of clearing and grubbing activities, which would occur outside the breeding season (generally February through September).

The approximate timing of various construction activities involves important considerations in project planning. There would be eight generalized tasks for construction, as identified below:

1. Mobilization/preparation of access and haul roads (3 weeks)
   Mobilize equipment to the project site, establish access roads to the construction areas, and prepare staging areas. Staging areas would be cleared, grubbed, and surfaced, as needed.

2. Clear and grub (3 weeks)
   Vegetation removal would be performed using land-based equipment such as excavators and scrapers. This task may be phased, with vegetation removal limited to areas that would be graded within the next several months (or during breeding season).

3. Removing and stockpiling topsoil (3 weeks)
   High-quality topsoil would be removed from portions of the W-19 restoration site and undisturbed portion of the disposal site to a depth of up to 3 feet. Removal of topsoil may be staged to minimize the extent of exposed soil and retain available habitat. Topsoil would be stockpiled onsite for use on upland portions of the W-19 restoration site and capping the disposal site.

4. Grading and Disposal (70 weeks)
   Excavators, scrapers, and bulldozers would be used to grade the project area to elevations appropriate for the desired habitat types. When excavated material is used onsite, excavators would load trucks with sediment taken directly to the fill area, offloaded, and graded by a bulldozer. Remaining soil would be transported to the disposal site and graded to the proposed elevations. Off-highway trucks would transport the material to the disposal site throughout the grading process. As a final task, remaining soil at the inlets would be excavated and the hydraulic connection opened.

5. Drainage/slope protection/trail improvements (12 weeks)
   Drainage improvements would be constructed to connect to the existing drainage facilities along El Camino Real. RSP would be placed in locations subject to erosion and covered with 1 to 2 feet of soil and planted with native vegetation (Figure ES-2). Trail construction would include vegetation removal, minor surface grading, and then surfacing with DG.

6. Revegetation (8 weeks)
   Stockpiled topsoil would be placed as the last component of final grading, a minimum of 1 foot thick, and either hydroseeded or planted to facilitate vegetation recovery/ establishment as appropriate per proposed habitat type. Temporary irrigation with fresh water and soil amendments could also be provided in some areas to support habitat establishment.

7. Demobilization (2 weeks)
   After grading and construction are completed, demobilization of construction equipment and materials would commence. Restoration of staging and access areas to agreed-upon post-construction conditions (e.g., pre-construction conditions) would then occur.

8. Restoration monitoring and maintenance (5–10 years, or until success criteria are met) and monitoring/adaptive management (into perpetuity)
   Both the W-19 and disposal sites would be monitored for physical characteristics, plant establishment, and sensitive species use after completion of construction to ensure success and inform adaptive management actions.

ES.7 MONITORING, MAINTENANCE, AND ADAPTIVE MANAGEMENT

Implementation of the proposed project would require a comprehensive monitoring program to ensure compliance with regulatory requirements, track project success, and identify adaptive management strategies. The detailed monitoring program would be developed during the permitting phase of the project; this section discusses the anticipated framework and approach.

Pre-Construction Baseline

The pre-construction baseline establishment phase of the monitoring program is designed to work together with the restoration monitoring program (post-construction) to determine the success of the project, based on success criteria identified through the permitting process. Baseline establishment for the project would focus on establishing a baseline for assessing the success of restoration efforts. The baseline establishment surveys may be conducted over several months prior to project construction to accommodate nesting seasons, blooming seasons, and the number of species requiring surveys. Surveys of physical processes within the W-19 site and/or in adjacent portions of the lagoon are anticipated to include topography/bathymetry, tidal amplitude, water quality, and soils. Surveys of biological processes are anticipated to include benthic macroinvertebrates, fish, birds, and vascular plants.

Construction Monitoring Program

The construction monitoring program for the proposed project would be designed to minimize and avoid impacts to resources that could occur during construction activities. The program would address potential impacts associated with restoration of the W-19 site, as well as materials disposal. The construction monitoring program would ensure compliance with project mitigation measures, “project design features”, and additional measures identified as conditions associated with permits that would be issued by regulatory agencies prior to project initiation.

Restoration Monitoring Program

Restoration monitoring (post-construction) would occur immediately following construction for a period of 5 to 10 years. Post-construction monitoring of the W-19 and disposal sites would be designed to document achievement of project goals and objectives, including success of revegetation efforts and use of the site by sensitive species. This analysis would also be used to inform adaptive management decisions and actions, discussed in the next section. For the restoration monitoring program, a comprehensive monitoring plan would be prepared once permit requirements have been established.

Post-construction monitoring would document as-built conditions immediately after construction, and provide comparison with pre-project baseline conditions. Intensive short-term monitoring of restoration success is anticipated to continue annually for a minimum period of 5 years after construction. It is more likely, however, that short-term monitoring ecological performance standards would assume a 10-year period following completion of restoration. If success is achieved prior to 10 years, the site can transition to the less intensive, long-term adaptive management and maintenance phase that would adapt to ecological conditions in perpetuity.

Adaptive Management and Maintenance

The adaptive management and maintenance phase of the monitoring program focuses on the long-term performance of the restored W-19 site. This phase incorporates a plan to guide the long-term management of the site. An initial monitoring framework has been outlined for the project in the Habitat Mitigation and Monitoring Plan prepared by the California Department of Transportation (Caltrans) (Caltrans 2016b), which would be refined through the permitting phase, and would include both the anticipated maintenance requirements and an adaptive management component. The adaptive management component would identify remedial measures that may be implemented if success criteria or permit conditions are not met, or if conditions change during long-term monitoring and need to be addressed. Some of these actions may include, but are not limited to, facilitation of recovering habitat through invasive species removal or supplemental planting, additional sediment removal from the interior of the wetlands after storm events, and/or amendment of soils. Development of the detailed adaptive management program would occur during final engineering of the project, prior to construction. Detailed plans would be developed as part of consultation with permitting and resource agencies during the permitting approval process; however, it is anticipated that the long-term management plan would be a living document and would be updated regularly, as necessary.

ES.8 ALTERNATIVES

Three lagoon restoration design alternatives were considered as part of the CEQA analysis:

- Alternative B
- Alternative C
- No Project Alternative

As noted, the proposed project is identified as a mitigation opportunity within the PWP/TREP. Specifically, the PWP/TREP considers the proposed project as mitigation that would establish approximately 50 acres of wetland habitat. The project is also identified as mitigation for the El

Camino Real Bridge/Road Widening ~~Replacement~~ Project, identifying the establishment of approximately 15 acres of brackish wetlands and establishment/enhancement of 5 acres of riparian habitat. Alternatives to the proposed project were identified in previous reports, as well as from input provided by responsible agencies and interested organizations and individuals.

In addition to alternatives associated with the W-19 restoration, an offsite option for disposal was evaluated. The offsite disposal alternative could be applied to any of the W-19 build alternatives (including the proposed project).

ES.8.1 ALTERNATIVE B

The habitat distribution of Alternative B would be very similar to that of the proposed project. Alternative B habitat distribution is shown in Table ES-3. Approximately 60 acres of tidal salt marsh would be created west of the existing utility corridor, with a western tidal connection to the San Dieguito River south of the existing least tern nesting island. A brackish marsh system (including riparian habitat) would be created east of the utility corridor. The proposed upland area would be planted with a mix of transitional and coastal scrub species, but the elevation of the upland would be lower than that identified for the proposed project as the upland habitat areas would have an elevation of approximately 10 feet and would be overtopped during large storm events. This alternative would be influenced by both tidal exchange and upstream river (fluvial) processes, and would cause the wetland to evolve and change configuration based on river flow. This differs from the proposed project, which would create a system primarily influenced by tidal exchange but would remain relatively protected from fluvial processes (e.g., sedimentation or channel migration) by a berm. Figure ES-5, Alternative B – Habitat Distribution, depicts the approximate boundaries of habitat that would be created under Alternative B.

Elements of Alternative B different than the proposed project are:

- Upland habitat separating river from restored wetland areas (both salt marsh and brackish marsh) created at an elevation of 10 feet instead of 22/20 feet to allow overtopping in large storm events.
- Net export of 1,200,000 cy of material for disposal instead of 1,100,000 cy due to less fill volume as the result of lower upland habitat elevation.
- Additional excavation and disposal extends construction period by approximately 1 month
- Upland disposal site would have a maximum elevation of 150 feet as compared to 145 feet to accommodate the additional 100,000 cy of material.
- No wetlands maintenance in the interior portions of restored W-19 wetlands would occur to enable the wetland to be influenced by river processes and evolve over time.

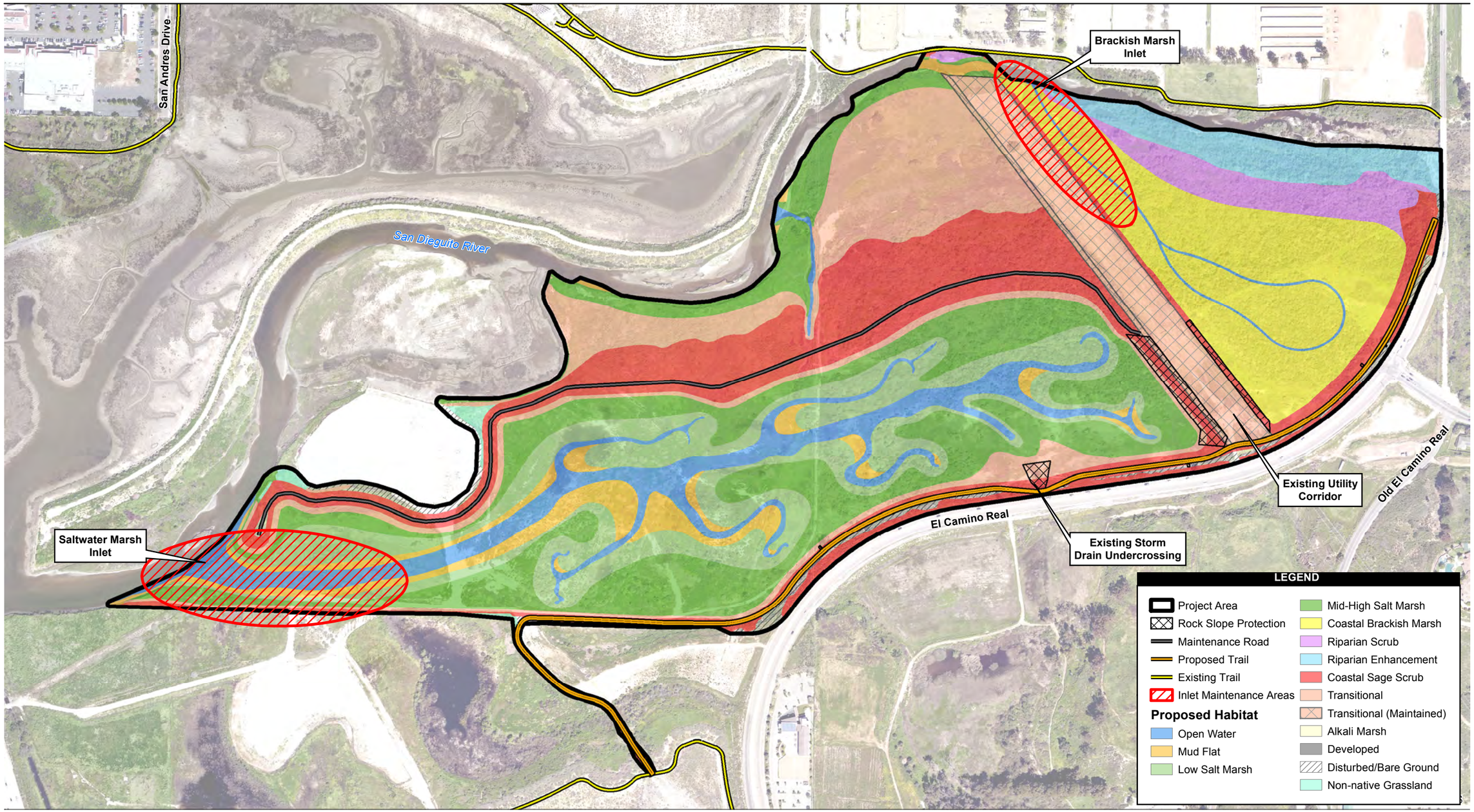
As described under the proposed project, hydrologic modeling predicted that large storm events (25-year or greater events) would have the potential to result in sediment accumulation, particularly in the salt marsh and brackish marsh inlets, as well as in the brackish marsh interior (25-year or greater events) and salt marsh directly west of the utility corridor (50-year or greater events). Sediment accumulation under Alternative B would not be just limited to the two main areas identified under the proposed project; instead, deposition would occur throughout the site.

Table ES-3
Alternative B – Habitat Distribution[1]

Vegetation Community or Cover Type	Wetland/Upland Tier Value[2]	Existing in W-19 Site (Acres)	Post Restoration (Acres)	Net Change in Acres
Wetlands and Riparian				
Alkali Marsh	Salt Marsh	2.4	0.0	-2.4
Brackish Marsh	Salt Marsh/ Freshwater Marsh	0.2	17.1	+16.9
Disturbed Wetland	Disturbed Wetland	0.3	0.0	-0.3
Freshwater Marsh	Freshwater Marsh	0.2	0.0	-0.2
Salt Marsh (Mid-High)[3]	Salt Marsh	8.8	27.4	+18.6
Low Salt Marsh	Salt Marsh	0	17.7	+17.7
Mudflat	Salt Panne	1.2	6.1	+4.9
Open Water	--	0.5	10.6	+10.1
Riparian		8.2	9.3	+1.1
Native Riparian	*Riparian Forest/ Riparian Scrub*	*5.6*	*9.3*[3]	*+3.7*
Nonnative Riparian	--	*2.6*	*0.0*	*-2.6*
Wetlands and Riparian Subtotal		***21.8***	***88.2***	***+66.4***
Uplands				
Coastal Sage Scrub	II	1.9	23.6	+21.7
Coyote Bush Scrub	--	41.1	0.0	-41.1
Nonnative Grassland	IIIB	11.1	0.6	-10.5
Saltbush Scrub	--	9.5	0.0	-9.5
Tree Tobacco	--	0.4	0	-0.4
Transitional	--	4.3	25.2	+20.9
Uplands subtotal		***68.3***	**49.4**	**-18.9**
Cover Types				
Bare Ground/Disturbed/Ornamental[4]	IV	51.9	**3.3**[2]	-48.6
Developed[5]	--	0.2	1.4[3]	+1.2
Cover Types Subtotal		***52.1***	***4.7***	***-47.4***
Grand Total		**142.2**	**142.3**	**+0.1**

[1] Totals may not sum due to rounding.
[2] Wetland/Upland Tier values that are not categorized by the Land Development Code Biology Guidelines (City of San Diego 2012) are blank.
[3] Includes 1 acre of proposed trail
[4] Includes existing plus 1.5 acres of maintenance road proposed at the top of the berm.

Sediment maintenance activities under Alternative B are different than those under the proposed project as the design approach for this alternative does not include construction of protecting berms between the active low flow river channel and the restored wetland areas. This modification was based on resource agency input to allow the wetland/upland habitat distribution to evolve over time based on river dynamics. As a result of this modification, river flows would enter restored wetland areas under smaller/more frequent storm events than under the proposed project and would result in larger volumes of sediment deposited within the site. Because habitats are intended to evolve under this alternative, and because adaptive management under this alternative would result in greater impacts to sensitive habitat, adaptive management to maintain habitat within the interior portions of the wetland would not be conducted under Alternative B. Instead, site evolution would be allowed to occur as sediment continues to deposit



Source: JPA: Dokken 2015

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Scale: 1:4,800 1 inch = 400 feet

Figure ES-5
Alternative B - Habitat Distribution

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within the site. Sediment removal activities would be limited to the identified inlet maintenance areas. Inlet maintenance at both inlets would be conducted under this alternative to ensure continued tidal exchange to wetlands not blocked by sediment deposits. Focused interior maintenance may be necessary to prevent water quality concerns and human health hazards from developing.

The same inlet maintenance methods, and access and transport routes, as well as placement sites described for the proposed project, would be used under Alternative B. The number of truck trips and duration of maintenance are shown in Table ES-4.

Table ES-4
Alternative B – Anticipated Inlet Maintenance Requirements after Storms of Varying Intensity

Storm Frequency	Inlet Maintenance Areas	Maintenance Volume (cy)[1]	Truck Round Trips (8 cy/trip)	Duration (working days)[2]
25-year	**Total**	**2,000**	**250**	**7**
	Salt Marsh Inlet	*1,000*		
	Brackish Marsh Inlet	*1,000*		
50-year	**Total**	**15,000**	**1,875**	**33**
	Salt Marsh Inlet	*1,000*		
	Brackish Marsh Inlet	*14,000*		
100-year	**Total**	**20,000**	**2,500**	**43**
	Salt Marsh Inlet	*1,000*		
	Brackish Marsh Inlet	*19,000*		

cy = cubic yards, cy/trip = cubic yards per trip

[1] As described for the proposed project, maintenance volumes assume 25 percent of deposited material would remain in place and would not be removed.

[2] Activities on the beach would be 2 days less than overall maintenance activities, rates for removal/transport are assumed to be 500 cy per day, working 10 hours per day. Mobilization and demobilization and construction of temporary access roads would require an additional 3 days.

ES.8.2 ALTERNATIVE C

Under Alternative C, the habitat distribution would consist of two separate tidal channel systems west of the utility corridor, one directly adjacent to the San Dieguito River, and one separated from the river by a vegetated berm. Alternative C habitat distribution is shown in Table ES-5. Approximately 70 acres of tidal salt marsh would be created west of the existing utility corridor, with approximately one-third of that (22 acres) located adjacent to the river and approximately two-thirds (47 acres) protected by a vegetated berm. The protected portion of the site would have a western tidal connection to the San Dieguito River south of the existing least tern nesting island. The portion of the site adjacent to the river would connect to the river east of the nesting site, but would be anticipated to evolve over time as storm flows from the river overtopped the site. A brackish marsh system (including riparian habitat) would be created east of the utility corridor. The proposed upland area would be planted with a mix of transitional and coastal scrub species, and would be at an elevation of 20 to 22 feet, similar to the proposed project. Alternative C would provide systems representative of both the proposed project and Alternative B; the area protected by the vegetated berm would be primarily tidally influenced (similar to the proposed project) while the area adjacent to the river would be influenced both by tidal and fluvial processes and would evolve

over time (similar to Alternative B). Figure ES-6, Alternative C – Habitat Distribution, depicts the approximate boundaries of habitat that would be created under Alternative C.

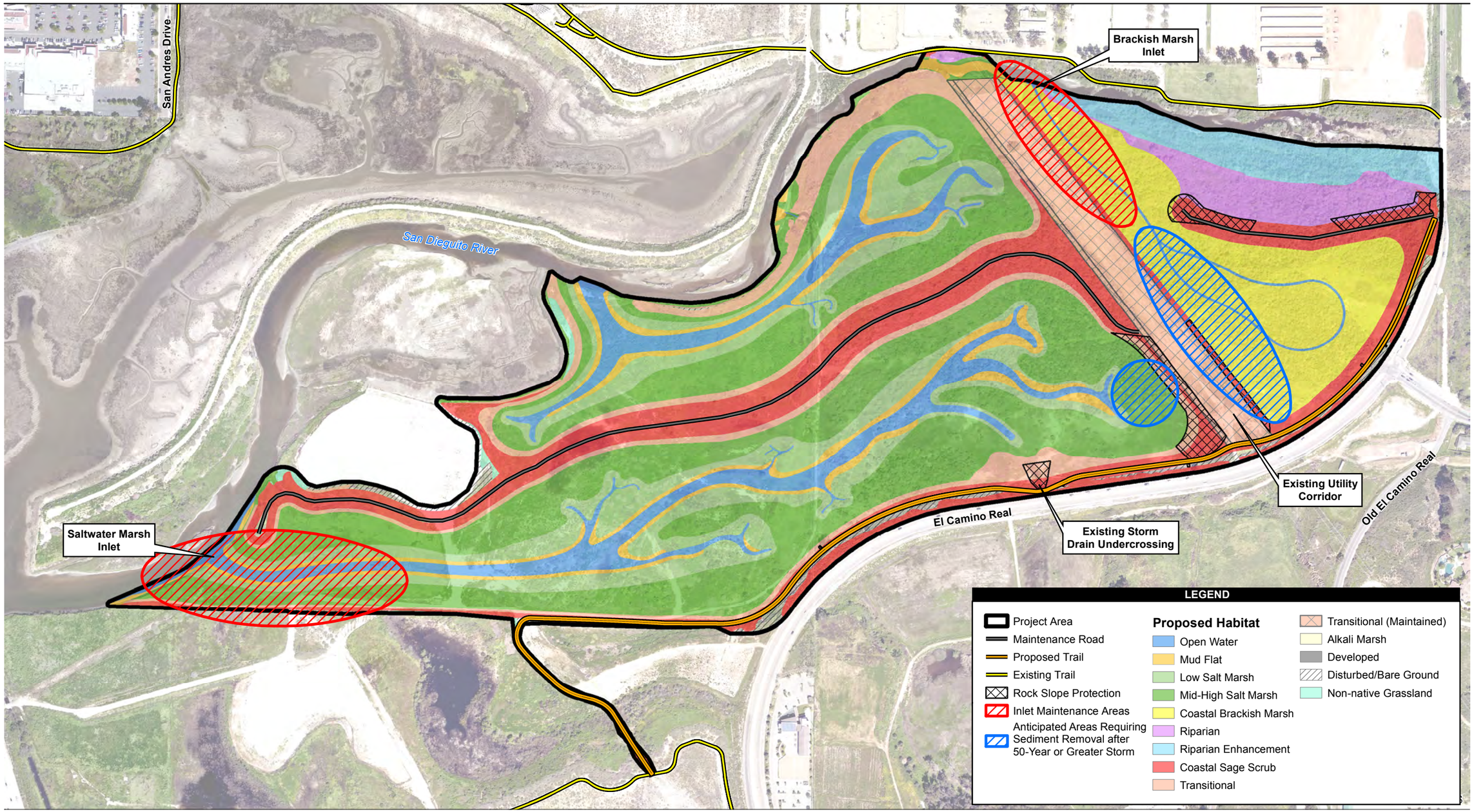
Table ES-5
Alternative C – Habitat Distribution[1]

Vegetation Community or Cover Type	Wetland/Upland Tier Value[2]	Existing in W-19 Site (Acres)	Post Restoration (Acres)	Net Change in Acres
Wetlands and Riparian				
Alkali Marsh	Salt Marsh	2.4	0.0	-2.4
Brackish Marsh	Salt Marsh/Freshwater Marsh	0.2	14.9	+14.7
Disturbed Wetland	Disturbed Wetland	0.3	0.0	-0.3
Freshwater Marsh	Freshwater Marsh	0.0	0.0	0.0
Low Salt Marsh	Salt Marsh	0.2	17.8	+17.6
Mid-High Salt Marsh	Salt Marsh	6.7	38.7	+32.0
Mudflat	Salt Panne	1.2	6.7	+5.5
Open Water	--	0.5	11.4	+10.9
Riparian	Riparian Forest/Riparian Scrub	7.7	4.3	-3.4
Nonnative Riparian	--	3.0	0.0	-3.0
Wetlands and Riparian Subtotal		***22.3***	***98.8***	***+76.6***
Uplands				
Coastal Sage Scrub	II	1.9	20.5	+18.6
Coyote Bush Scrub	--	41.1	0.0	-41.1
Nonnative Grassland	IIIB	11.1	0.5	-10.6
Saltbush Scrub	--	9.5	0.0	-9.5
Transitional	--	4.3	17.5	+13.2
Uplands Subtotal		***67.9***	***38.5***	***-29.4***
Cover Types				
Bare Ground/Disturbed/Ornamental[3]	IV	51.9	**3.3**[2]	-48.6
Developed[4]	--	0.2	1.6[3]	1.4
Cover Types Subtotal		***52.1***	***4.9***	***-47.2***
Grand Total		**142.3**	**142.3**	**0**

[1] Totals may not sum due to rounding.
[2] Wetland/Upland Tier values that are not categorized by the Land Development Code Biology Guidelines (City of San Diego 2012) are blank.
[3] Includes 1 acre of proposed trail.
[4] Includes existing plus 1.5 acres of maintenance road proposed at the top of the berm.

Elements of Alternative C different than the proposed project are:

- Two separate areas of salt marsh would be created west of the existing utility corridor, one separated from the river by upland habitat established at an elevation of 20 feet as protection from large storm events, and one located directly adjacent to the river channel to allow it to be influenced by river processes and enable it to evolve over time.
- Net export of 1,200,000 cy of material for disposal instead of 1,100,000 cy due to additional grading to lower the existing elevation of river salt marsh.
- Additional excavation and disposal extends construction period by approximately 1 month.
- Upland disposal site would have a maximum elevation of 150 feet as compared to 145 feet.



Source: JPA: Dokken 2015

400 200 0 400 Feet

Scale: 1:4,800 1 inch = 400 feet

Figure ES-6
Alternative C - Habitat Distribution

Path: P:\2012\60274999_SD_W19\06GIS\6.3_Layout\Reports\EIR\Alt_C_Habitats.mxd, 7/18/2018, paul.moreno

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- No wetlands maintenance in the portions of the established salt marsh located directly adjacent to the San Dieguito River, which would then enable the wetland to be influenced by river processes and evolve over time.

Hydraulic modeling predicts that some sedimentation would occur under Alternative C in the portion of the salt marsh protected from storm flows by a berm. Sedimentation would occur at a much higher rate in the portion of tidal wetlands located directly adjacent to the San Dieguito River under this alternative. In this area, sediment accumulation would bury most of the site, and other areas of the site would be eroded as a new river channel would develop during/after severe storm events. Similar to the proposed project, maintenance would be required after large storm events (25-year event or greater) to remove accumulated sediment from the inlet connections of the protected wetlands to reduce large-scale conversion of habitat and/or water quality impairments. A deliberate design feature of Alternative C includes restoration of salt marsh adjacent to the active low flow river channel, which would allow the salt marsh to be directly influenced by river dynamics and evolve over time. To allow this evolution, adaptive management to maintain habitat would not be conducted within the portion of the wetland adjacent to the river under Alternative C.

The anticipated volume of sediment that would be removed after a range of storm events is shown in Table ES-6 below. Access routes, transport routes, and placement sites for the proposed project would also be used for this alternative.

Table ES-6
Alternative C – Anticipated Inlet Maintenance Requirements after Storms of Varying Intensity

Storm Frequency	Maintenance Area	Maintenance Volume (cy)[1]	Truck Round Trips (8 cy/trip)	Duration (working days)[2]
25-year	**Total**	**6,000**	**750**	**15 days**
	Salt Marsh Inlet	*1,000*		
	Brackish Marsh Inlet	*5,000*		
50-year	**Total**	**20,000**	**2,500**	**43 days**
	Salt Marsh Inlet	*2,000*		
	Brackish Marsh Inlet	*18,000*		
100-year	**Total**	**10,000**	**1,250**	**23 days**
	Salt Marsh Inlet	*2,000*		
	Brackish Marsh Inlet	*8,000*		

cy = cubic yards, cy/trip = cubic yards per trip
[1] Maintenance volumes assume 25 percent of deposited material would remain in place and would not be removed.
[2] Activities on the beach would be 2 days less than overall maintenance activities; rates for removal/transport are assumed to be 500 cy per day, working 10 hours per day. Mobilization and demobilization and construction of temporary access roads would require an additional 3 days.

In the interior portions of the salt marsh west of the utility corridor, sediment accumulation would occur after a 100-year storm as a result of storm flow overtopping the utility corridor, although at smaller volumes than under the proposed project. Deposition within the interior of the restored brackish marsh is also predicted as a result of severe storm events. Field monitoring and analysis would be conducted following storms of this severity to identify deposition areas and depths and the same criteria that would trigger inlet maintenance under the proposed project would be applied to determine if sediment maintenance is necessary for interior areas.

ES.8.3 NO PROJECT ALTERNATIVE

Under the No Project Alternative, no restoration of the W-19 site would occur and additional wetlands would not be created on the site to complement adjacent restoration projects. Regional coastal wetlands would not be increased and the identification of alternative mitigation areas for the North Coast Corridor and El Camino Real Bridge/Road Widening ~~Replacement~~ Project would be required. The Park Master Plan would not be expanded, and benefits associated with increased tidal system and public access would not be realized, although future restoration of the site would not be precluded. The JPA could pursue restoration in the future through alternative partnerships or approaches, although no alternative funding for such restoration has been identified at this time.

Under the No Project Alternative, it is assumed vegetation on the site would continue to be dominated by disturbed scrub and nonnative grasslands, and invasive species within existing riparian areas would continue to encroach along the river. It is assumed that SDG&E would continue to maintain vegetation along the existing utility corridor to facilitate operations and maintenance of the various utilities traversing the site. Since no excavation of material would occur under the No Project Alternative, no material would require disposal. A trail connection would not be constructed along El Camino Real between the Dust Devil Nature Trail and CTC Trail.

ES.8.4 OFFSITE MATERIALS DISPOSAL OPTION

An alternative to disposing the excavated material onsite is evaluated as an option for the proposed project or build alternatives. Instead, excavated material would be exported to various locations offsite. Based on preliminary soil investigations, sediment characteristics are suitable for use as fill for region infrastructure or development projects, or for disposal at private disposal sites. The material could be marketed to individual projects under construction depending on timing, so while specific locations that would utilize the material are not yet known, assumptions can be made for travel routes. Based on initial investigations, the cost of disposal at a private disposal site would make the project infeasible. If a nearby free disposal site is identified, it would require hauling on public roads, resulting in approximately 100,000 to 150,000 truck round trips, which would greatly increase temporary traffic impacts and hauling costs, and would extend the overall construction period by approximately 30 months~~2 years~~. More distant or private alternatives would result in greater impacts. Therefore, offsite material disposal would likely not be feasible.

ES.9 ISSUES RAISED BY THE PUBLIC AND AGENCIES

Throughout the proposed project development process, the JPA has solicited input on key issues and concerns relevant to the project from public agencies, stakeholder and interest groups, and the general public. A Notice of Preparation was distributed on August 27, 2014, for a 30-day public scoping period and a scoping meeting was held during that time to solicit comments specifically regarding the environmental issues and concerns that may need to be addressed in the EIR. General issues of concern and areas of known controversy include integrating with other restoration efforts within the lagoon (e.g., SCE restoration project), maintaining sediment delivery and/or beach conditions, wetland and habitat distribution, impacting wildlife species, changing downstream drainage patterns, and traffic during special events. More detailed information regarding comments on the scope of the EIR is provided in Sections 1.3.1 and 1.3.2.

ES.10 SUMMARY OF ENVIRONMENTAL IMPACTS

An analysis of environmental impacts caused by the proposed project has been conducted and is contained in this EIR. Fifteen environmental issue areas are analyzed in detail and presented in Chapter 5. Table ES-7 provides a summary of the potentially significant environmental impacts that would result during construction and operation of the proposed project, mitigation measures that would lessen potential environmental impacts, and the level of significance of the environmental impacts that would remain after implementation of the proposed mitigation.

The proposed project would result in significant and unavoidable temporary impacts to the topic areas of: Biological Resources; Traffic, Access, and Circulation; and Noise.

The EIR identified potentially significant impacts requiring mitigation that could be reduced to less than significant to the following topics: Coastal Processes and Sediment Delivery, Air Quality, Cultural Resources, and Paleontological Resources.

The EIR identified less than significant impacts for the proposed project for Land Use and Recreation, Hydrology, Water Quality, Geology/Soils, Visual Resources, Public Services and Utilities, Public Health and Safety, and Greenhouse Gases.

The following topic areas were found not to be significant: Mineral Resources, Population and Housing, and Agricultural Resources.

ES.10.1 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires the identification of an Environmentally Superior Alternative. The Environmentally Superior Alternative is the alternative that would result in the least damage to the environment. If the No Project Alternative is environmentally superior, identification of a superior alternative among the other alternatives is required (CEQA Guidelines Section 15126.6[e][2]). The proposed project is identified as the Environmentally Superior Alternative as it would result in the fewest environmental impacts.

Table ES-7
Summary of Environmental Impacts

Activity	Significance Determination[1]	Mitigation Measure Summary	Level of Significance after Mitigation
Land Use and Recreation			
W-19 Restoration	Less than Significant	None required	Less than Significant
Materials Disposal	Less than Significant	None required	Less than Significant
W-19 Wetlands Maintenance	Less than Significant	None required	Less than Significant
Hydrology			
W-19 Restoration	Less than Significant	None required	Less than Significant
Materials Disposal	Less than Significant	None required	Less than Significant
W-19 Wetlands Maintenance	Less than Significant	None required	Less than Significant
Coastal Processes and Sediment Delivery			
W-19 Restoration	Significant Restoration would disrupt the local littoral system due to changes in inlet configuration, tidal prism, maintenance dredging or sand placement for disposal/reuse and decrease the amount of river sediments destined for the beach and littoral cell.	**Coastal Processes 1:** To mitigate for the loss of sand from the coastal sediment budget due to increased entrainment of material in the San Dieguito River inlet, the W-19 project will deepen the sand trap created and maintained by SCE in the river channel entrance. The deepened sand trap will be located between Camino Del Mar and the railroad within Area 2 of the designated dredge area for SCE, as shown in Figure 5.3-2. The approximate boundaries of the existing sand trap and proposed deepening are shown in Figure 5.3-3. The deeper sand trap will capture the additional sand entrained in the river mouth as a result of the proposed project. During inlet maintenance performed by SCE, approximately 4,200 cy of additional material will be removed from the river channel within this sand trap area and placed on beach placement sites already identified as part of the SCE inlet maintenance. **Coastal Processes 2:** The W-19 project will implement a beach nourishment program within the vicinity of the river inlet. The program will utilize the same placement sites as those used for W-19 wetlands maintenance (also the SCE permitted placement sites) and will: • Place 5,000 cy of imported sand on the material placement sites within 1 year of the completion of the construction of W-19. • Place an additional 5,000 cy of imported sand on the material placement sites every 10 years until a total of 30, 000 cy of imported	Less than Significant[2]

Activity	Significance Determination[1]	Mitigation Measure Summary	Level of Significance after Mitigation
		sand is placed over an anticipated 50 years. A total of six placement events would occur and may extend slightly past the 50 years depending on frequency of placement.	
Materials Disposal	Not applicable	Not applicable	Not applicable
W-19 Wetlands Maintenance	Less than Significant	None required	Less than Significant
Water Quality			
W-19 Restoration	Less than Significant	None required	Less than Significant
Materials Disposal	No Impact	None required	No Impact
W-19 Wetlands Maintenance	Less than Significant	None required	Less than Significant
Geology/Soils			
W-19 Restoration	Less than Significant	None required	Less than Significant
Materials Disposal	Less than Significant	None required	Less than Significant
W-19 Wetlands Maintenance	Less than Significant	None required	Less than Significant
Biological Resources			
W-19 Restoration/ Materials Disposal (considered together)	Significant Direct temporary impacts to jurisdictional wetlands and sensitive habitats. Temporary impacts to non-listed special status mammal species. Temporary indirect noise impacts to special-status species. Temporary impacts to wildlife movement.	No feasible mitigation available; due to the restoration nature of the project, an effort has been made to proactively incorporate project design features (PDFs) to limit impacts to resources whenever possible.	Significant and unavoidable (temporary)
W-19 Wetlands Maintenance	Significant Direct temporary impacts to jurisdictional wetlands and sensitive habitats. Temporary indirect noise	No feasible mitigation available; due to the restoration nature of the project, an effort has been made to proactively incorporate PDFs to limit impacts to resources whenever possible.	Significant and unavoidable (temporary)

Activity	Significance Determination[1]	Mitigation Measure Summary	Level of Significance after Mitigation
	impacts to special-status species.		
Visual Resources			
W-19 Restoration	Less than Significant	None required	Less than Significant
Materials Disposal	Less than Significant	None required	Less than Significant
W-19 Wetlands Maintenance	Less than Significant	None required	Less than Significant
Traffic, Access, and Circulation			
W-19 Restoration/Materials Disposal	Significant (temporary) Construction trips would result in an increase in projected traffic which is substantial in relation to the existing traffic load and capacity of the street system and would result in addition of a substantial amount of traffic to a congested freeway segment, interchange, or ramp.	**Traffic-1:** Provide advanced notification to motorists that delays and traffic congestion will occur at (a) freeway segments on I-5 and I-805, south of the merge; and (b) arterial roadway sections of Via de la Valle and El Camino Real during the construction period and encourage roadway users to consider other transportation modes or alternative routes during peak hours. This notification may be accomplished through various measures such as information and detour routes included on the project website; traffic details included in notifications sent to local residents; traffic and alternative route information published in local media; and physical traffic control measures, such as temporary signage located at various distances from the impacted areas. Coordinate with the El Camino Real Bridge/Road Widening Project operations or other local projects that also affect traffic to reduce projected traffic, as necessary, if project schedules overlap.	Significant (temporary)
W-19 Wetlands Maintenance	Significant (temporary) Construction trips would result in an increase in projected traffic which is substantial in relation to the existing traffic load and capacity of the street system.	See Traffic-1.	Significant (temporary)
Air Quality			
W-19 Restoration/Materials Disposal (considered together)	Significant Construction emissions have the potential to violate or contribute	**AQ-1**: The following measures shall be implemented by the construction contractor to reduce fugitive dust emissions associated with off-road equipment and heavy-duty vehicles: • Water the grading areas a minimum of twice daily to minimize fugitive dust, as permitted;	Less than Significant

Activity	Significance Determination[1]	Mitigation Measure Summary	Level of Significance after Mitigation
	substantially to an existing or projected air quality violation; result in cumulatively considerable net increase of any non-attainment criteria pollutant; and exceed 100 pounds per day of PM10 dust.	• Stabilize stockpiles in accordance with City grading ordinance requirements for stabilization of exposed soils to minimize fugitive dust; • All onsite unpaved roads would be stabilized to limit visible emissions to no greater than 20 percent opacity for dust emissions by chemical stabilizers, dust suppressants, and/or watering. • Remove any visible track-out into traveled public streets within 30 minutes of occurrence; • Wet wash the construction access point at the end of each workday if any vehicle travel on unpaved surfaces has occurred; • Provide sufficient perimeter erosion control to prevent washout of silty material onto public roads; • Cover haul trucks or maintain at least 12 inches of freeboard to reduce blow-off when hauling on public roads; • Suspend grading operations when wind speeds are high enough to result in dust emissions crossing the property line, despite the application of dust mitigation measures; • Cover/water onsite stockpiles; and • Enforce speed limit of 15 miles per hour on unpaved surfaces. • Exclude the use of brackish water when watering areas to minimize fugitive dust.	
W-19 Wetlands Maintenance	Less than Significant	None required	Less than Significant
Noise			
W-19 Restoration	Significant (temporary) Construction noise has the potential to result or create a significant increase (>10 dBA) in the existing ambient noise levels along the Coast to Crest Trail.	**Noise 1:** Prior to commencement of construction, public notices regarding the potential for temporarily increased noise levels shall be posted along the trail and in parking areas. These notices shall include a schedule of anticipated elevated noise levels and a description of alternate trails available for use.	Less than Significant
Materials Disposal	Less than Significant	None Required	Less than Significant
W-19 Wetlands Maintenance	Significant (temporary) Construction noise has the potential to result or create a significant increase (>10	**Noise-2**: During maintenance requiring beach placement, the construction contractor will provide written notification to residents within a 100-foot radius of the beach placement site prior to the start of construction activities. The contractor will establish a telephone hot-line for use by the public to	Significant and unmitigable (temporary)

Activity	Significance Determination[1]	Mitigation Measure Summary	Level of Significance after Mitigation
	dBA) in existing ambient noise levels; expose people to noise levels which exceed the City's adopted noise ordinance; and create temporary construction noise which exceeds 75 dB (A) L_{eq} at residential receptors at the southern sand placement site.	report any perceived substantial adverse noise conditions associated with the construction of the project. If the telephone is not staffed 24 hours per day, the contractor will include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. This hot-line telephone number will be provided in the written notification to nearby residents and posted at the project site during construction in a manner visible to passersby. This telephone number will be maintained until the beach placement activities have concluded. **Noise-3**: Throughout the beach placement activities, the contractor will document, investigate, evaluate, and attempt to resolve construction-related noise complaints. The contractor or its authorized agent will: • Use a Noise Complaint Resolution Form to document and respond to each noise complaint; • Contact the person(s) making the noise complaint within 24 hours; • Conduct an investigation to attempt to determine the source of noise related to the complaint; and • Take reasonable measures to reduce the noise at its source. **Noise-4:** The contractor will implement the following typical field techniques and equipment selection for reducing noise from construction activities, with the purpose of reducing aggregate construction noise levels at nearby noise-sensitive receptors: • To the extent practical and unless safety provisions require otherwise, adjust all audible back-up alarms downward in sound level, reflecting vicinities that have expected lower background level, while still maintaining adequate signal-to-noise ratio for alarm effectiveness. Consider signal persons, strobe lights, or alternative safety equipment and/or processes as allowed, for reducing reliance on high-amplitude sonic alarms. • At a minimum, equipment and vehicles used at the construction site will have intake and exhaust mufflers as factory installed or aftermarket as recommended by the manufacturers thereof, to help meet relevant noise limitations. Consider equipment acoustical upgrades, such as higher performing internal combustion engine exhaust mufflers and air filter/intakes, and engine hood/shroud/casing acoustical linings. • Minimize equipment and vehicle engine idling time, as this will reduce the accumulation of sound energy over a typical hour of construction	

Activity	Significance Determination[1]	Mitigation Measure Summary	Level of Significance after Mitigation
		activity. • Schedule intensive beach placement activity close to potentially impacted residential receivers when property owner/occupants may be temporarily away from the receptor locations (e.g., at work during usual business hours).	
Cultural Resources			
W-19 Restoration	Significant Result in an alteration, including the adverse physical or aesthetic effects and/or the destruction of a prehistoric or historic building, structure, ~~ or~~object or site, or discovery of human remains	**Cultural-1** As detailed in Section 5.11.5, a series of measures will be implemented before, during, and after construction, consistent with City requirements. These measures include monitoring and reporting requirements as applicable over the course of project implementation.	Less than Significant
Materials Disposal	Significant Result in an alteration, including the adverse physical or aesthetic effects and/or the destruction of a prehistoric or historic building, structure, ~~or~~ object or site, or discovery of human remains	See Cultural-1.	Less than Significant
W-19 Wetlands Maintenance	Less than Significant	None required	Less than Significant
Paleontological Resources			
W-19 Restoration	Less than Significant	None required	Less than Significant
Materials Disposal	Significant (from excavation of topsoil for salvage) Require over 1,000 cubic yards of excavation in a high resource potential	**Paleo-1** A paleontological monitor shall be onsite on a full-time basis during the initial cutting of previously undisturbed deposits of moderate to high paleontological significance (marine terrace deposits) within the disposal site to inspect exposures for contained fossils. (A paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil materials. The paleontological monitor should work under	Less than Significant

Activity	Significance Determination[1]	Mitigation Measure Summary	Level of Significance after Mitigation
	geologic deposit/ formation/rock unit and require over 2,000 cubic yards of excavation in a moderate resource potential geologic deposit/ formation/rock unit	the direction of a qualified paleontologist.) As grading progresses, the qualified paleontologist and paleontological monitor shall have the authority to reduce the scope of the monitoring program to an appropriate level if it is determined that the potential for impacts to paleontological resources is lower than anticipated.	
W-19 Wetlands Maintenance	Less than Significant	None required	Less than Significant
Public Services and Utilities			
W-19 Restoration	Less than Significant	None required	Less than Significant
Materials Disposal	Less than Significant	None required	Less than Significant
W-19 Wetlands Maintenance	Less than Significant	None required	Less than Significant
Public Health and Safety			
W-19 Restoration	Less than Significant	None required	Less than Significant
Materials Disposal	Less than Significant	None required	Less than Significant
W-19 Wetlands Maintenance	Less than Significant	None required	Less than Significant
Greenhouse Gas Emissions			
W-19 Restoration	Less than Significant	None required	Less than Significant
Materials Disposal	Less than Significant	None required	Less than Significant
W-19 Wetlands Maintenance	Less than Significant	None required	Less than Significant

[1] Table shows the highest level of potential impact for each issue area. In some cases, the project may have had no impact or less than significant impacts for certain impact thresholds; however the overall highest level of impact for the topic area is listed here.
[2] The proposed mitigation measures Coastal Processes-1 and 2 were found to result in significant impacts to Traffic, Access, and Circulation and Noise.

CHAPTER 1.0
INTRODUCTION

This Environmental Impact Report (EIR) addresses the potential environmental impacts associated with the San Dieguito Lagoon W-19 Restoration Project (proposed project). The proposed project involves restoration of wetland and upland habitat in an approximately 140-acre site within the larger San Dieguito Lagoon, generally east of Interstate 5 (I-5) and south of the San Dieguito River. Maintenance of restored wetland areas would also be included, with removal of sediment from the W-19 site and placement of that sediment on area beaches adjacent to the lagoon inlet. Also, as a part of the proposed project, the San Dieguito River Valley Regional Open Space Park Master Plan (Park Master Plan; San Dieguito River Park JPA 2000) would be updated to reflect various elements of the project. Because of federal and local discretionary actions, the proposed project requires evaluation pursuant to both the California Environmental Quality Act of 1970 (CEQA) and the National Environmental Policy Act of 1969 (NEPA).

As primary landholder, the San Dieguito River Park Joint Powers Authority (JPA) is also the local lead agency responsible for compliance with CEQA statutes (Cal. Pub. Res. Code Section 21 et seq., as amended) and implementing guidelines (Cal. Code Regs., Title 14, Section 15000 et seq., 1998). The JPA, as lead agency, has prepared the EIR.

The U.S. Army Corps of Engineers (Corps) is the federal lead agency responsible for compliance with NEPA (42 United States Code Section 4332 [2016]) in accordance with the Council on Environmental Quality regulations implementing NEPA (40 Code of Federal Regulations Sections 1500–1508). The Corps' Decision Document will be prepared separately to support the NEPA process.

This introduction addresses the purpose and intended uses of the EIR, provides an overview of the CEQA process, summarizes comments received during the public scoping period, and informs the reader how to provide comments on this document.

1.1 PURPOSE OF THE EIR AND INTENDED USES

1.1.1 PURPOSE OF THE EIR

As indicated in Section 15002 of the CEQA Guidelines, the purpose of this EIR is to:

- Inform governmental decision-makers and the public about potential significant environmental effects of proposed activities;
- Identify ways environmental damage can be avoided or significantly reduced;
- Prevent significant, unavoidable damage to the environment by incorporating changes in projects through alternatives or mitigation measures when feasible; and
- Disclose to the public why the JPA can approve the project if significant environmental effects are identified.

1.1.2 INTENDED USES OF THE EIR

This EIR is intended for the use of decision-makers, Responsible or Trustee Agencies as defined under CEQA, other interested agencies or jurisdictions, and the general public as they review the potential environmental effects, mitigation measures, and alternatives of the proposed project. The EIR includes mitigation measures which, when implemented, would substantially lessen or avoid significant effects of the project on the environment, when feasible. Alternatives to the proposed project are presented to evaluate alternative restoration and/or materials disposal schemes that would further reduce or avoid significant impacts associated with the project. By acknowledging the environmental impacts of the proposed project and its alternatives, decision-makers will have a better understanding of the physical and environmental changes that would accompany project approval.

1.1.3 RESPONSIBLE AND TRUSTEE AGENCIES

State law requires that EIRs be reviewed by Responsible and Trustee Agencies. A Responsible Agency, defined pursuant to CEQA Guidelines Section 15381, includes public agencies other than the lead agency, which have discretionary approval power over the proposed project. A Trustee Agency is defined in Section 15386 of the CEQA Guidelines as a state agency having jurisdiction by law over natural resources affected by a project that are held in trust for the people of the State of California. Implementation of the proposed project would require subsequent actions or consultation from Responsible or Trustee Agencies such as the California Department of Fish and Wildlife (CDFW), the California Coastal Commission (CCC), and the State Lands Commission, among others.

Specific permits, approvals, and consultations anticipated as part of project approval are identified in Chapter 3.

1.2 EIR SCOPE, CONTENT, AND FORMAT

This EIR is organized as follows:

The **Executive Summary** provides an overview of the information provided in detail in subsequent chapters. It consists of an introduction; a brief description of the proposed project and alternatives considered; a discussion of issues raised by the public and agencies relative to project construction and operations; and a table that summarizes the potential environmental impacts in each category, the significance determination for those impacts, mitigation measures, and significance after mitigation.

Chapter 1 – Introduction: provides the project background, an overview of the public involvement and CEQA environmental review processes, including anticipated permitting needs, and a description of the organization of the document.

Chapter 2 – Environmental Setting: describes the existing project site conditions and land uses in the project site, community plan designations, and existing zoning.

Chapter 3 – Project Description: details the project components, including the project's purpose and objectives, project and construction features, and applicable permits and approvals.

Chapter 4 – History of Project Changes: provides a summary of the origin and subsequent revisions of the restoration project.

Chapter 5 – Environmental Impact Analysis: describes the potential environmental effects of implementing the proposed project. The discussion in Chapter 5 is organized into 15 environmental issue areas as follows:

- Land Use and Recreation
- Hydrology
- Coastal Processes and Sediment Delivery
- Water Quality
- Geology/Soils
- Biological Resources
- Visual Resources
- Traffic, Access, and Circulation
- Air Quality
- Noise
- Cultural Resources
- Paleontological Resources
- Public Services and Utilities
- Public Health and Safety
- Greenhouse Gas Emissions

For each environmental issue, the analysis and discussion are organized into four subsections as described below:

Existing Conditions – This subsection describes the physical environmental conditions of the proposed project site generally at the time of publication of the Notice of Preparation (NOP). This establishes baseline conditions to determine whether specific project-related impacts would be significant.

Impact Thresholds – This subsection identifies a set of thresholds against which the level of impact under CEQA is determined.

Impact Analysis – This subsection provides information on the environmental effects of the proposed project. It documents whether the impacts of the proposed project would meet or exceed the established CEQA significance criteria.

Significance of Impacts – This subsection provides a brief summary of the CEQA impacts identified for each resource.

Mitigation Measures – This subsection identifies feasible mitigation measures that would avoid or substantially reduce significant project-related impacts. This subsection also indicates whether project-related impacts would be reduced to below a level of significance under CEQA with implementation of the mitigation measures identified in the EIR. Residual significant and unavoidable impacts of the proposed project that would result, even after the mitigation measures have been implemented, are also identified.

Chapter 6 – Significant Irreversible Environmental Changes: identifies changes in the local environment that would result from implementation of the project.

Chapter 7 – Growth Inducement: describes the potential of the proposed project to induce economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment.

Chapter 8 – Cumulative Impacts: addresses the potentially significant cumulative impacts that may result from the proposed project when taking into account other past, present, and reasonably foreseeable future projects.

Chapter 9 – Effects Found Not to Be Significant: identifies and summarizes the issue areas that were determined to have no adverse environmental effect, or a less than significant environmental effect, given the established significance criteria.

Chapter 10 – Alternatives: provides a description of alternatives to the proposed project, including a No Project alternative. Two restoration alternatives are described in this chapter, and potential impacts of each are disclosed. An alternative to onsite materials disposal is also evaluated.

Chapter 11 – Mitigation, Monitoring, and Reporting Program: consolidates mitigation measures specified in the EIR.

Chapter 12 – List of Preparers: identifies those persons responsible for the preparation of this EIR.

Chapter 13 – Agencies and Individuals Consulted: provides a list of those agencies and individuals consulted in the preparation of this EIR.

Chapter 14 – Literature Cited: provides a bibliography of reference materials used in preparation of this EIR.

Appendices – The NOP and various technical studies/reports prepared for the proposed project are provided as appendices to this EIR.

1.3 ENVIRONMENTAL REVIEW PROCESS – CEQA COMPLIANCE

As discussed, because of federal and local discretionary actions, the proposed project requires evaluation pursuant to both CEQA and NEPA. This document provides the required evaluation under CEQA. NEPA evaluation will be provided separately as part of the Corps process. There are legally defined steps that must be completed, from the initial notice that an EIR is going to be prepared through to a certification that the document and process are complete. These steps are described in more detail below.

1.3.1 NOTICE OF PREPARATION AND PUBLIC SCOPING PERIOD

In accordance with CEQA Guidelines, an NOP was distributed on August 27, 2014, to approximately 100 public agencies, interested organizations, and members of the general public. The purpose of the NOP was to provide notification that the JPA planned to prepare an EIR and to solicit input on the scope and content of the EIR. A total of eight written comment letters were received from various agencies, organizations, and individuals.

A scoping meeting was held near the project site at the Carmel Valley Public Library on September 9, 2014, during the 30-day public scoping period. The purpose of this meeting was to seek input from public agencies and the general public regarding the environmental issues and concerns that may potentially result from the proposed project to be addressed in the EIR. Approximately 10 people attended the public scoping meeting. General verbal and specific written comments were accepted at this meeting. Additionally, verbal and written comments were accepted via phone, mail, and e-mail during the scoping period. A copy of the NOP and written comments received are included as Appendix A of this EIR.

Throughout the environmental process, the JPA has solicited input on key issues and concerns relevant to the project from public agencies, stakeholder and interest groups, and the general public. The JPA has also attended additional meetings when requested by stakeholders to provide progress updates and assist in developing project alternatives. Some of these stakeholders include not only individuals, but the following agencies and organizations:

- U.S. Fish and Wildlife Service
- 22nd District Agricultural Association
- State Lands Commission
- California Coastal Commission
- California Department of Fish and Wildlife
- Native American Heritage Commission
- Southern California Edison

Southern California Edison (SCE) is a stakeholder uniquely relevant to this project. As mitigation for operational impacts of the San Onofre Nuclear Generating Station (SONGS), SCE restored approximately 440 acres within San Dieguito Lagoon, on both sides of I-5 and both sides of the San Dieguito River. Restoration occurred between 2006 and 2011 and requires up to 40 years of monitoring (CCC 2006). The proposed project site is contiguous with the SCE restoration effort and a portion of the proposed disposal site was previously used by SCE for materials disposal. More information about the SCE restoration project is provided in Chapter 2.

1.3.2 COMMENTS RECEIVED AND AREAS OF KNOWN CONTROVERSY

As discussed above, comments received during the 30-day public scoping period included verbal comments from the scoping meeting, as well as written comments submitted at the scoping meeting and separately during the scoping period. The primary issues raised during the scoping process are summarized by topic in Table 1-1 below.

Table 1-1
Summary of Public Comments Received during the Public Scoping Process

Public Comments by Environmental Topic or Issue Area	Section Where Considered in EIR
Aesthetics/Visual Impacts	
Design nonnatural support features to be visually compatible with the larger open space character of the lagoon system.	Section 5.7 and Chapter 10
Air Quality/Greenhouse Gas Emissions/Sea Level Rise	
Consider the possibility of increased sedimentation providing a benefit to wetland habitat by increasing elevation and countering sea level rise.	Chapters 3 and 10
Discuss the project in comparison to projected sea level rise, specifically whether or how sea level rise may impact the long-term success and maintenance of the identified habitat types.	Chapters 3 and 10
Biological Resources	
Discuss an increased focus on restoration of unvegetated wetlands, in addition to tidal and brackish vegetated wetlands.	Section 5.6 and Chapter 10
Provide a regional context for the distribution of available upland nesting habitat for the California least tern and the western snowy plover to put the value of the San Dieguito nesting sites in perspective.	Chapter 2, Section 5.6, and Chapter 10
Discuss what is known about the sediment size, slope, and distribution of unvegetated wetlands that support shorebird and other waterbird foraging.	Section 5.6 and Chapter 10
Include in project design a buffer area around nesting sites that could prevent unauthorized access during breeding season.	Chapter 3, Section 5.6, and Chapter 10
Address the project's potential to encourage the establishment or proliferation of aquatic invasive species.	Section 5.6 and Chapter 10
Evaluate noise and vibration impacts on fish and birds from construction, restoration, or flood control activities in the water and landside supporting structures.	Section 5.6, Section 5.10, and Chapter 10
Conduct a floristic, alliance- and/or association-based mapping; vegetation impact assessments should be conducted at the project site and neighboring vicinity.	Section 5.6 and Chapter 10
Hydrology and Water/Aquatic Sediment Quality	
Address drainage issues, including project-related changes on drainage patterns on and downstream of the project site; the volume, velocity, and frequency of existing and post-project surface flows; polluted runoff; soil erosion and/or sedimentation in streams and water bodies; and post-project fate of runoff from the project site.	Section 5.2, Section 5.4, and Chapter 10
Noise	
Consider the impacts of construction noise on the horse park immediately north of the proposed project, including mitigation measures that may be needed to prevent the noise from “spooking” the horses.	Section 5.14
Project Description and Design	
Ensure that planning, design, and engineering studies performed to evaluate the purpose, need, feasibility, design attributes, or performance of proposed hydrologic modification in the SCE restoration project area are independently peer-reviewed by experts in each appropriate discipline with the same level of scrutiny received by the SCE restoration project.	Chapter 3, Section 5.2, and Chapter 10
Include performance standards for each alternative, and determine methods for/frequency of evaluations, as well as correction measures, if needed.	Chapter 3 and Chapter 10
Project Schedule and Implementation Coordination with Other Projects	
Discuss how the proposed project, including access roads, staging/laydown areas, and schedule, will affect the SCE restoration project. Include measures to avoid introducing invasive species; ensure project roads in the SCE project area are repaired and nesting birds are avoided.	Chapter 3, Chapter 8, and Chapter 10
Analyze the project’s effect on tidal muting in the SCE restoration and prepare remediation/mitigation as needed.	Chapter 3, Section 5.2, and Chapter 10

Public Comments by Environmental Topic or Issue Area	Section Where Considered in EIR
Address the proposed project's potential impacts in terms of sediment transportation, hydrology, flow rates, and flooding that could affect adjacent restoration efforts.	Section 5.2, Section 5.3, and Chapter 10
Consider the impact the proposed project could have on the 22nd District Agricultural Association's existing predator control program for least tern nesting sites.	Section 5.6 and Chapter 10
Traffic and Circulation	
Evaluate potential construction-related traffic impacts, particularly during the annual San Diego County Fair and other known/existing annual events.	Section 5.8 and Chapter 10

Areas of known controversy include integrating with other restoration efforts within the lagoon (e.g., SCE restoration project) and maintaining sediment delivery and/or beach conditions.

1.3.3 PUBLIC COMMENTS ON DRAFT EIR

The~~is~~ Draft EIR ~~is being~~ was circulated for 45 days for public review and comment. ~~The timeframe of the public review period is identified in the Notice of Availability attached to this Draft EIR.~~ During this period, comments from the general public, agencies, and organizations regarding environmental issues analyzed in the Draft EIR, and the accuracy and completeness of the Draft EIR ~~may be~~ were submitted to the lead agency as follows:

Shawna C. Anderson, AICP
Principal Planner
San Dieguito River Park JPA
18372 Sycamore Creek Rd.
Escondido, CA 92025
Email: Shawna@sdrp.org
Phone: (858) 674-2275, ext. 13

The JPA has prepared written responses to all comments received during this period. These responses are included in the Final EIR as Appendix R, Public Comment Letters and Responses.~~General questions about this EIR or the EIR process should also be submitted to the lead agency at the address above. The JPA will prepare written responses to all comments pertaining to environmental issues raised in the Draft EIR review if they are submitted in writing and postmarked by the last day of the public review period identified in the Notice of Availability. Mailed or e-mailed comments will be accepted.~~

1.3.4 EIR CERTIFICATION PROCESS

Prior to approval of the proposed project, the JPA, as the lead agency and decision-making entity, is required to certify that this EIR has been completed in accordance with CEQA, that the proposed project has been reviewed and the information in this EIR has been considered, and that this EIR reflects the independent judgment of the JPA. CEQA also requires the JPA to adopt "findings" with respect to each significant environmental effect identified in the EIR (Pub. Res. Code Section 21081; Cal. Code Regs., Title 14, Section 15091). For each significant effect, CEQA requires the approving agency to make one or more of the following findings:

- Alterations have been made to avoid or substantially lessen significant impacts identified in the Final EIR.
- The responsibility to carry out such changes or alterations is under the jurisdiction of another agency.
- Specific economic, legal, social, technological, or other considerations are present which make infeasible the mitigation measures or alternatives identified in the Final EIR.

If the JPA concludes that the proposed project would result in significant effects that cannot be substantially lessened or avoided by feasible mitigation measures and alternatives, the JPA must adopt a "Statement of Overriding Considerations" prior to approval of the proposed project (Pub. Res. Code Section 21081[b]). Such statements are intended under CEQA to provide a written means by which the lead agency balances the benefits of the proposed project and the significant and unavoidable environmental impacts. Where the lead agency concludes that the economic, legal, social, technological, or other benefits outweigh the unavoidable environmental impacts, the lead agency may find such impacts "acceptable" and approve the proposed project.

In addition, public agencies, when approving a project, must also adopt a Mitigation Monitoring and Reporting Program (MMRP) describing the changes that were incorporated into the proposed project or made a condition of project approval in order to mitigate or avoid significant effects on the environment (Pub. Res. Code Section 21081.6). The MMRP is adopted at the time of project approval and is designed to ensure compliance during project implementation.

CHAPTER 2.0
ENVIRONMENTAL SETTING

2.1 PROJECT LOCATION

San Dieguito Lagoon is located at the terminus of the San Dieguito river valley in northern San Diego County, as shown in Figure 2-1, Regional Map. The San Dieguito River drains an approximately 345-square-mile watershed, which is much larger than the watersheds of other regional lagoons. The lagoon currently covers about 500 acres, the majority of which is salt marsh (SFEI 2014), but which also includes transitional and upland buffer areas. The lagoon is bordered to the west by the Pacific Ocean, to the south by gradual hillsides and residential neighborhoods in the cities of San Diego and Del Mar, and to the north by commercial and residential development in the cities of San Diego and Del Mar. The San Dieguito river valley, which includes a mix of agricultural uses, residential uses, golf courses, and undeveloped land, extends east from the lagoon.

While San Dieguito Lagoon spans the east and west sides of I-5, the proposed project site is located entirely east of I-5, as shown in Figure 2-2, Vicinity Map. The site is currently composed of disturbed riparian and upland areas adjacent to lagoon wetlands and the San Dieguito River. There are two elements of the proposed project as shown in the figure; the W-19 restoration site (approximately 141 acres) and the disposal site located south of the W-19 site (approximately 30 acres). These elements would be joined by ~~a~~temporary haul route<u>s</u>. Intermittent maintenance within the W-19 restoration site would also occur as part of the proposed project, and sandy material placed on the beach west of the lagoon, as shown in Figure 2-2. The overall proposed project area is located east of I-5, south of Via de la Valle, and west/northwest of El Camino Real, with the exception of these beach maintenance placement sites. The W-19 site is located adjacent to the San Dieguito River and within areas that were historically part of the larger wetland system within San Dieguito Lagoon, but until fairly recently had been farmed. The site is bisected by a San Diego Gas & Electric (SDG&E) utility corridor that crosses the site in a northwest/southeast alignment. <u>Additionally, a 10-foot-wide easement for a 10-inch pipeline is located through the middle of the proposed project site. This easement was granted in 1915 and has since been abandoned.</u>

The W-19 site is located within the City of San Diego jurisdiction and is primarily owned by the JPA, while CDFW and 22nd District Agricultural Association each own a parcel in the northern area. The westernmost parcels are currently owned by the City of San Diego, who has an agreement to sell the land to the San Diego Association of Governments (SANDAG) once the W-19 site has received all necessary federal and state permits. SANDAG will transfer the property to the JPA after the site meets its success criteria. The City of San Diego owns the disposal site. Temporary offroad haul routes used to transport materials from the restoration site to the disposal site would traverse lands owned by the JPA and the City of San Diego. Figure 2-3, Ownership, shows the ownership of each entity.

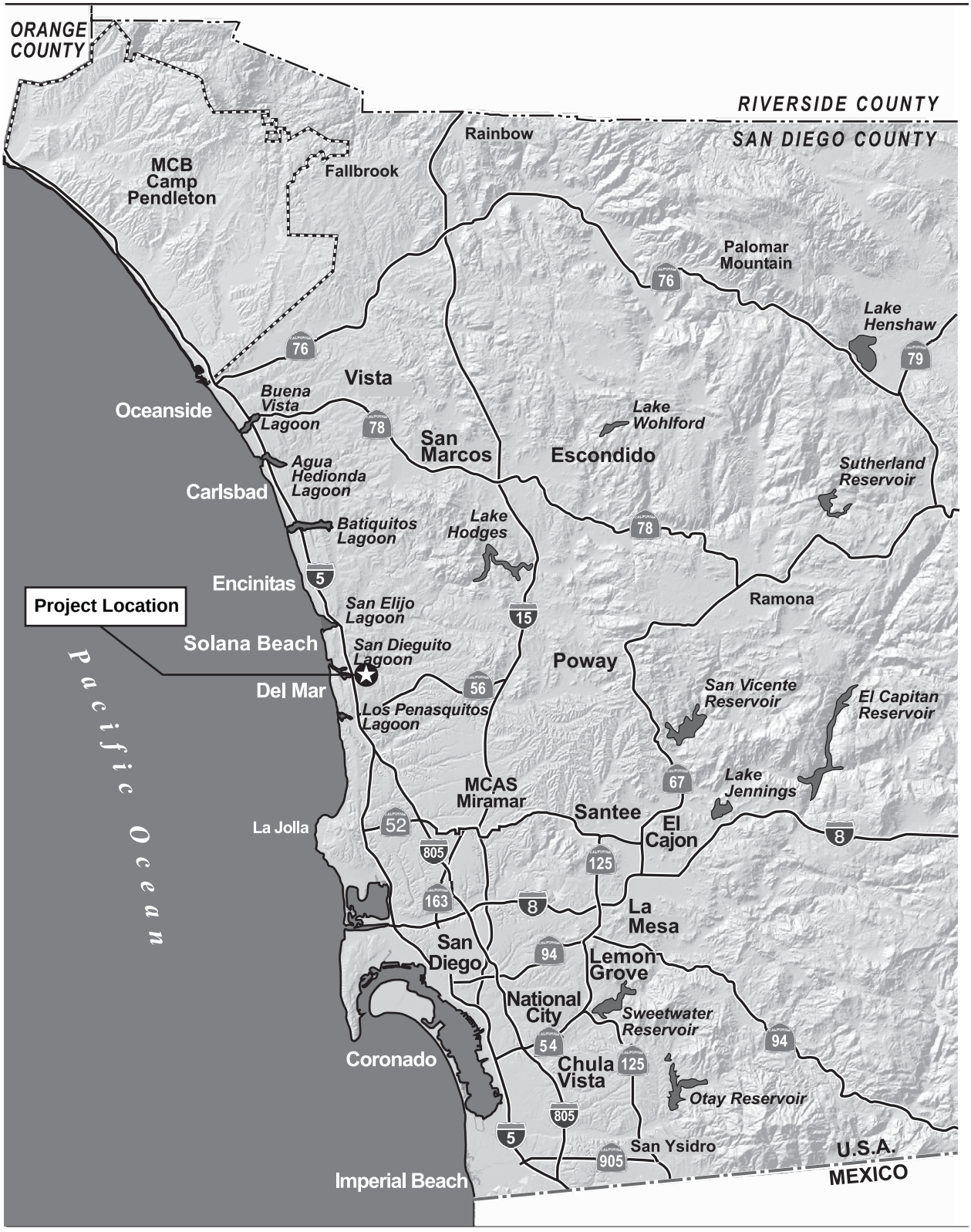
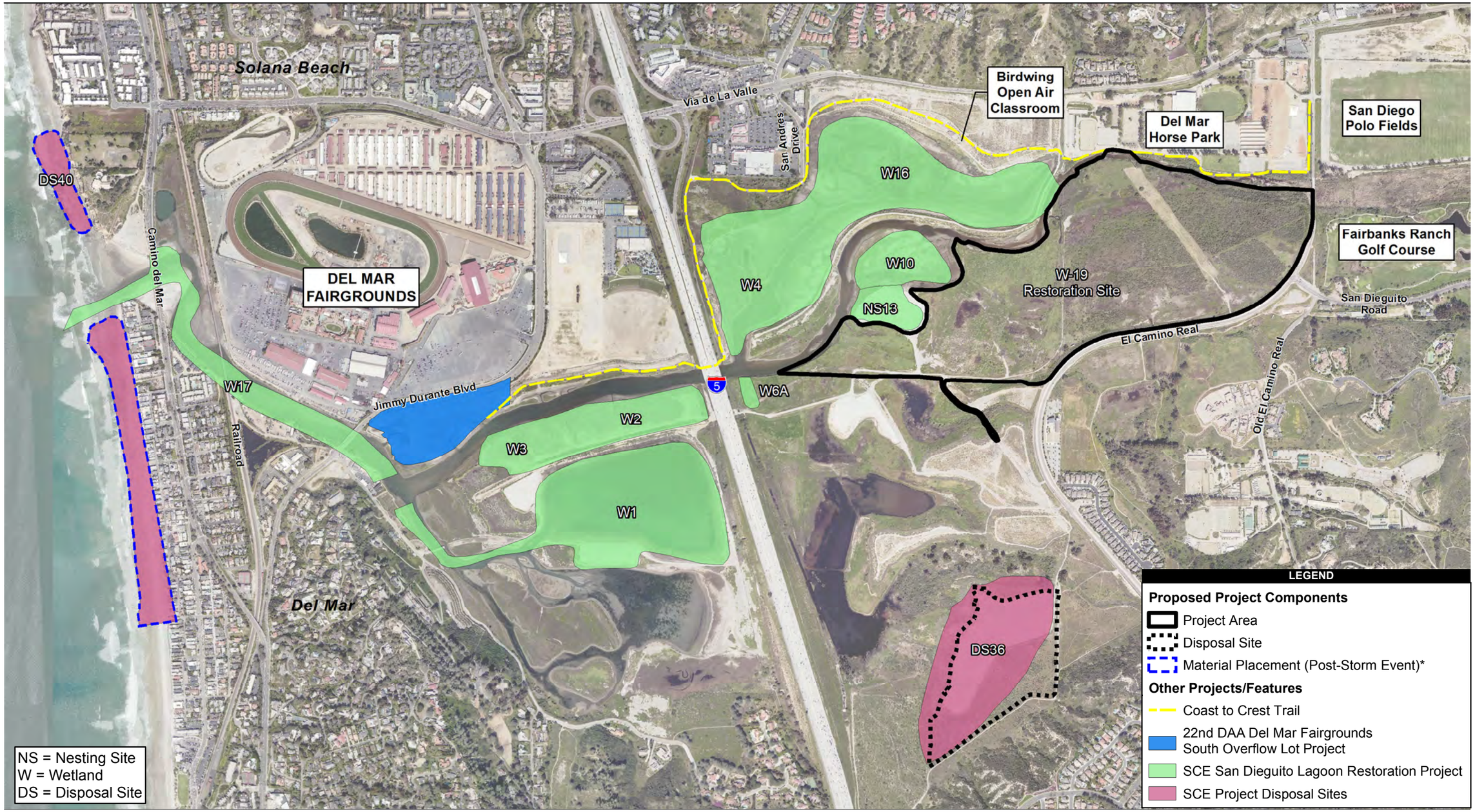


Figure 2-1
Regional Map



Source: JPA: Dokken 2015

1,000 500 0 1,000 Feet

Scale: 1:12,000; 1 inch = 1,000 feet

* The proposed materials placement sites are the same as those used for maintenance dredging required by the SCE Restoration Project (DS-40).

Figure 2-2
Vicinity Map

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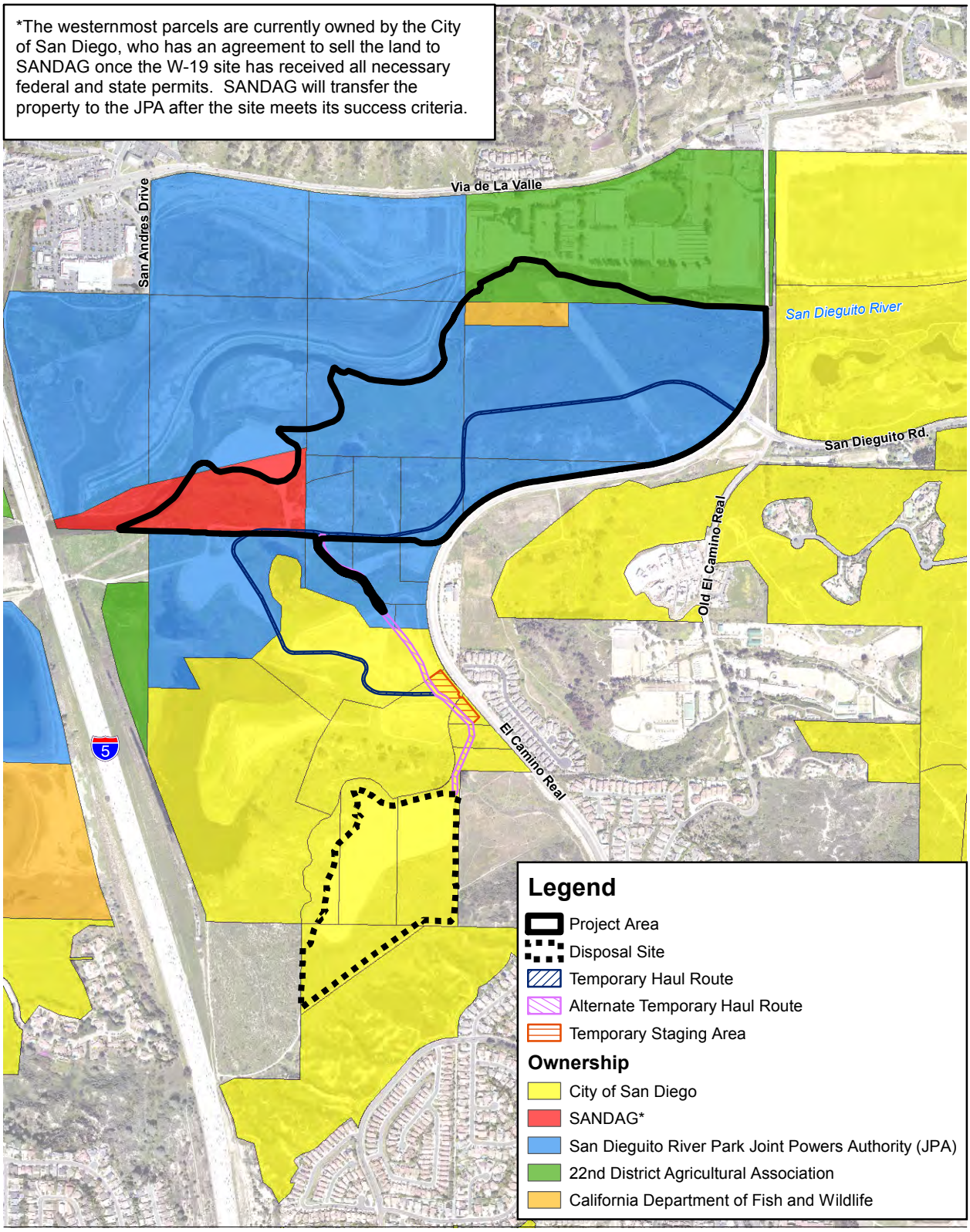

Source: JPA: Dokken 2015

1,250 625 0 1,250 Feet

Scale: 1:15,000 1 inch = 1,250 feet

Figure 2-3
Ownership

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The JPA is an independent local government agency established by the County of San Diego and the cities of Del Mar, Escondido, Poway, San Diego, and Solana Beach for the purpose of creating a greenway and natural open space park system in the San Dieguito river valley. The JPA manages the portions of the lagoon and river valley under their ownership, the trail network, and the SCE restoration project area.

Maintenance of established wetland areas within W-19 would also be included in the proposed project. Deposited sediment would be removed from the W-19 site after severe storm events and placed on area beaches adjacent to the lagoon inlet (maintenance placement sites). These beaches are currently used as placement sites for the SCE restoration project inlet maintenance, and are located within the City of Del Mar west of the Del Mar Fairgrounds.

2.2 REGIONAL CONTEXT OF LAGOONS AND COASTAL WETLANDS IN SAN DIEGO COUNTY

A recent study conducted by the San Francisco Estuarine Institute (SFEI 2014) examined the historical conditions of six regional lagoons/estuaries along the northern San Diego coast, including San Dieguito Lagoon. Each of the northern San Diego lagoons has experienced substantial transformations over the past centuries due to human development and influence. Since about 1850, an overall loss has occurred of 48 percent of historical estuarine habitat types along the southern California coast (generally Ventura to the United States-Mexico border). Estuarine wetlands in the area (including both vegetated and unvegetated habitat types) have experienced a 75 to 78 percent loss of acreage (Stein 2014). As a result, the composition of estuaries in the counties has shifted. In San Diego, there has been a substantial increase in water-filled bodies (subtidal systems) while both intertidal and vegetated wetlands have decreased (although this is due primarily to Mission Bay and San Diego Bay).

Coastal lagoons in San Diego provide critical functions in support of wildlife and plant species. Although the specific range of functions provided by each lagoon depends on the site's hydrology, salinity level, and resultant habitat types, together these systems provide a number of ecological benefits, including migratory shorebird habitat, habitat for various federal- and state-listed species, nursery and refugia for fish species, erosion protection for shorelines, and littoral sand delivery to the coast (Zedler 1996).

2.3 HISTORICAL HABITAT AND LAGOON MODIFICATIONS AT SAN DIEGUITO

Similar to the other northern San Diego lagoons, San Dieguito Lagoon historically supported a range of habitats including vegetated salt and brackish marsh, associated tidal embayments, sloughs, and mudflats. Beginning in the early 20th century, large portions of the San Dieguito Lagoon marsh plain were filled for construction of roads, an airfield, the Del Mar Fairgrounds, and a shopping center. During the same period the lagoon and marshland were being filled, the surrounding area was developed for a variety of commercial and residential uses. Today, less than half of the historical wetlands remain intact and the estuary's area is greatly reduced from its historical extent, although restoration efforts in recent years have compensated for this loss to some degree.

Changes within the lagoon and its watershed has historically resulted in changes to the hydrologic function of the lagoon system. The construction of Lake Hodges Dam in 1918

decreased freshwater input into the lagoon and altered salinity gradients within the system. This reduction may have also resulted in a reduced frequency and/or duration of an open inlet lagoon. Consequently, the ecological function of the tidal marsh ecosystem components and the regular influence of the ocean tidal waters have been substantially diminished. A large portion of the San Dieguito Lagoon complex, including the W-19 restoration site, was converted from wetland to upland as a result of these local and upstream human activities, particularly the filling-in of the river valley for agriculture and construction of the dam and subsequent decrease in freshwater inputs to the lagoon. However, recent lagoon restoration has improved these conditions.

Between 2006 and 2011, the San Dieguito Wetlands Restoration Project (SCH No. 98061010), created large areas of salt marsh within San Dieguito Lagoon, south and east of the historical lagoon (referred to as the SCE restoration project). The project, which was undertaken by SCE as mitigation for operational impacts of SONGS, restored approximately 440 acres within the lagoon, including the creation of tidally influenced wetlands (Figure 2-2). The SCE restoration project also resulted in restoration of much of the agricultural land within the lagoon complex to coastal sage scrub/native grassland vegetation. Continued SCE work within the lagoon includes a 1-acre wetland site referenced as W6A, also shown in Figure 2-2.

The proposed W-19 restoration site was historically within the freshwater/brackish wetland area of the lagoon (SFEI 2014), and more recently was used for tomato farming. Since the purchase of the site by the JPA in 2004, agricultural uses have been halted and habitat transition has occurred. Currently, the site primarily consists of nonnative grasslands, dense coyote bush scrub, and nonnative riparian areas. A portion of the area proposed for materials disposal is used as a disposal site (DS-36) for the SCE restoration project, as further described in Section 3.3. The DS-36 area continues to be intermittently used by SCE and is currently unvegetated (Nordby, personal communication, 2016a). The remainder of the proposed disposal site currently contains coyote bush scrub.

The Del Mar Fairgrounds South Overflow Lot Project (owned and used by the 22nd District Agricultural Association), shown in Figure 2-2, recently restored approximately 3.2 acres of tidal wetlands along the northern bank of the river channel adjacent to the fairgrounds. A second phase, which will restore the remaining 11.2 acres of the South Overflow lot, began construction in the fall of 2016.

2.4 GENERAL PLANNING CONTEXT

A summary of applicable regulations and jurisdictions for the proposed project is provided below. A more extensive discussion of regulatory environment is provided in Section 5.1, Land Use and Recreation.

City of San Diego North City Urbanizing Area

The City of San Diego North City Future Urbanizing Area (NCFUA) extends east from I-5 almost to Interstate 15. Santa Fe Valley serves as the NCFUA's northern boundary, and Los Peñasquitos Canyon borders the NCFUA to the south. The project site is located in Subarea II of

the NCFUA and is designated as Environmental Tier. Planning and land use policies for this area are contained in the North City Future Urbanizing Area Framework Plan (Framework Plan).

San Dieguito River Park Concept Plan

The project site is located within the Focused Planning Area of the JPA's San Dieguito River Park, as reflected in the San Dieguito River Park Concept Plan (Concept Plan), adopted in 1994 (San Dieguito River Park JPA 2002). To achieve its goal, the Concept Plan proposed preparation of individual master plans for the various landscape units included in the River Park boundary. In 2000, the JPA adopted the Park Master Plan for the Coastal Area, which includes the San Dieguito Lagoon area and is described below.

San Dieguito River Park Master Plan for the Coastal Area

The Park Master Plan provides a framework for implementing community goals for the restoration of the San Dieguito Lagoon ecosystem, both tidal and nontidal, and for the provision of public access trails and amenities for public enjoyment and nature study (San Dieguito River Park JPA 2000). Boundaries established by the Park Master Plan encompass publicly owned land in and around San Dieguito Lagoon and the San Dieguito River on the west side of I-5 as well as the east side of the interstate, but include only the western portion of the W-19 site as the rest was in private ownership at the time the Plan was prepared. The Park Master Plan also provides designations for specific areas within these larger boundaries as potential restoration opportunities, including tidal wetland restoration and nontidal habitat restoration. Only the western portion of the proposed project site is included within the present Park Master Plan boundaries; in that area, restoration plans show a variety of wetland and upland habitat types such as grasslands, seasonal salt marsh, high marsh, and exposed mud flats. The proposed project would update the Park Master Plan boundary to include the entire W-19 restoration site, as described in Chapter 3. Existing and proposed recreational opportunities, including trails, are also identified in the Park Master Plan, including within and around the project site.

Coastal Zone

The W-19 site and disposal site are located within the Coastal Zone as designated by the CCC. Various Coastal Zone classifications throughout the project area allow for local jurisdiction authority under the North City Local Coastal Program (LCP) as well as some deferred certification zones with permit authority retained by the CCC. Beach maintenance placement sites are also located in the coastal zone, within the City of Del Mar LCP jurisdictional area. Due to the multiple jurisdictions overlaying the project site, a Consolidated Coastal Development Permit (CDP) may be requested from the CCC, streamlining permitting processes.

I-5 North Coast Corridor Public Works Plan/Transportation and Resource Enhancement Program

The proposed project is identified as a mitigation opportunity within the I-5 North Coast Corridor Public Works Plan/Transportation and Resource Enhancement Program (PWP/TREP), which describes transit, environmental, and coastal access improvements along the I-5 North

Coast Corridor over the next 30 years. Caltrans worked with SANDAG, transit agencies, and local jurisdictions to develop the improvements along the corridor and obtain CCC agreement. Specifically, the PWP/TREP considers the San Dieguito W-19 Restoration Project as a mitigation opportunity for the establishment of 47.3 acres of coastal wetland and 9.6 acres of upland habitat, as well as the restoration of 19.8 additional acres of upland.

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CHAPTER 3.0
PROJECT DESCRIPTION

3.1 INTRODUCTION

The proposed project would supplement recent restoration efforts within San Dieguito Lagoon by creating and maintaining wetland habitat within a specific portion of the lagoon system, referred to as W-19. The proposed project would encompass approximately 141 acres of land adjacent to the San Dieguito River and wetland habitats, including an area already identified as a restoration opportunity by the JPA in the Park Master Plan. The PWP/TREP also identifies the site as part of the overall wetland mitigation strategy for infrastructure projects along the I-5 North Coast Corridor within northern San Diego County and restoration within W-19 is also anticipated to be used as mitigation for the El Camino Real Bridge/Road Widening ~~Replacement~~ Project. The goal is to establish a system with approximately 50 acres of tidal wetland and 15 acres of brackish wetland, as well as create and/or enhance approximately 5 acres of riparian. Other areas would be established as transitional areas and native uplands. Wetland and upland acreage that exceeds this goal could be utilized as mitigation for future projects by others, if determined appropriate by regulatory agencies.

The proposed project would also include a new trail generally paralleling El Camino Real. The trail would link to the Dust Devil Nature Trail along the southern edge of the project area and extend north to near the El Camino Real Bridge for future connection to the Coast to Crest (CTC) Trail, after replacement of the bridge by the City of San Diego.

Finally, the project involves an addendum to the JPA's existing Park Master Plan for the Coastal Area; specifically expanding Master Plan boundaries to El Camino Real, adding the proposed trail, and reflecting future habitat designations.

3.2 PROJECT OBJECTIVES

The purpose of the proposed project is to establish coastal wetlands and associated habitats that can be maintained into the future, which would be used as mitigation for transportation projects within the coastal corridor of north San Diego, partially offsetting wetland losses within the San Dieguito Lagoon system.

Accordingly, the primary objectives of the proposed project include:

- Establish a functional mix of coastal wetlands that includes approximately 50 acres of tidal salt marsh and contribute to the upland mitigation need identified in Table 1 of the Resource Enhancement and Mitigation Plan of the PWP/TREP (Caltrans 2016a).
- Establish approximately 15 acres of brackish wetlands and 3 acres of riparian habitat, and enhance an additional 2 acres of riparian habitat as identified in the El Camino Real Bridge/Road Widening ~~Replacement~~ Project Recirculated EIR (SCH No. 1999071104).

- Enhance connectivity of the San Dieguito River to the river valley to promote functionality of the broader lagoon ecosystem.
- Promote a sustainable system of native wetland and terrestrial vegetation communities that is resilient against the effects of sea level rise.
- Promote recreational trail connectivity and enhancement of public access within and adjacent to the San Dieguito River Park and San Dieguito Lagoon.
- Complement existing restoration efforts (e.g., SCE's restoration project).
- Maintain coastal littoral zone conditions along the beach/coastline.
- Maintain or enhance current flood protection, specifically for existing infrastructure and development.

3.3 PROPOSED PROJECT DEVELOPMENT

The proposed project was developed to achieve these project objectives based on historical efforts that identified the W-19 site as a potential restoration area for coastal wetlands. The W-19 site has been identified as a potential restoration site since the 1990s, and a number of alternative designs to complete restoration of the site have been evaluated since then. The 1994 Concept Plan, and subsequent Park Master Plan (2000), initially proposed restoration of San Dieguito Lagoon, much of which was restored by the 2006 SCE restoration project. Restoration opportunities at W-19 were more specifically evaluated in the Marine Life Mitigation Plan for the Carlsbad Desalination Plant (Poseidon 2008), which were then further refined in the San Dieguito Lagoon W19 Restoration Project Feasibility Study (Feasibility Study; Dokken 2011) for the currently proposed project.

Following the Feasibility Study, both design options derived from historical efforts, as well as a series of additional concepts identified through early coordination with various wildlife and regulatory agencies, were evaluated. The evaluation of these design options resulted in the proposed project, as well as the alternatives evaluated under CEQA in Chapter 10 of this EIR. A more comprehensive description of the various design options evaluated over time for the W-19 site is included in Chapter 10.1.

The proposed project was selected through the preliminary engineering and alternatives analysis processes based on its ability to best meet the project objectives. Primary considerations in the selection of this alternative included the creation of a gradient of habitat that would both fulfill existing mitigation needs and be resilient against future impacts from sea level rise (Appendix D) and storm events (Appendix F). The ability to meet mitigation needs as identified in the PWP/TREP, as well as for the El Camino Real Bridge/Road Widening ~~Replacement~~ Project, is key to project implementation. In addition, establishing a system to complement adjacent restoration efforts and expand the functional biological and recreational value of the San Dieguito Lagoon area was also central to project design. Section 3.4 describes the proposed project components and construction approach.

3.4 PROJECT COMPONENTS

The **physical changes** associated with the proposed project involve lowering existing elevations at the W-19 restoration site to establish wetland systems, disposal of the resulting material, relocation of a single set of utility poles that are outside of the existing utility corridor into the corridor, construction of a new trail, and planting habitat at the new grades. Maintenance of wetlands within W-19 is also included. The **planning element** includes an addendum to the Park Master Plan. This section describes the planning element first and then provides additional detail about the construction components.

3.4.1 PROPOSED SAN DIEGUITO RIVER PARK MASTER PLAN ADDENDUM

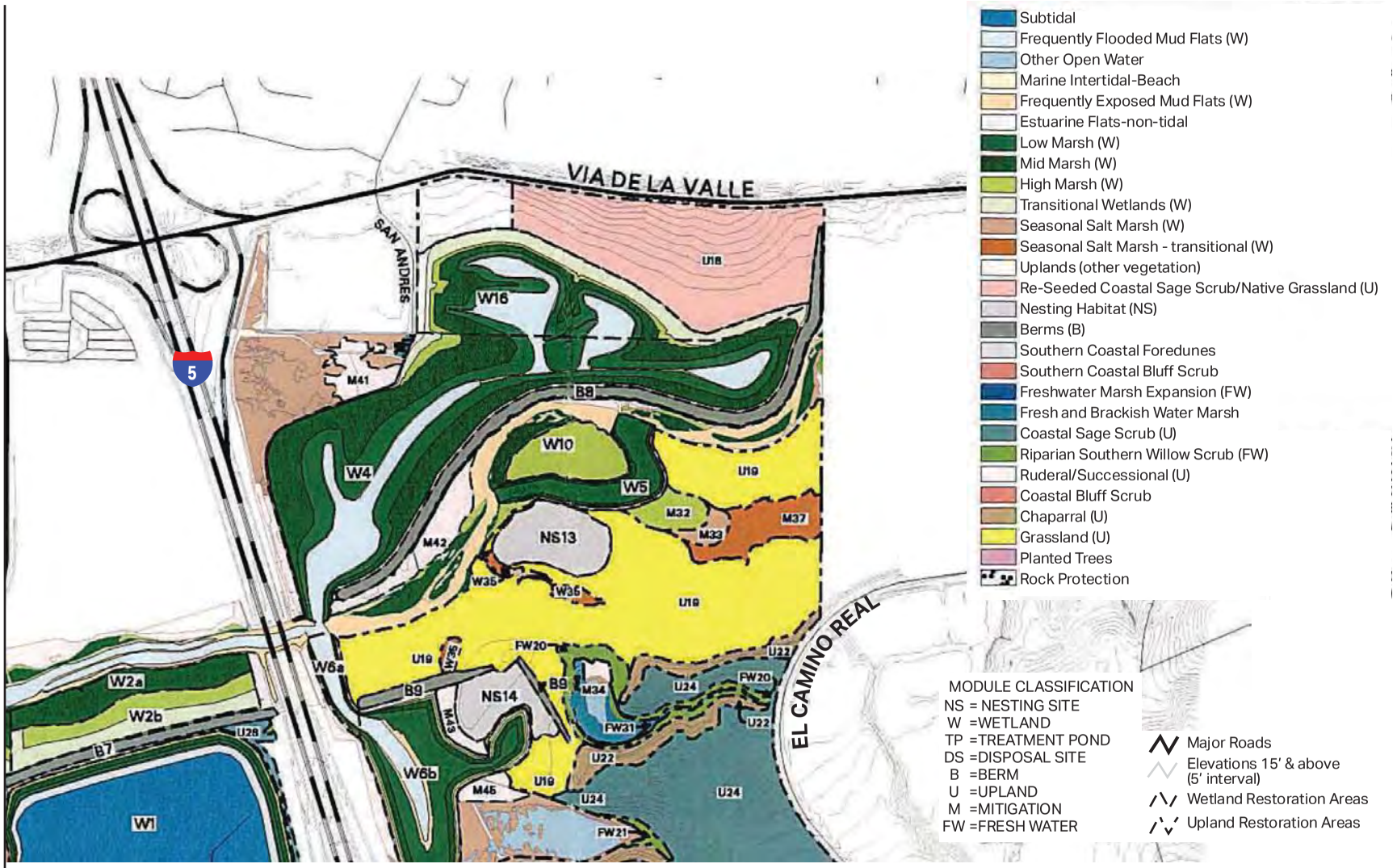
As noted in Chapter 2, the Park Master Plan provides a framework for the restoration of the San Dieguito Lagoon ecosystem and for the provision of public trails/access for enjoyment and nature study (San Dieguito River Park JPA 2000). Current boundaries include only the western portion of the W-19 restoration site as the rest was previously in private ownership. The Park Master Plan also identifies restoration opportunities for specific areas within the overall boundaries and in the subject portion of the W-19 restoration site indicates a variety of wetland and upland habitat types such as grasslands, seasonal salt marsh, high marsh, and exposed mud flats (Figure 3-1, Existing Master Plan Boundaries and Designations).

The proposed project would restore areas identified in the Park Master Plan as U19, W36, M32, M33, and M37, plus other areas west of El Camino Real owned by the JPA, 22nd District Agricultural Association, and CDFW. The Park Master Plan would be amended to redesignate the restored areas as W-19 and would incorporate the updated habitat designations. The existing recreational trail system would be expanded to include the new trail, which would provide for a future connection from south to north across the river to the existing CTC Trail (the connection would be finished as part of the El Camino Real Bridge/Road Widening ~~Replacement~~ Project). The Park Master Plan addendum is specific to the scope of this project and would not modify other elements or components of the Park Master Plan not affected by the project. The full text of the Park Master Plan addendum is included as Appendix B to this EIR and the three main elements of the addendum are summarized below.

- Update Park Master Plan Area Boundary to include W-19 site as shown in Figure 3-2, Proposed Park Master Plan Boundary Adjustment and Trail.
- Describe and illustrate new habitat designations within W-19 site as shown in Figure 3-3, Proposed Habitat Distribution.
- Describe new public access with the proposed trail alignment along El Camino Real, as shown in Figure 3-2.

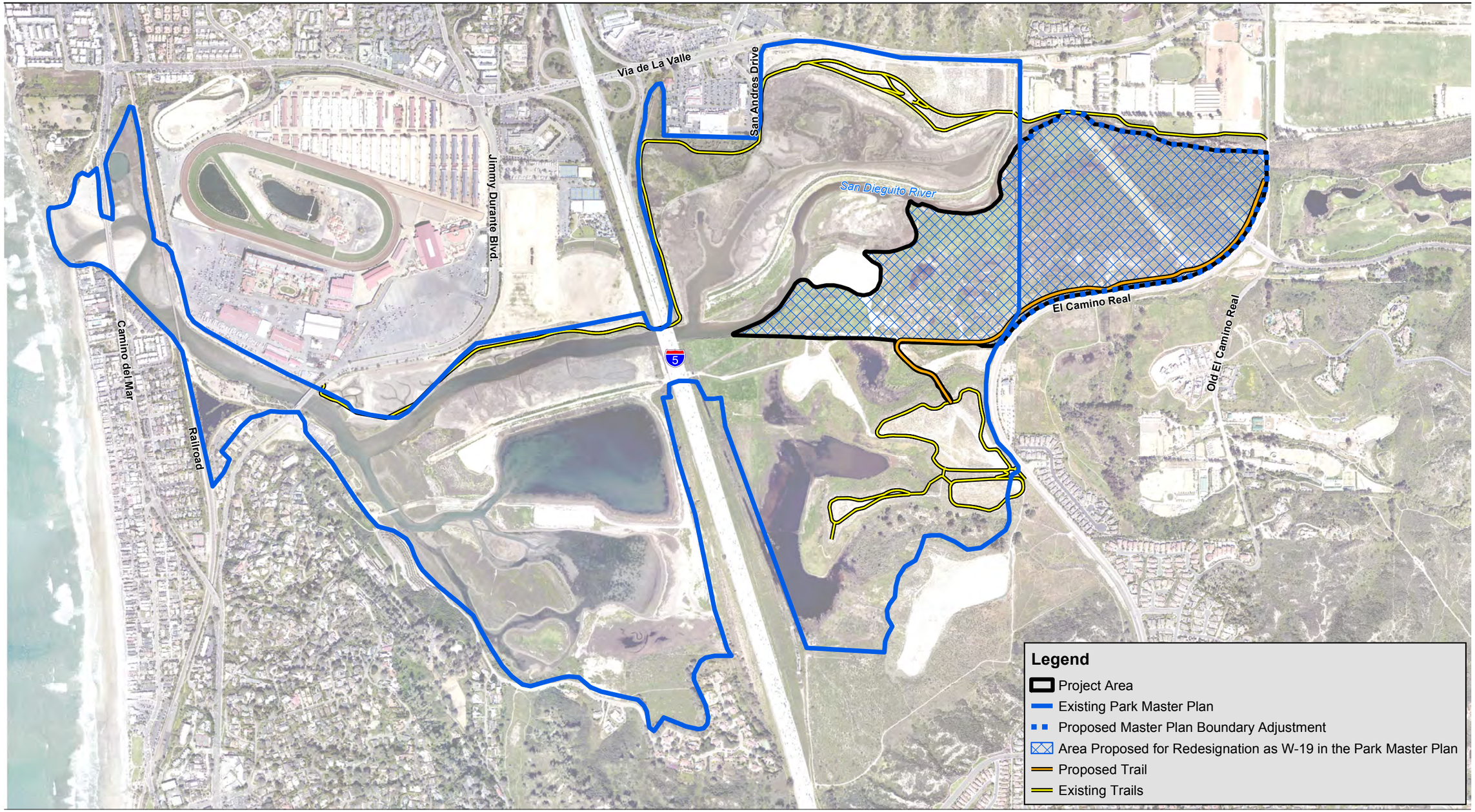
3.4.2 PROPOSED HABITAT RESTORATION/ESTABLISHMENT

To accomplish the project objectives, the proposed project would lower elevations within the W-19 restoration site to establish two separate wetland systems (shown in Figure 3-3): a salt marsh system west of the utility corridor, and a brackish marsh system (including riparian



No Scale

Figure 3-1
Existing Park Master Plan Boundaries and Designations



Source: JPA: Dokken 2015

1,000 500 0 1,000 Feet

Scale: 1:12,000 1 inch = 1,000 feet

Figure 3-2
Proposed Park Master Plan Boundary Adjustment and Trail

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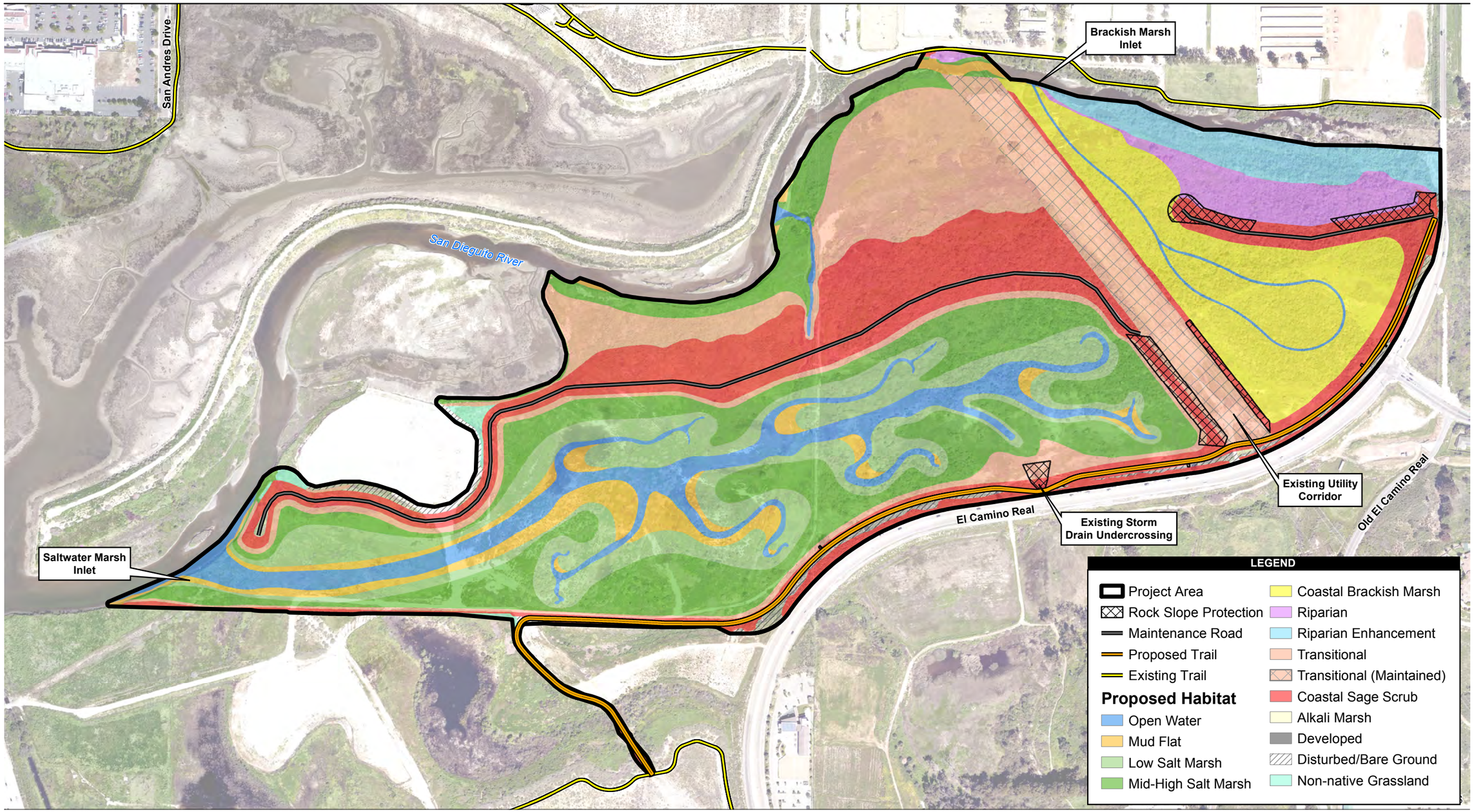

Source: JPA: Dokken 2015

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Scale: 1:4,800 1 inch = 400 feet

Figure 3-3
Proposed Habitat Distribution

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habitat) east of the utility corridor. The utility corridor itself would remain, although armoring/protection would be placed in specific locations to protect existing utilities from erosion. Other overhead power lines extending through the site would be moved underground (by others) or relocated as part of the proposed project to consolidate utilities within the existing corridor or an expansion of the corridor, as described in the Utility Relocation discussion below. Soil excavated from the site during construction would be placed at a disposal site located south of W-19, which includes a portion of the DS-36 site used for the SCE restoration project. The area affected by project construction is shown in Figures 3-4, Limits of Disturbance; 3-5, Limits of Disturbance Disposal Sites; and 3-8, Staging/Access.

Proposed Habitat Creation

To establish the proposed habitat distribution, changes in site elevations must occur, because salt water wetland habitats require a certain frequency of tidal inundation to establish and survive. Brackish wetland habitats also require exposure to water with a specific frequency and/or for specific durations, and salinity levels must be lower than those required to maintain tidal wetlands. The establishment of riparian habitat such as southern willow scrub also depends on the proximity to water sources. Inundation frequency within the proposed project area was modeled (Appendix D) and specific elevation ranges needed for each proposed wetland habitat type were defined (Nordby 2016b). These habitats are described below in Table 3-1, as well as the elevation ranges required for their establishment. Each habitat zone is defined by the frequency of its tidal inundation, where applicable, and its relative water elevation.[1]

Salt Marsh

As part of the proposed project, approximately 60 acres of tidal salt marsh would be established west of the existing utility corridor and south of the river. The habitat types that compose tidal salt marsh are determined by elevation and corresponding inundation frequency. For this project, tidal elevations were modeled for each habitat type, as shown in Table 3-1 below, and portions of the project area would be graded as appropriate to attain the elevation required by each habitat type. Upland/transitional habitats would be established adjacent to the wetland habitat to support ecological function of the restoration project and provide resiliency for future sea level rise. Tidal connection with the San Dieguito River would be constructed at the west end of the site and in the vicinity of the existing least tern nesting island (designated NS13 in the SCE restoration project). A berm with maximum elevation of 20 feet National Geodetic Vertical Datum (NGVD), planted with a mix of transitional and upland habitat, would be constructed between established salt marsh and the San Dieguito River channel to protect the established wetlands from damage due to flood and sedimentation, and to maintain sand movement downstream through the river channel. Protection from erosion within the site would be provided along the utility corridor, as well as at the outlet of the existing stormwater culvert extending under El Camino Real. Access to the existing NS13 nesting area and the inlet to W-19 would be provided via a decomposed granite (DG) access road located along the vegetated berm.

[1] Elevations throughout this document are in National Geodetic Vertical Datum (NGVD)-29 (1929) unless otherwise noted.

Table 3-1
Wetland Habitat Zones

Habitat Zone	Description	Inundation Frequency Range	Predicted Elevation Break (ft, NGVD)
Subtidal	Always submerged.	100%	-2.0 to -0.3
Intertidal Mudflat	Gently sloping areas of soft mud, typically inundated twice per day by tides.	100%–40%	-0.3 to +1.4
Low Marsh	Inundated less frequently and for shorter periods of time than mudflats (submerged 40 to 20 percent of the time), dominated by California cordgrass (*Spartina foliosa*).	40%–20%	+1.4 to +1.9
Mid Marsh	Only submerged during higher tides, typically dominated by Pacific pickleweed (*Sarcoconia pacifica*).	20%–4%	+1.9 to +3.0
High Marsh		4%–0%	+3.0 to +4.5
Transition Zone	Area between the upper limit of the estuarine wetland and the adjacent upland habitat.	0%	> +4.5
Brackish Marsh	Requires less saline conditions than salt marsh (30 parts per thousand or less), so typically occurs farther upstream than salt marsh. Can persist in both submerged and exposed areas as long as sufficient groundwater is present, dominated by *Typha* spp.	4%–0%	+3 to +7.5
Southern Willow Scrub (Created)	Southern willow scrub habitat does not need to be inundated, but survives on soil moisture wicked from ground water.	0%	> +7

NGVD =National Geodetic Vertical Datum

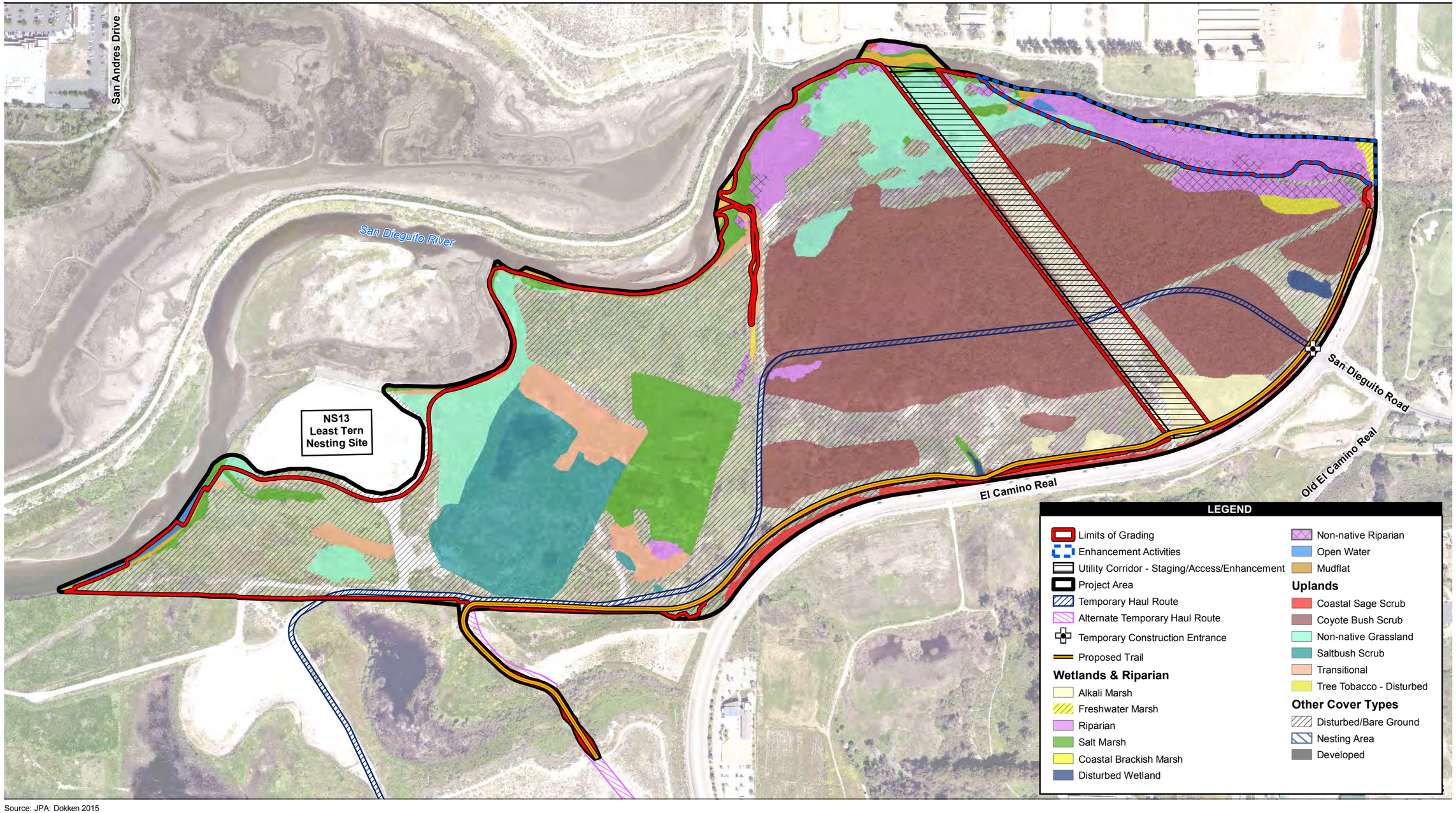
Brackish Marsh/Riparian

East of the existing utility corridor, approximately 15 acres of brackish marsh would be established as part of the proposed project, and riparian establishment and enhancement would be completed. An open water channel from the San Dieguito River would be constructed through the brackish marsh area to provide drainage and circulation. Similar to the salt marsh area, a vegetated berm with a maximum elevation of 22 feet NGVD would be constructed between established brackish marsh habitats and the San Dieguito River channel to protect the wetlands from damage due to flood and sedimentation, and to maintain sand movement downstream through the river channel. Rock slope protection (RSP) would be provided at both ends of the berm to protect again erosion. This berm would include a DG access road for maintenance vehicles and would be planted with coastal sage scrub. Riparian enhancement within the eastern portion of the site would consist of the focused removal of invasive species by hand, while additional riparian habitat would be established adjacent to those enhancement areas.

Other Project Components

Recreational Trail

The proposed project would construct a new trail adjacent to El Camino Real along the eastern project site boundary to expand recreational opportunities, as shown in Figure 3-2. This new trail



Source: JPA: Dokken 2015

400 200 0 400 Feet

Scale: 1:4,800 1 inch = 400 feet

Figure 3-4
Limits of Disturbance

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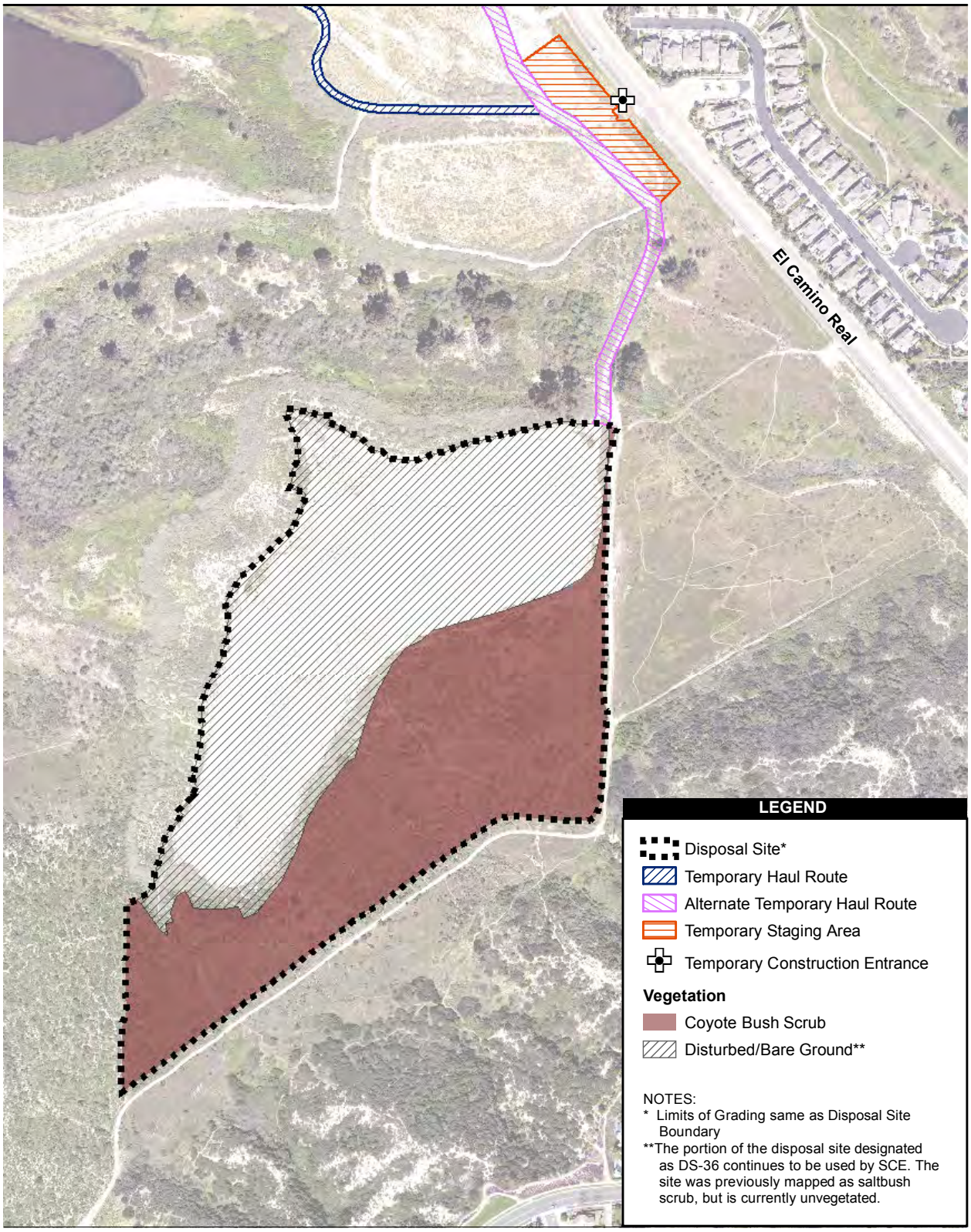

Source: Dokken 2015; AECOM 2018; SANDAG 2017.

400 200 0 400 Feet

Scale: 1:4,800 1 inch = 400 feet

Figure 3-5
Limits of Disturbance
Disposal Site

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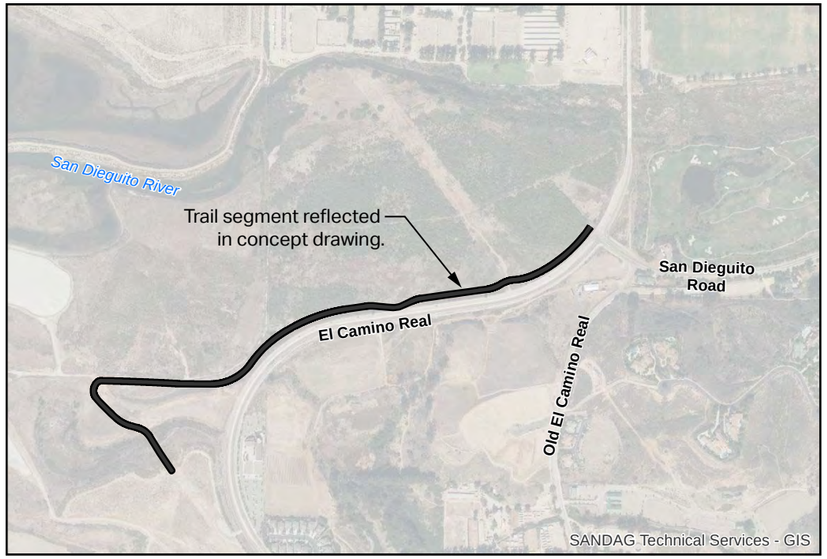
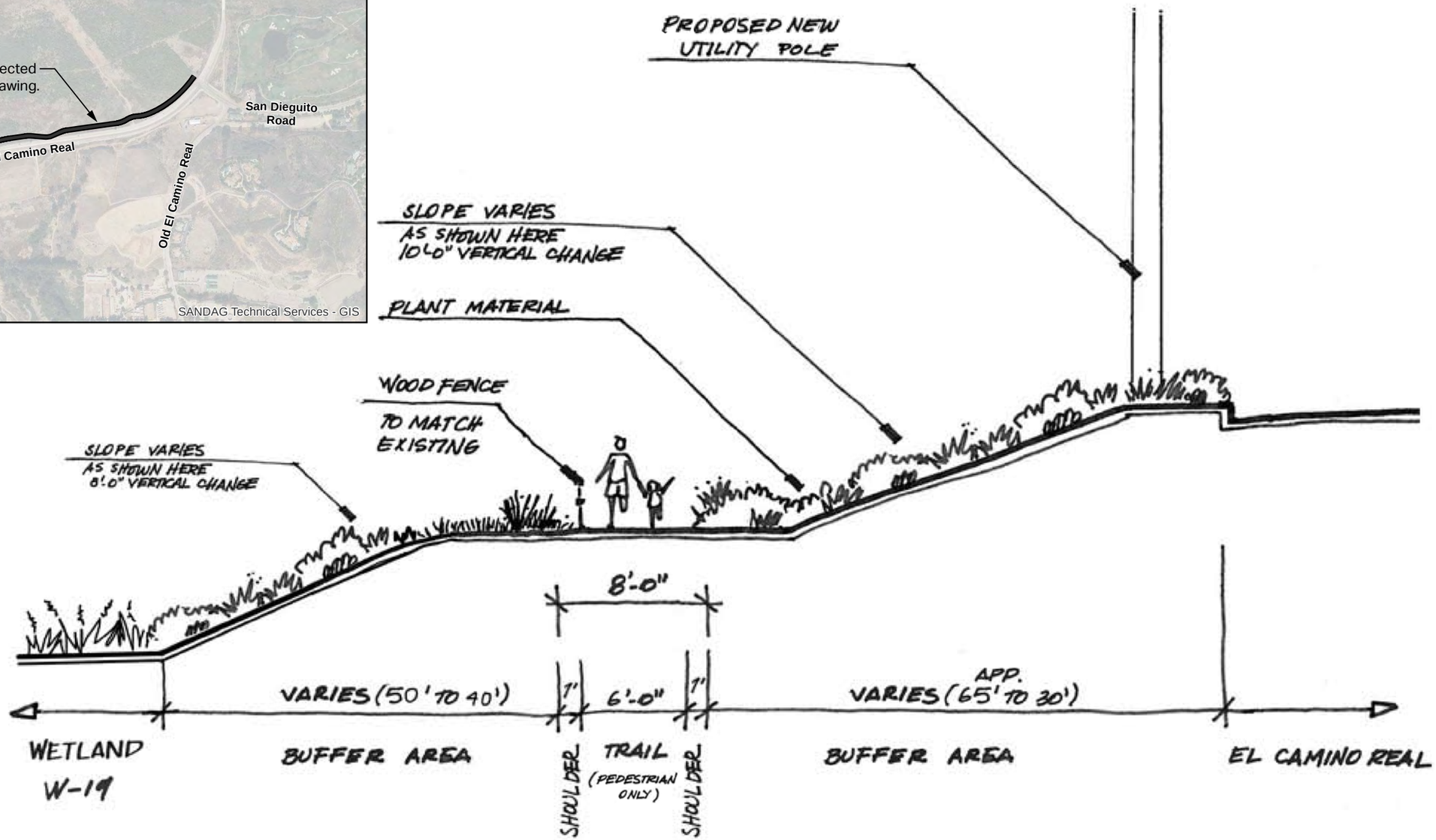
would extend north from the northern loop of the existing Dust Devil Nature Trail along an existing maintenance/access road before turning east toward El Camino Real. The trail would then travel northeast, west of, and adjacent to El Camino Real. The trail would terminate immediately south of the San Dieguito River and no access across the river would be provided. However, the termination would be designed to allow for future access to new pedestrian facilities associated with the City's replacement of the El Camino Real Bridge as currently being processed by the City of San Diego (construction anticipated to begin by ~~2018~~2022). Once the new El Camino Real Bridge is constructed, trail users could access El Camino Real from the trail, cross the river via the new pedestrian lanes on the bridge, and then connect on the north side of the river to the CTC Trail.

The trail alignment would be approximately 1 mile in length, parallel to El Camino Real. Starting from where the trail connects to the Dust Devil Nature Trail, it would generally be 6 feet wide and surfaced with DG with 1-foot-wide dirt shoulders. This initial section of the proposed trail would be designated for hikers only (no bicycles or equestrian use), similar to the Dust Devil Nature Trail. A cross-section of this trail component is provided in Figure 3-6. The trail would widen at the approach to the El Camino Real Bridge from San Dieguito Road. The widened trail section would be multi-use, with a 6-foot-wide DG surfaced section for hikers and bicycles, a 4-foot-wide soft dirt section for equestrian users, and 1-foot-wide dirt shoulders. Fencing would extend along portions of the trail, particularly adjacent to slopes, to enhance public safety and deter trail users from entering adjacent areas of sensitive vegetation. Fencing would be constructed of split rail to maintain a rustic character consistent with that of the River Park and other existing trails. Prior to the construction of the new El Camino Real Bridge, fencing would be installed to keep trail users from continuing north on the narrow existing bridge across the San Dieguito River. The trail would eventually connect to pedestrian lanes along the proposed new El Camino Real Bridge across the river. The trail would be located below the elevation of El Camino Real and would rise to go over the existing storm drain undercrossing along El Camino Real. Prior to the completion of the El Camino Real Bridge replacement, the trail would only be accessible from the south. Hikers could park at the Dust Devil Nature Trail parking lot located off of El Camino Real. Once the future connection to the CTC Trail is established, hikers could also use the parking lot located off of San Andres Drive to access the CTC Trail and trail network from north to south.

Utility Relocation

In addition to the utilities contained within the existing utility corridor that traverses the W-19 restoration site, a single set of utility poles, carrying a 69-kilovolt (kV) transmission line and a 12-kV distribution line, also crosses the project site in the north-south direction. Relocation of these poles and the transmission lines they carry would be required for project implementation. The City of San Diego plans to underground these transmission lines within existing and planned roadways in the future. This action, if implemented prior to the proposed project, would preclude the need for relocation during project implementation. However, if timing requires that the segment be moved prior to implementation of the City's undergrounding plans, the proposed project would coordinate the temporary relocation with SDG&E. Potential relocation is therefore addressed as part of the proposed project.





Not To Scale

Figure 3-6
Typical Pedestrian Trail Concept
Connection from Dust Devil Nature Trail to San Dieguito Road

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Relocated 69-kV and 12-kV electrical lines would be incorporated onto electrical facilities within the existing utility corridor that have capacity or on relocated poles within a 20-foot-wide expansion of the existing utility corridor, running parallel to the corridor on the westerly side (shown in Figure 3-7, Proposed Utility Relocation). Regardless of whether the facilities are relocated to existing poles or within the corridor expansion, the relocated lines would connect to existing electrical infrastructure north of the project by connecting to an existing pole west of the utility corridor and south of Via de la Valle. At the southern end of the corridor, the relocated lines would extend west along El Camino Real, approximately 10 feet from the north side of the roadway, before connecting to the existing electrical alignment. New poles along El Camino Real would be 60 to 70 feet high to maintain required clearances for pedestrian, bicycle, and vehicular traffic safety along the road and proposed trail. It is assumed poles would be steel, although wood poles may be used if consistent with SDG&E policy.

Materials Disposal

Under the proposed project, approximately 1.1 million cubic yards (mcy) of soil would be removed and 150,000 cubic yards (cy) of vegetation is anticipated to be removed from the W-19 restoration site to lower areas to wetland elevations. Vegetation would be buried either on W-19 or the disposal site or stockpiled for use after construction as cover on exposed soils. Borings conducted for the project show that the sediment to be removed is generally classified as "silty sand," which is suitable fill material for berms, roadway embankment, wetlands, and other nonstructural fill. Due to the "silty sand" characteristics of the soils within the W-19 restoration site, they are not "beach sand" quality and therefore cannot be beneficially reused within the littoral cell, as discussed in the Sediment Disposal Study (Appendix C). An upland area located approximately 0.4 mile south of the W-19 restoration site has been identified as the disposal site. This 31.5-acre site is located on public, City-owned land and is shown in Figure 3-5. While outside the W-19 boundaries, this disposal site is inside the overall San Dieguito Lagoon complex, would not require transport on public roadways, and is therefore considered onsite.

The disposal site would be partially located on an area used for materials disposal for the SCE restoration project, specifically DS-36, as shown in Figure 2-2. The disposal site for the proposed project would extend beyond the boundaries previously used and would terminate at a finished elevation higher (taller) than currently authorized for DS-36. The proposed project would therefore obtain permits and authorization to utilize the expanded disposal site as part of this EIR process. The placement site would vary in height to blend with surrounding natural landforms, but material placement height would not exceed a maximum elevation of 145 feet, which represents a maximum increase of approximately 55 feet from the existing grade. The average increase from existing grade would be approximately 21 feet. This height would maintain finished soil elevations lower than the height of El Camino Real along the line of sight from the road to the coast to avoid blocking westerly ocean views. After construction is complete, the disposal site would be revegetated as coastal sage scrub. Topsoil (up to 3 feet deep) from the previously undisturbed portion of the disposal site would be removed prior to soil placement. This material, along with topsoil from the W-19 restoration as described above, would be stockpiled during construction and placed on top of the disposal site after soil placement to facilitate planting success. Access to the disposal site would occur via off-road haul routes from the project area, as shown in Figure 3-8. To minimize impacts to vegetation, disturbed areas such

as existing access roads, previous haul routes from the SCE restoration project, and trails would be utilized whenever possible, as shown in Figure 3-8.

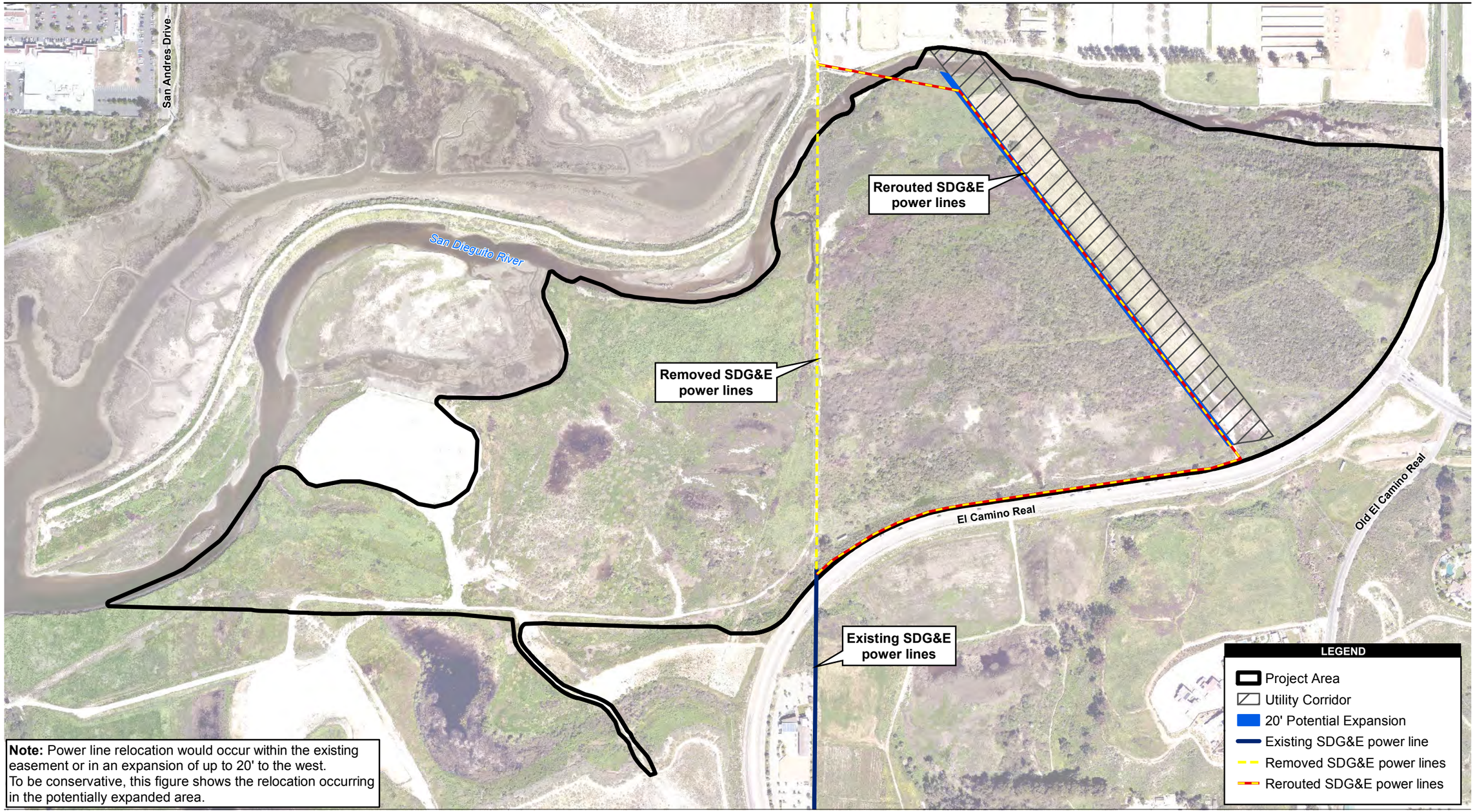
W-19 Inlet Maintenance

Hydraulic modeling by the Corps predicts that some sediment carried down the San Dieguito River by large storm events would settle out in the W-19 established wetland areas (Appendix D). In general, flood water and sediment flows would continue following the existing river channels due to the proposed berm; however, during very large storm events, water flows may overtop the utility corridor and flow into the interior wetland areas. Under the proposed project, large storm events (25-year storm or larger) have the potential to result in measurable sediment accumulation in the salt marsh and brackish marsh inlet connections to the San Dieguito River, as water flows past the site along the river channel. These inlet connections are located at the western end of the proposed salt marsh and northern end of the proposed brackish marsh, respectively, as shown in Figure 3-3.

Left in place, sediment deposits within the river inlet connections and interior wetlands could change the habitat distribution within the adjacent established wetlands by increasing ground elevations or by reducing the tidal range and/or water elevations. Inlet closure could also lead to water quality issues associated with reduced circulation and tidal exchange. Therefore, to avoid large-scale conversion of habitat and/or water quality issues in established wetland areas, maintenance to remove accumulated sediment from the inlets and interior of the W-19 salt and brackish marsh after large storm events would be required. The following criteria were used to determine when sediment maintenance would be required:

- If sediment delivered by a storm is blocking tidal flows to wetlands;
- If sediment has created stagnant areas; and/or
- If 6 or more inches of sediment is deposited in wetlands designated for adaptive management, and replanting on top of the sediment would not support the habitat type present just before the storm event.

Sediment removal activities considered part of the project would be limited to the two river inlets and adaptive maintenance areas that have been identified for a range of storm scenarios, as shown in Figure 3-9, Proposed Project – Wetlands Maintenance Areas. Additional detail regarding inlet maintenance is provided under Construction Methods below, and the adaptive maintenance areas are described further in Section 3.5.4. Vegetation may be temporarily impacted from sedimentation during storm events and/or maintenance activities after storm events but is anticipated to recover over time. Because the frequency of storm events severe enough to warrant maintenance is highly variable and difficult to predict, and because sediment deposition is anticipated to occur primarily during these events rather than accumulating steadily, maintenance intervals are unknown and volumes are based on deposition anticipated after specific storm events (25- 50-, 100-year). Anticipated maintenance volumes for a range of storm events are described in detail in under Long Term Maintenance below, including maintenance of inlets as well as anticipated interior areas requiring sediment removal after 50-year storm events or larger, which would occur using an adaptive management approach.



Source: JPA: Dokken 2015

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Scale: 1:4,800 1 inch = 400 feet

Figure 3-7
Proposed Utility Relocation

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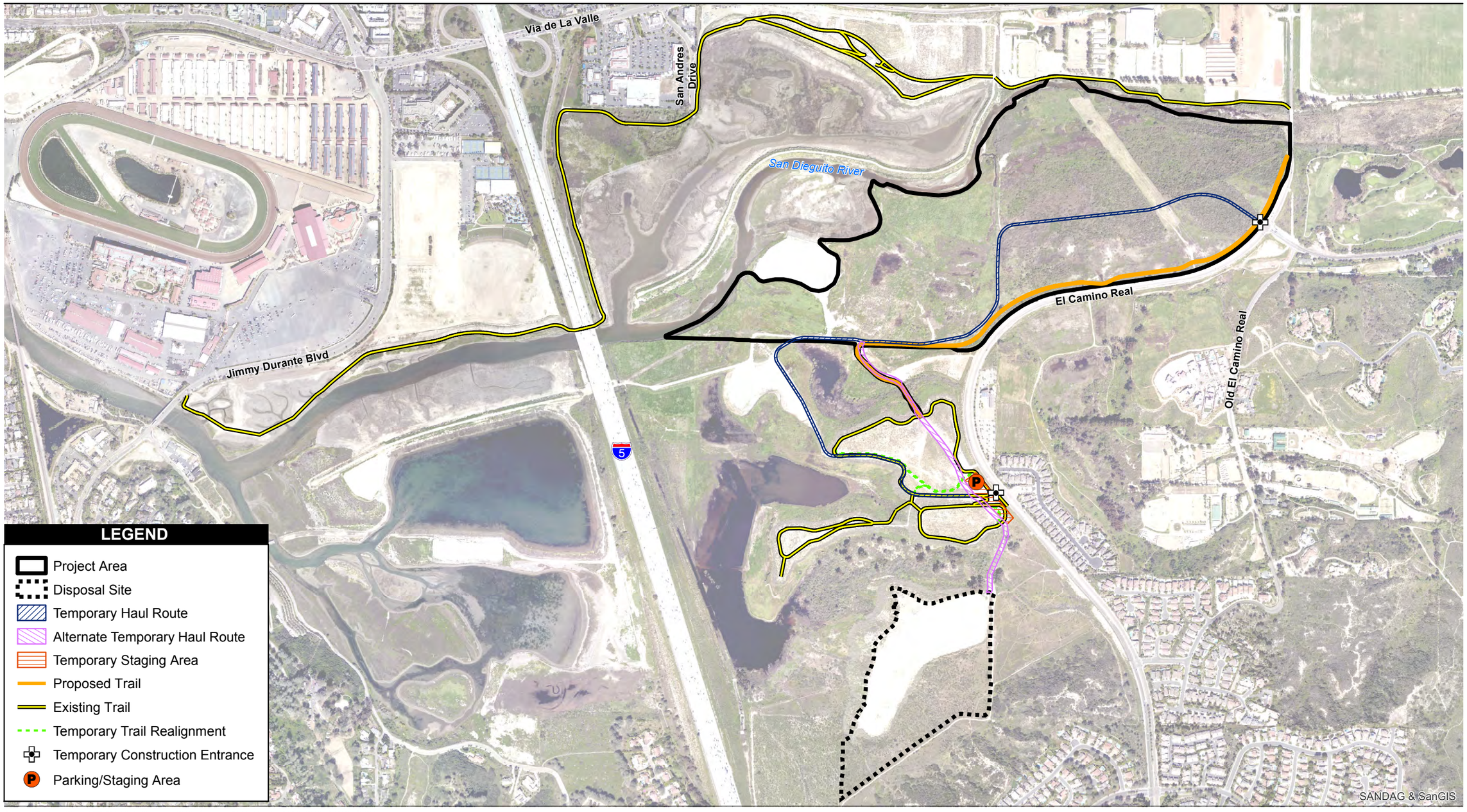

Source: Dokken 2015; AECOM 2013; Konecny 2012; Caltrans 2011; Nordby 2012, 2013; SANDAG 2017.

850 425 0 850 Feet

Scale: 1:10,200 1 inch = 850 feet

Figure 3-8
Staging/Access

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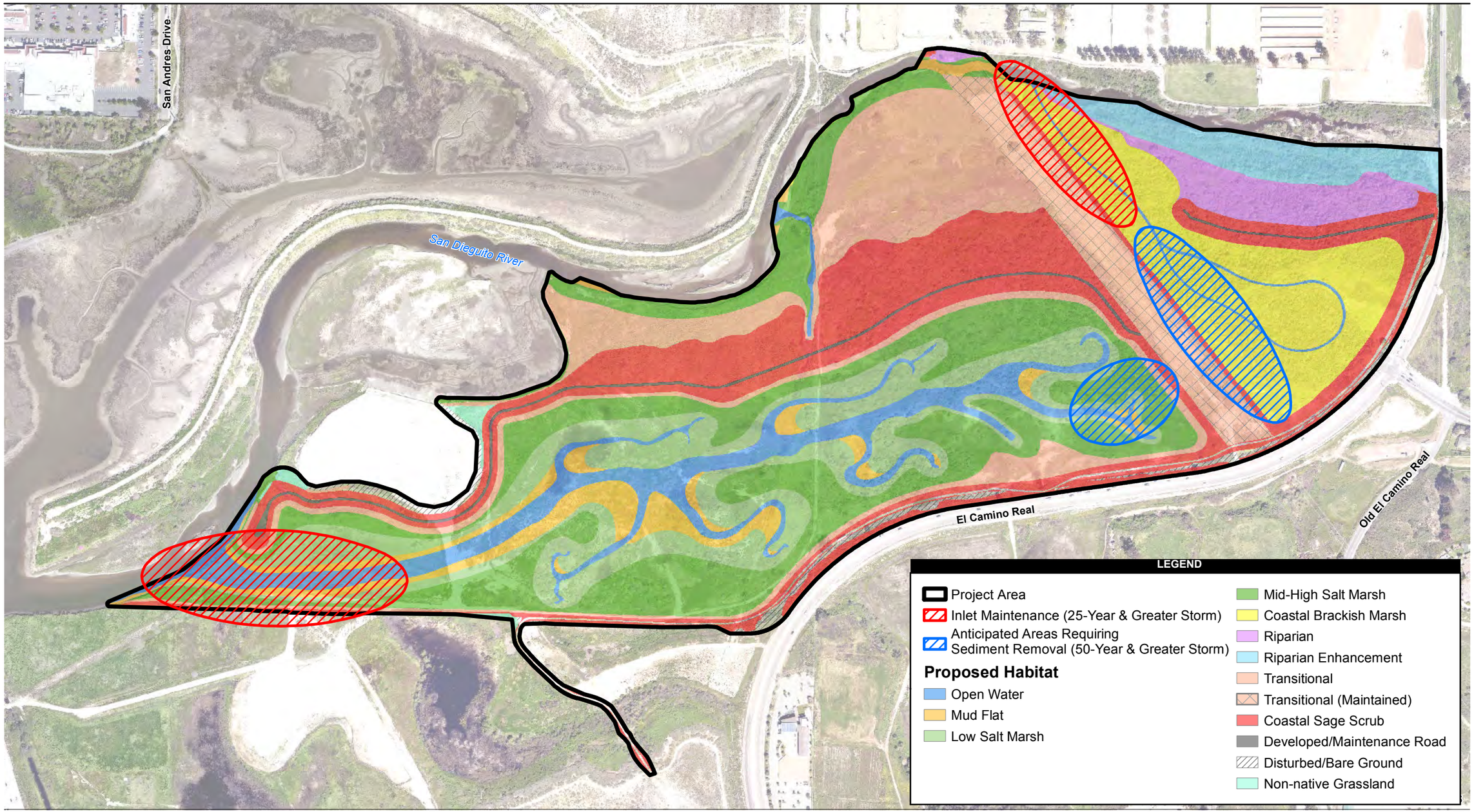

Source: SANDAG 2014: Dokken 2015.

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Scale: 1:4,800 1 inch = 400 feet

Figure 3-9
Proposed Project
Wetland Maintenance Areas

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Construction Methods

As part of the project, construction would primarily involve removing vegetation and altering existing ground elevations within the project area to establish the habitat distribution proposed as shown in Figure 3-3. The construction methods for the project were developed based on project requirements and site constraints, as well as experience with similar previous projects. Standard construction practices would be utilized for the project and are described in Table 3-2. Long-term inlet maintenance within W-19 would also be implemented after larger storm events, as described below.

Table 3-2
Standard Construction Practices

Implement a public information program to assist Park users and the surrounding community in understanding the purpose of the project and disseminate pertinent project information.
Coordinate with utility service providers for avoiding utilities infrastructure and/or relocating infrastructure.
Have Resident Engineer or designee onsite during construction to confirm compliance with permit conditions and construction specifications.
Remove sources of impounded water resulting from construction equipment (if any) and confirm compliance with construction specifications regarding no ponding.
Restrict access to active construction areas and staging yards to maintain public safety (e.g., portions of trails).
During off working hours, secure heavy equipment and vehicles in staging areas or areas with restricted access.
Conduct equipment fueling and maintenance at designated fueling stations away from publicly accessible areas.
Prepare project Storm Water Pollution Prevention Plan (SWPPP) and implement best management practices (BMPs) and monitoring requirements identified in SWPPP (e.g., dust control measures).
Require heavy equipment operators to be trained in appropriate responses to accidental fires.
Provide fire suppression equipment on board vehicles and at the worksite.
Provide emergency communication equipment for site personnel.
Have onsite workers attend a pre-construction meeting to review all project design features and mitigation measures prior to the commencement of any demolition, construction, and/or land disturbance activities.
Have onsite workers attend an environmental training session that will discuss the sensitive resources in the project area and the mitigation measures designated to protect them.
Ensure construction activities do not interfere with scheduled civic or Fairgrounds events in or around the construction area. The Contractor is responsible for coordination of construction activities with the City of San Diego, 22nd District Agricultural Association and the City of Del Mar to ensure construction activities do not conflict with civic events in the project area.
Ensure the construction contractors minimize idling times by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Clear signage will be provided for construction workers at all access points.
Prepare a "Traffic Management Plan," approved by Caltrans and local agencies, as appropriate, to avoid and minimize traffic impacts along arterial roadway sections of Via de la Valle and El Camino Real; and freeway segments on I-5 and I-805, south of the merge. The plans will be prepared in accordance with the California Manual of Uniform Traffic Control Devices, Caltrans Standard Plans (2015), and current standards and best practices of the reviewing and approving agencies.

General Construction Features

This section reflects the preliminary construction approach anticipated for the project for the purposes of disclosure under CEQA. Impacts associated with the approach discussed in this section of the EIR are evaluated under each resource area in Chapter 5. The construction impact area is shown in Figures 3-4 and 3-5. Throughout construction, the contractor would follow standard construction practices. These practices have been established to maintain public and contractor safety and enforce equipment operational requirements during project construction, and are described in Table 3-2.

Construction equipment would be brought to the W-19 restoration site on low-bed trailers via El Camino Real. Large equipment would be transported during off-peak traffic to minimize traffic congestion. Following completion of construction activities, equipment would be demobilized and removed from the site via the same route. To the extent practicable, temporary impact areas would be located within disturbed areas such as access/maintenance roads and parking lots. Temporary construction areas would also have controlled access to maintain public safety during construction. Trails temporarily used for construction access or traversed by access roads would be closed Monday through Friday, when project construction would occur, in order to minimize the potential for safety hazards during construction. Staging areas, access routes, and other temporarily disturbed areas located within sensitive vegetation areas would be decompacted, revegetated, and restored to pre-construction conditions or as specified in the construction documents. Temporary equipment, structures, or utilities (e.g., water and power) installed at the project site would be removed at the completion of construction.

Project Implementation and Construction Sequencing

It is anticipated that 30 months~~2 years~~ of active construction would be required to complete the project.

The construction methodology and sequencing ultimately used would be determined by the contractor selected for construction with due consideration to the requirements specified in permits, agreements, and approval documents. If the selected contractor chooses a construction methodology substantially different than what is presented herein, additional environmental review would be conducted as required under CEQA and CEQA Guidelines. Construction would take place 7 a.m. to 7 p.m., 5 days a week, consistent with the City of San Diego's construction noise ordinance (San Diego Municipal Code Section 59.5.0404). Construction would take place year-round, with the exception of clearing and grubbing activities, which would occur outside the breeding season (generally February through September).

As noted above, prior to initiation of construction on the project, the existing 69-kV and 12-kV electrical line and poles that extend through the W-19 restoration site would be relocated. Relocation would be coordinated by SDG&E but is addressed as part of this project for the purposes of CEQA disclosure.

The approximate timing of various construction activities involves important considerations in project planning. There would be eight generalized tasks for construction, as identified below:

1. Mobilization/preparation of access and haul roads (3 weeks)

In general, the first step in the sequence of construction work would be to mobilize equipment to the project site, establish access roads to the construction areas, and prepare staging areas. Staging areas would be cleared, grubbed, and surfaced, as needed, to support construction equipment and materials. Access and haul routes would be constructed as the final element of this phase.

2. Clear and grub (3 weeks)

Removal of vegetation would be required as one of the initial steps during construction and would occur primarily using land-based equipment such as excavators and scrapers. This task may be phased, with vegetation removal limited to areas that would be graded within the next several months (or during breeding season). This phasing would minimize the extent of exposed soil and erosion potential, as well as maintain available habitat for sensitive wildlife. Vegetation would be buried onsite or stockpiled for use after construction as cover on exposed soils.

3. Removing and stockpiling topsoil (3 weeks)

Topsoil would be removed from portions of the W-19 restoration site as well as the previously undisturbed portion of the disposal site. High-quality topsoil would be removed to a depth of up to 3 feet, and topsoil would be stockpiled onsite for use in capping the disposal site. Similar to the clear and grub task above, removal of topsoil may be staged to minimize the extent of exposed soil and retain available habitat. Stockpiling good-quality topsoil from the W-19 restoration site and the disposal site would allow this soil to be placed over lesser quality, saline soils when excavated and placed on proposed upland areas and/or the disposal site. Seed in stockpiled topsoil, particularly from the coyote bush scrub habitat in the north portion of the disposal site, would provide a seed bank that would facilitate revegetation. That seed bank would be supplemented by other restoration activities.

4. Grading and disposal (70 weeks)

The equipment types described in Phases 1 through 3 above, as well as bulldozers, would be used to grade the project area to elevations appropriate for the desired habitat types. Throughout the grading component of the project, a small (approximately 3,000 cy) area of soil would be retained to act as a perimeter dike between the river and the project construction area at the inlet to both the salt marsh and brackish marsh. As a final task, the remaining soil at the inlets would be excavated and the hydraulic connection opened. These openings would be scheduled to coincide with a low tide to minimize turbidity. Areas identified for enhancement outside of the grading limits (e.g., riparian and open water) would involve focused removal of invasive species without the use of mechanized equipment.

Removed material would be reused onsite when feasible, such as for fill included in the proposed project. In this case, excavators would load trucks with sediment, which would then be taken directly to the fill area, offloaded, and graded by a bulldozer. The upland area included in the proposed project has a variable slope from 3:1 to 6:1 with a maximum elevation of 20 to 22 feet. As material is excavated, soil to be disposed would be transported to the disposal site and graded to the proposed elevations. Off-highway trucks would transport the material to the disposal site throughout the grading process. Grading, hauling, and simultaneous materials disposal would require approximately 70 weeks. During these activities, standard dust control measures would be implemented. Topsoil would be retained throughout project grading and stockpiled onsite, as described above. Once project grading is complete, this topsoil would be distributed to facilitate successful revegetation on upland portions of the W-19 restoration site, as well as on the disposal site.

5. Drainage/slope protection/trail improvements (12 weeks)

Drainage improvements would be constructed to connect to the existing drainage facilities along El Camino Real. RSP would be placed in locations subject to erosion. The RSP would be covered with 1 to 2 feet of soil and planted with native vegetation. Construction of the trail would include vegetation removal and minor surface grading to provide a generally level walking path and then surfaced with DG.

6~~7~~. Revegetation (8 weeks)

Topsoil from the W-19 and disposal site excavation would be placed as the last component of final grading in a layer a minimum of 1 foot thick on proposed upland and transitional areas, and either hydroseeding or planting would occur to facilitate vegetation recovery as appropriate. Areas proposed for vegetated habitat types post-restoration would be planted using a variety of strategies specific to the habitat type (e.g., soils may be amended to facilitate success before or after topsoil placement, low marsh and upland may be planted, while mid-high marsh may depend more heavily on natural recruitment). Temporary irrigation with fresh water in some areas (e.g., high marsh, transitional, and coastal sage scrub habitat) may also be provided to support habitat establishment.

7~~6~~. Demobilization (2 weeks)

After completion of grading and construction improvements, demobilization of construction equipment and materials would commence. Restoration of staging and access areas to agreed-upon post-construction conditions (e.g., pre-construction conditions) would then occur.

8. Restoration monitoring and maintenance (5–10 years, or until success criteria are met) and monitoring/adaptive management (into perpetuity)

Both the W-19 and disposal sites would be monitored for physical characteristics, plant establishment, and sensitive species use after completion of construction. Disturbed areas would be planted as appropriate to facilitate habitat establishment and recovery, and monitoring would

occur to ensure success and inform adaptive management actions. A monitoring and adaptive management framework is provided below in Section 3.4.

As noted in Section 3.2, sediment deposition is not anticipated to occur steadily and depends primarily on the timing and size of large storm events; therefore, maintenance intervals are unknown and volumes are based on deposition anticipated from specific storm events. The construction approach for these maintenance activities, as well as anticipated maintenance volumes under various storm intensities, is described below.

Long-Term Maintenance

Deposition of sediment following large storm events could result in a number of changes within the W-19 site, including habitat shifts and mortality of existing plants and infauna (Nordby, personal communication, 2016c). Therefore, maintenance of the W-19 inlets would be required after large storm events (25-year event or larger) to remove accumulated deposited material. This material, which enters the W-19 site via river flow moving toward the ocean and shoreline, would settle out as the velocity of the water slows within the W-19 site. During a large storm event, the majority of finer-grained silts and clays would remain suspended in the river and be transported to the river mouth and ocean, while larger-grained material would settle out more quickly where velocities reduce and deposit in the W-19 site. Therefore, deposited material removed from the W-19 site during maintenance is anticipated to be primarily composed of material suitable for placement in the littoral zone (e.g., beaches and/or nearshore) and would be transported by trucks to nearby beaches for placement/disposal.

The placement sites would be the same as those currently used for maintenance dredging of the San Dieguito River inlet as part of the SCE restoration project. Land-based equipment would access the designated inlet maintenance areas, shown in Figure 3-9, via the proposed access roads extending through the W-19 site, as well as the utility corridor easement. This equipment, which could consist of an excavator and/or backhoe, would then remove deposited sediment from the designated areas. Figure 3-9 also shows interior lagoon areas anticipated to require additional sediment maintenance following a 50-year or larger storm. This activity is described in Section 3.5.4 below. It is anticipated that approximately 75 percent of deposited sediment within the inlet maintenance areas would be removed for placement on the beach or in the nearshore, and 25 percent would be left in place. Removal of all material would be very difficult to accomplish, and leaving some material in place would allow the underlying seed bank to remain intact, which would help facilitate reestablishment of habitat impacted by sedimentation and/or maintenance activities, provide some resiliency to sea level rise over time, and maximize the amount of sand suitable for placement in the littoral zone. Material deposited within the site and left after maintenance may include some nonnative seeds, however, and the adaptive management program would include monitoring and removal of invasive species as appropriate after maintenance activities. Prior to maintenance activities, sediment testing would be required to confirm grain size and the suitability of material for placement on area beaches or in the nearshore. If material is too fine and not suitable for reuse in the littoral zone, it would be disposed of at an alternate upland disposal site.

As shown in Figure 3-10, Wetlands Maintenance and Material Placement, trucks would travel along El Camino Real north to Via de la Valle, west on Via de la Valle to Camino Del Mar and then south along Camino Del Mar to beach access points either north of the river for access to Dog Beach or south of the river at the ends of 20th and/or 18th Streets. Once on the beach, trucks would deposit the material on the beach or in the nearshore. Material placed on the beach would then be spread by bulldozers, similar to the process used during San Dieguito River inlet maintenance. Anticipated maintenance volumes from inlets, as well as required truck trips (in round trips) and estimated durations for maintenance activities after storms of varying intensities, are provided in Table 3-3 and described further in Appendix H.

Table 3-3
Anticipated Inlet Maintenance Requirements after Storms of Varying Intensity

Storm Frequency	Maintenance Area	Maintenance Volume (cy)[1]	Truck Round Trips (8 cy/trip)	Duration (working days)[2]
25-year	**Total**	**5,000**	**625**	**13**
	Salt Marsh Inlet	*1,000*		
	Brackish Marsh Inlet	*4,000*		
50-year	**Total**	**20,000**	**2,500**	**43**
	Salt Marsh Inlet	*1,000*		
	Brackish Marsh Inlet	*19,000*		
100-year	**Total**	**15,000**	**1,875**	**33**
	Salt Marsh Inlet	*1,000*		
	Brackish Marsh Inlet	*14,000*		

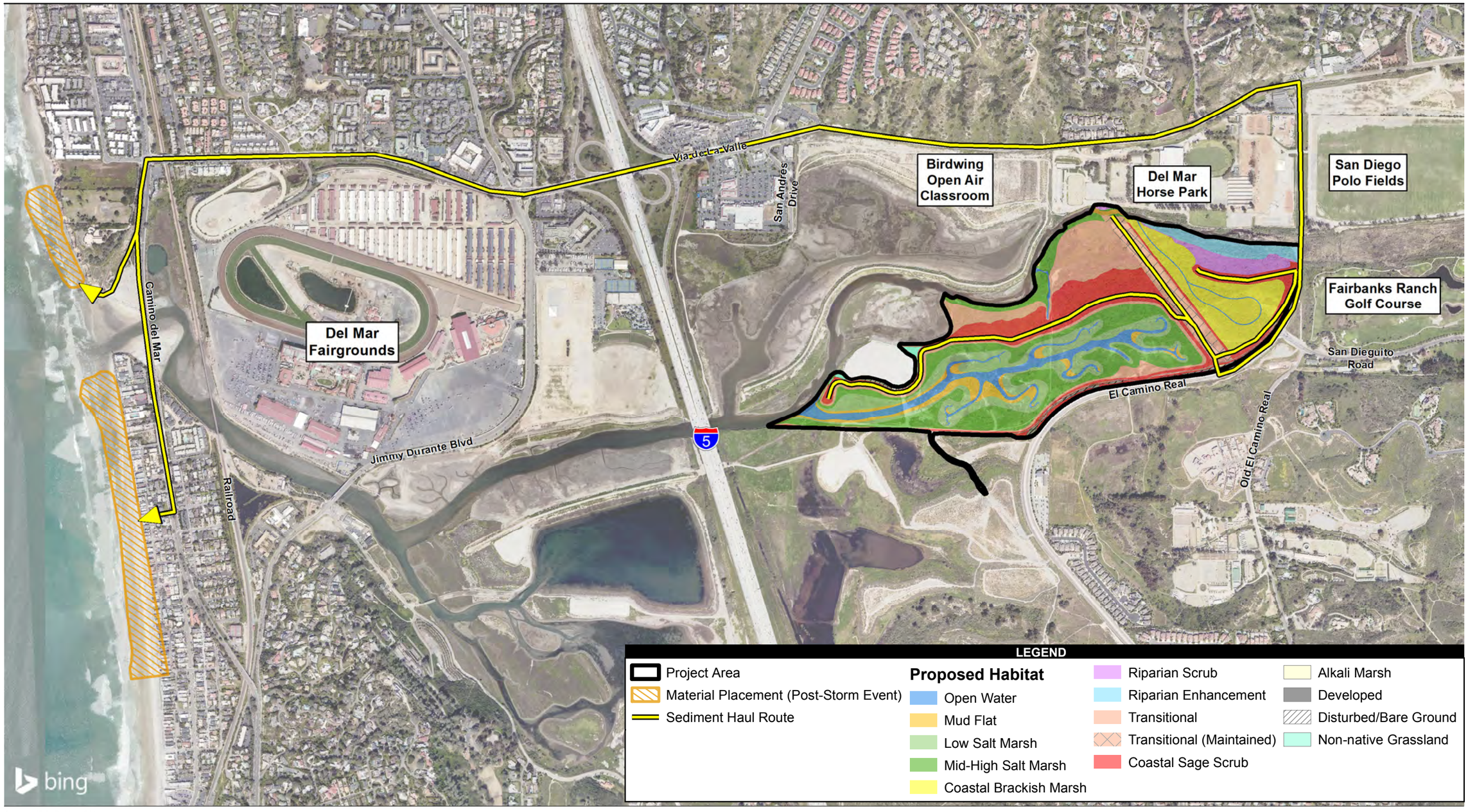
cy = cubic yards, cy/trip = cubic yards per trip
[1] Maintenance volumes assume 25 percent of deposited material would remain in place and would not be removed.
[2] Activities on the beach would be 2 days less than overall maintenance activities; rates for removal/transport are assumed to be 500 cy per day, working 10 hours per day. Mobilization and demobilization, and construction of temporary access roads would require an additional 3 days.

As shown in Table 3-3 above, the volume of inlet maintenance is predicted to be greater under the 50-year storm events than the 100-year event. This is anticipated to occur for two reasons:

- Under a 100-year flood event, scour removes some brackish marsh inlet sediment as a result of a shift in the river channel to the south.
- Under a 100-year flood event, a reduction in sediment buildup in the salt marsh inlet would occur due to scour from flood flows through the salt marsh as the result of flows overtopping the utility corridor.

3.4.3 PROJECT DESIGN FEATURES

Due to the restoration nature of the project, an effort has been made to proactively incorporate measures into the project to minimize and avoid, where possible, impacts to resources. These project design features (PDFs) represent a commitment by the project proponent to construct the project in an environmentally sensitive way. Some PDFs are incorporated to avoid or minimize a potential significant impact proactively through design, but others are additional measures that support the overall enhancement objectives of the project without being tied to a specific potential impact. Many features also represent regulatory or code requirements that the project would need to comply with to be approved by various agencies and/or implemented legally.



Source: JPA: Dokken 2015

1,000 500 0 1,000 Feet

Scale: 1:12,000; 1 inch = 1,000 feet

Figure 3-10
Wetlands Maintenance and Material Placement

Path: P:\2012\60274999_SD_W19\06GIS\6.3_Layout\Reports\EIR\Wetlands_Maintenance.mxd, 7/18/2018, paul.moreno

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Some also reflect applicable restrictions already placed on the SCE restoration project maintenance (e.g., sand placement constraints). The project applicant commits to the inclusion of these features, which would be implemented by the contractor or other parties before, during, and after construction. Inclusion of these PDFs is considered in the determination of CEQA impact significance as discussed in Chapter 5. These features are summarized in Table 3-4 and include the purpose, timing, and responsibility for implementation of each PDF.

Table 3-4
Project Design Features

PDF #	Project Design Feature	Purpose	Timing	Implementation Responsibility
PDF-1	Manufactured slopes would be planted and maintained, and drainage would be installed, in order to reduce erosion. Slope irrigation would be limited to the amount required to support vegetation cover and would only be required until vegetation is established.	Reduce potential for erosion of exposed soils.	During construction	Contractor
PDF-2	Until adequate erosion-control vegetation is established on exposed soils, jute mesh fiber rolls or other treatments using only natural materials could be utilized to minimize soil transport by runoff.	Reduce potential for erosion of exposed soils.	During construction	Contractor
PDF-3	Exposed soil at the disposal site would be hydroseeded and/or planted once the material is placed and appropriately compacted.	Reduce potential for erosion of exposed soils.	During construction	Contractor
PDF-4	Recommendations of the geotechnical reports for the project would be incorporated into the design of manufactured slopes, berms, or other features.	Ensure geologic stability of manufactured features.	Engineering and design	Engineer
PDF-5	Simultaneous use of the trails by construction equipment and recreationalists would not be allowed, and the affected segments of the Dust Devil Nature Trail would be closed to public use Monday–Friday, when construction would occur. Trails would only be open on the weekends, when there would be no construction activity. Signs would be placed at the trail heads to notify trail users of these closures.	Minimize public safety hazards due to construction vehicle use of trails.	During construction	Contractor
PDF-6	Restrict public access at sand placement sites during active construction.	Ensure public safety during construction.	During construction	Contractor, in coordination with local lifeguards
PDF-7	Maintain alternative access to beaches adjacent to placement sites and portions of beach access trails not under active construction.	Minimize impact on public access.	During construction	Contractor

PDF #	Project Design Feature	Purpose	Timing	Implementation Responsibility
PDF-8	Prior to opening areas of beach with placed materials, spread the material and check it for potential hazards (e.g., foreign objects in the sand).	Reduce risks to public health and safety.	During construction	Contractor
PDF-9	Maintain horizontal and vertical access on either side of the active sand placement area as long as public safety is not compromised.	Maintain public beach access.	During construction	Contractor
PDF-10	Temporarily relocate mobile lifeguard towers, if necessary.	Ensure public safety during construction.	During construction	Contractor, in coordination with local lifeguards
PDF-11	Place sand to avoid blocking line-of-sight at lifeguard towers. All sight lines from the viewing platforms of the lifeguard towers will be maintained and there will be no interference with views for the lifeguards.	Ensure public safety during construction.	During construction	Contractor, in coordination with local lifeguards
PDF-12	Signage and public education informing trail users and others in the area would be posted prior to the start of construction. Signs would describe the construction activities, schedule, and long-term changes. Signage would be placed at trailheads and other public bulletin locations, such as the Birdwing Open Air Classroom.	Reduce significance of visual change for trail users.	Pre- construction	Contractor
PDF-13	Stake construction areas. Limit construction equipment and vehicles to within these limits of disturbance.	Reduce public safety hazards.	During construction	Contractor
PDF-14	House exposed engines on construction equipment to the greatest extent possible.	Minimize noise impacts.	During construction	Contractor
PDF-15	Contractors shall maintain equipment and vehicle engines in good condition and properly tuned per manufacturers' specifications.	Minimize air quality impacts and greenhouse gas (GHG) emissions.	During construction	Contractor
PDF-16	Prior to initiating construction, identify sensitive "no construction zones" and fence or flag those areas.	Minimize impacts to sensitive habitat areas.	Prior to construction	Qualified biologist/Contractor
PDF-17	Site staging areas and access roads at existing access points and previously disturbed areas, where feasible.	Minimize impacts to intact habitat and reduce site preparation requirements.	Final design	Engineer
PDF-18	Topsoil should be stockpiled in disturbed areas currently lacking native vegetation (disposal site). Stockpile areas would be flagged and confirmed by a qualified biologist.	Reduce/avoid impacts to special-status plant species and native vegetation communities onsite.	During construction	Contractor

PDF #	Project Design Feature	Purpose	Timing	Implementation Responsibility
PDF-19	Restrict vegetation clearing and grubbing, and material placement, to the extent possible, to outside the special-status bird breeding season (February 15–September 15)	Minimize impacts to sensitive wildlife species and their habitats.	During construction	Contractor
PDF-20	Have biological monitor onsite during construction; frequency may vary depending upon activity but could be daily during breeding season or every other week at other time periods. Monitor clearing activities and flush wildlife prior to clearing, as appropriate.	Confirm implementation of biological permit conditions, design features, mitigation measures, and applicable construction specifications.	During construction	Qualified biologist
PDF-21	Stockpile high-quality topsoil from the previously undisturbed portion of the disposal site and from the W-19 site excavation for placement on top of the disposal site and upland areas after soil placement to facilitate planting success.	Aid in successful revegetation.	During construction	Contractor
PDF-22	Incorporate soil amendments in saline soils prior to capping and/or planting, as needed.	Aid in successful revegetation.	During construction	Contractor
PDF-23	Use temporary irrigation of fresh water for planted areas, as required.	Aid in successful revegetation.	During and post construction	Contractor
PDF-24	Prior to clear and grub activities, collect seeds of southwestern spiny rush and southern tarplant individuals onsite, and incorporate that seed into restoration planting seed mixes.	Reduce/avoid impacts to special-status plant species onsite.	Prior to construction	Qualified biologist
PDF-25	No invasive nonnative plant species shall be planted, seeded, or otherwise introduced to habitats adjacent to the project site. No myoporum, eucalyptus, acacia, or any other invasive exotics shall be used. Exotic plant species that should not be used include, at the minimum, those species on Lists A and B of the California Exotic Pest Plant Council's list of "Exotic Pest Plants of Greatest Ecological Concern in California." A qualified biologist shall review any landscape plans before approval.	Reduce/avoid impacts to special-status plant species onsite.	During construction	Contractor
PDF-26	Conduct special-status plant surveys prior to maintenance activities. Any special-status plant species found in the maintenance areas that would be impacted by maintenance activities shall be replanted upon completion of maintenance activities.	Reduce/avoid impacts to special-status plant species onsite.	Prior to maintenance	Qualified biologist

PDF #	Project Design Feature	Purpose	Timing	Implementation Responsibility
PDF-27	Prior to maintenance activities occurring during the breeding season (including material placement), conduct surveys for nesting birds. If species are found, construction activities shall not occur within minimum distances of occupied nests as determined through consultations with the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife.	Reduce/avoid impacts to nesting birds onsite.	Prior to maintenance	Qualified biologist
PDF-28	If maintenance events and resultant beach placement occur between February and August, consult with CDFW to determine expected spawning and hatching period of the California grunion, and provide monitors on the beach during the time of the predicted run. If grunion are observed, delay beach placement until the after the predicted run, when monitoring will be repeated, or coordinate with CDFW to identify alternative strategies. If no grunion are observed, proceed with maintenance and placement activities.	Minimize impacts to grunion.	Per consultation with CDFW	Qualified biologist

3.5 MONITORING, MAINTENANCE, AND ADAPTIVE MANAGEMENT

Implementation of the proposed project would require a comprehensive monitoring program to ensure compliance with regulatory requirements, track project success, and identify adaptive management strategies. An initial monitoring framework has been outlined for the project in the Habitat Mitigation and Monitoring Plan prepared by Caltrans (Caltrans 2016b). The detailed monitoring program, however, would be developed during the final design and permitting phase of the project. This section discusses the anticipated framework and approach for that more detailed monitoring program. The monitoring program would likely have four components with different goals, as described below:

1. Pre-construction Baseline Establishment
2. Construction Monitoring Program
3. Restoration Monitoring Program (post-construction short-term monitoring)
4. Adaptive Management and Maintenance (post-construction long-term monitoring)

All four program components are described in general below. The final details, including specific success criteria and exact monitoring locations and frequencies, would be determined following identification of permit conditions with the resource agencies. Monitoring would determine when success criteria have been achieved.

3.5.1 PRE-CONSTRUCTION BASELINE ESTABLISHMENT

The pre-construction baseline establishment (baseline establishment) phase of the monitoring program is designed to work together with the restoration monitoring program (post-construction monitoring program) to determine the success of the project, based on success criteria identified

through the permitting process. Baseline establishment for the project would focus on establishing a baseline for assessing the success of restoration efforts. The baseline establishment surveys may be conducted over several months/years prior to project construction to accommodate nesting seasons, blooming seasons, and the number of species requiring surveys.

Types of surveys anticipated as part of the monitoring program are identified in Table 3-5, but this program may be altered or augmented based on permit and agency consultation through the permitting process:

Table 3-5
Anticipated Biological Survey Framework

Resource	Survey Timing Requirements
Physical Processes	
Topography/Bathymetry	Pre- and Post-Restoration
Tidal Amplitude	Post-Restoration
Water Quality	During and Post-Restoration
Soils Characteristics (agronomic/planting)	Pre- and Post-Restoration
Biological Processes	
Benthic Macroinvertebrates	Post-Restoration
Fish	Post-Restoration
Birds (marsh and general avian use surveys; species-specific surveys)	Pre- and Post-Restoration
Vascular Plants	Post-Restoration

3.5.2 CONSTRUCTION MONITORING PROGRAM

The construction monitoring program for the proposed project would be designed to minimize and avoid impacts to resources that could occur during construction activities. The program would address potential impacts associated with restoration of the W-19 site, as well as materials disposal.

As noted in Section 3.4.3, a series of PDFs have been incorporated into the project. Mitigation measures have also been identified under specific resources to reduce potential significant impacts, as identified throughout Chapter 5. Additional measures could be identified as conditions associated with permits that would be issued by regulatory agencies prior to project initiation. Compliance with these permit conditions would also be integral to construction monitoring.

In general, the anticipated construction monitoring program can be divided into two distinct phases:

1. Pre-construction verification (some focused components may be initiated up to approximately 1 year prior to construction)
2. Construction monitoring (up to approximately 24 months)

Some measures require pre-construction data collection to inform how the measure would be implemented. For example, the project includes the following PDF: “Prior to initiating

construction, identify sensitive 'no construction zones' and fence or flag those areas. Limit construction equipment and vehicles to within these limits of disturbance." Therefore, pre-construction verification is designed to minimize construction impacts rather than establish a baseline for long-term enhancement monitoring, and is different from the baseline establishment program discussed above.

The second phase, construction monitoring, would focus on ensuring compliance with PDFs and measures, particularly with respect to biological resources, water quality, and cultural resources. A detailed monitoring program composed of PDFs, mitigation measures, and additional permit conditions would be completed as final design progresses and permits are issued.

3.5.3 RESTORATION MONITORING PROGRAM

Restoration monitoring (post-construction) would occur immediately following construction for a period of 5 to 10 years, consistent with agency requirements (e.g., PWP and permit conditions). Post-construction monitoring of the W-19 and disposal sites would be designed to document achievement of project goals and objectives, including success of revegetation efforts and use of the site by sensitive species. This analysis would also be used to inform adaptive management decisions and actions, discussed in the next section. For the restoration monitoring program, a comprehensive monitoring plan would be prepared once permit requirements have been established.

Post-construction monitoring would document as-built conditions immediately after construction, and measure the success of the project against specific success criteria established as part of the permitting process. Intensive short-term monitoring of restoration success is anticipated to continue annually for a minimum period of 5 years after construction. It is more likely the short-term monitoring period would be developed based on 10 years of ecological performance standards; however, if success is achieved prior to 10 years, the site can transition to the less intensive, long-term adaptive management and maintenance phase that would adapt to ecological conditions in perpetuity.

3.5.4 ADAPTIVE MANAGEMENT AND MAINTENANCE

The adaptive management and maintenance phase of the monitoring program focuses on the long-term performance of the W-19 site and upland areas. This phase incorporates a restoration plan to guide the long-term management of the site. Long-term land management would be funded through the establishment of an endowment under the agreement between SANDAG and the JPA. The endowment would include funding for adaptive measures as identified below, as well as other management responsibilities (e.g., litter control, weed management, patrols, education, etc.). The restoration plan would include both the anticipated maintenance requirements and an adaptive management component. The adaptive management component would identify remedial measures that may be implemented if success criteria or permit conditions are not met, or if conditions change during long-term monitoring and additional needs develop. Some of these actions may include, but are not limited to, facilitation of recovering habitat through invasives removal or supplemental planting, additional sediment removal after storm events, and/or amendment of soils. Development of the detailed adaptive management

program would occur during final engineering of the project, prior to construction. Detailed plans would be developed as part of consultation with permitting and resource agencies during the permitting approval process; however, it is anticipated that the long-term management plan would be a living document and would be updated regularly, as necessary.

Adaptive Management and Maintenance General Components

General components associated with the adaptive management strategy are described below.

1. **Replacement Planting**. Planted material that fails to meet coverage requirements would be replaced with similar plant species. Replacement vegetation would be installed between October 1 and March 31, to the extent possible.

2. **Vegetation Monitoring and Weed Abatement**. During periods of habitat transition, including the post-restoration establishment period and the period following sediment deposition by major storms, the established wetland may have an increased percentage of bare ground as species die and new recruits arrive. This bare-ground condition may make affected areas of the lagoon more vulnerable to invasion by nonnative species. The occurrence of these invasive species would be closely monitored and invasive species would be regularly removed by mechanical or chemical means to limit the possibility of invasion and prevent nonnative species from competing with the establishment of native plantings.

3. **Trash Removal.** Trash would be removed and disposed of in an acceptable manner, e.g., trash bins or landfill.

4. **Bank Protection Repair.** Should severe storms or other events result in damage to channel protection or bank erosion, repairs may be completed.

5. **Biological Monitoring and Maintenance of Habitat Quality.** Regular biological monitoring would be conducted to ensure that the wetlands and upland areas meet biological goals. These activities would include:

    - habitat protection and posting of No Trespassing signs;
    - enforcement of regulations associated with the enhancement of the wetlands and protection of listed species;
    - control of feral/exotic animal species using trapping, barriers, and/or coordination with San Diego County Department of Animal Services as needed (i.e., if animals are having a negative impact on the project's ability to meet success criteria); and
    - species-specific monitoring and management objectives to be established in conjunction with the resource agencies for threatened and endangered resident species. Measures may include ongoing surveys, habitat improvements, predator control, or other activities for the benefit of the species.

6. **Interior Wetlands Maintenance.** Inlet maintenance activities, which would be required following storms of a 25-year or greater intensity, are described in Section 3.4.2 under "W-19 Inlet Maintenance." Under a 50-year or larger storm, however, additional sedimentation is predicted to occur in the interior portion of the established wetlands. Although deposition could occur throughout the interior of the wetlands, modeling indicates that only certain areas would receive enough deposition to require maintenance. It is anticipated that substantial sediment deposition would occur both in the brackish marsh east of the utility corridor and in the salt marsh immediately west of the corridor when storm flows overtop the utility corridor. These general areas are shown in Figure 3-9. The specific distribution of sediment deposition in these areas depends on a range of variables and is difficult to predict. Therefore, after severe storm events that result in overtopping of the utility corridor and/or deposition in the brackish marsh, an analysis to identify deposition areas and depths would be conducted. The same criteria that would trigger inlet maintenance, as described under "W-19 Inlet Maintenance" in Section 3.4.2, would be applied to determine if sediment maintenance is necessary in the interior wetlands.

Based on this analysis, adaptive management strategies would be implemented as needed to maintain the function of the established W-19 wetland areas. If the depth of sediment deposition within these areas is sufficient to result in conversion of habitat type or to impede functions of the wetlands, the sediment would be removed via the same construction methods described under "W-19 Inlet Maintenance" in Section 3.2.2. It is anticipated that sediment of sufficient depth to trigger maintenance would smother existing habitat, therefore maintenance would not substantially affect habitat already impacted by sedimentation. The total volume of sediment removal from interior wetlands anticipated following a 50-year and 100-year storm is shown in Table 3-6. Figure 3-10 depicts the haul routes and material placement sites that would be utilized for both inlet maintenance activities and any interior wetlands maintenance determined to be necessary.

Table 3-6
Anticipated Interior Wetland Sediment Maintenance Required

Storm Frequency	Maintenance Volume (cy)[1]	Truck Round Trips (8 cy/trip)	Duration (working days)[2]
50-year	10,000	1,250	23
100-year	45,000	5,625	93

cy = cubic yards, cy/trip = cubic yards per trip

[1] Maintenance volumes assume 25 percent of deposited material would remain in place and would not be removed.

[2] Activities on the beach would be 2 days less than overall maintenance activities, rates for removal/transport are assumed to be 500 cy per day, working 10 hours per day. Mobilization and demobilization and construction of temporary access roads would require an additional 3 days.

3.6 PERMITS AND APPROVALS

The JPA is the lead agency pursuant to CEQA Guidelines Section 15367. The proposed project and environmental documentation, including this EIR, would require approval by the JPA. The Corps is the federal lead agency responsible for conducting the NEPA process, which is occurring concurrently with the CEQA process. Additional approvals and permits would be

necessary for implementation of the proposed project by various responsible, trustee, and other permitting agencies. Table 3-7 lists the permits, consultations, and approvals that could be required for implementation of the proposed project, and notes various agency responsibilities below. This table reflects a conservative list of approvals that could be required for project implementation; the final set of approvals and permits would depend on the final project components and the specific agency permittee. Detailed descriptions of applicable regulatory laws, statutes, policies, and plans are included in Appendix E, Regulatory Setting. Analyses of how each regulation, policy, or plan applies to the proposed project are included in the relevant resource discussions in Chapter 5.

Table 3-7
Potential Federal, State, and Local Project Approvals and Permits Required

Agency	Permit/Approval
Federal	
U.S. Army Corps of Engineers (Corps) – Lead Agency	• Department of the Army Permit under Section 404 of the Clean Water Act, 33 United States Code (U.S.C.) Section 1344 • Department of the Army Permit under Section 10 of the Rivers and Harbors Act of 1899, 33 U.S.C. Section 403 • Coordination under the Fish and Wildlife Coordination Act, 16 U.S.C. Sections 661–666
National Marine Fisheries Service	• Consultation with the Corps pursuant to Magnuson-Stevens Fishery Conservation and Management Act, as amended 1996 (Public Law 104-267)
State Historic Preservation Officer/Tribal Historic Preservation Officer	• Consultation with the Corps under Section 106 of the National Historic Preservation Act of 1966 (36 Code of Federal Regulations Part 800)
U.S. Fish and Wildlife Service	• Consultation with the Corps under Section 7 of the Endangered Species Act, 16 U.S.C. Sections 1531–1544
Federal Emergency Management Agency	• Approval of Conditional Letter of Map Revision and Letter of Map Revision
State	
California Coastal Commission – Responsible Agency	• Coastal Development Permit • Consistency Certification, Section 30600(a) of the California Coastal Act, or Waiver of Federal Consistency Provisions
California Department of Fish and Wildlife – Trustee/Responsible Agency	• Streambed Alteration Agreement, Section 1601 of the California Fish and Game Code
Regional Water Quality Control Board – Responsibility Agency	• Water Quality Certification under Section 401 of the Clean Water Act
State Lands Commission – Trustee Agency	• Lease for access
Regional/Local	
San Diego Air Pollution Control District	• Authority to Construct/Permit to Operate
Joint Powers Authority Board – Lead Agency	• Certify Environmental Impact Report • Restoration Project Approval • File Notice of Determination
City of San Diego – Responsible Agency	• Encroachment and grading permits • Right of Entry • Site Development Permit
City of Del Mar	• Encroachment permit
San Diego Gas and Electric	• Permission to Grade letter

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CHAPTER 4.0
HISTORY OF PROJECT CHANGES

San Dieguito Lagoon has been degraded from historical conditions due to development and infrastructure expansion in the watershed, as described in Section 2.3. Since the 1990s, numerous federal, state, and local agencies and organizations have been involved in enhancement efforts within the lagoon to address these degraded conditions. The Concept Plan proposed restoration of San Dieguito Lagoon, with additional detail and habitat designations provided in the subsequent Park Master Plan for the lagoon, published in 2000.

The 2006 SCE restoration project, described in Section 2.3, restored the majority of the area analyzed in the Park Master Plan (approximately 440 acres). The Plan also explored restoration opportunities for the remaining unrestored habitat areas within the lagoon. Specific restoration opportunities at W-19 were identified in the Marine Life Mitigation Plan for the Carlsbad Desalination Plant (Poseidon 2008). Preparation of a subsequent Feasibility Study (Dokken 2011) further evaluated a series of alternatives for the potential restoration of the W-19 restoration site to wetlands as part of the mitigation strategy for the I-5 North Coast Corridor Project and the El Camino Real Bridge/Road Widening ~~Replacement~~ Project, both described in Chapter 8, Cumulative Impacts.

The Feasibility Study led to San Dieguito Lagoon W-19 Restoration Project being identified as a mitigation opportunity within the I-5 North Coast Corridor PWP/TREP, as noted in Chapters 2 and 3. Specifically, the PWP/TREP considers the proposed San Dieguito W-19 Restoration Project as mitigation that would establish 47.3 acres of coastal wetland and 9.6 acres of upland habitat, as well as restore 19.8 acres of upland. Mitigation needs for the El Camino Real Bridge/Road Widening ~~Replacement~~ Project are identified as establishing approximately 15 acres of brackish wetlands and enhancing/establishing 5 acres of riparian habitat. To satisfy mitigation needs and establish a wetland system that can be sustained into the future, potential effects of both sea level rise (e.g., higher water elevations) and storm events (e.g., sedimentation from water carried down the San Dieguito River) were taken into account as part of project development (Appendices D and F, respectively) and identification of the proposed project. Future habitat conversion due to sea level rise for the proposed project was modeled and is discussed in Section 10.1.

Information from past efforts, as well as input provided by responsible agencies and interested organizations and individuals, has been used to guide not only development of the proposed project, but also the alternatives for the W-19 project. Alternative B would establish approximately 88 acres of wetland and riparian habitat, 24 acres of coastal sage scrub, and 25 acres of transitional upland habitat. Approximately 99 acres of wetland and riparian habitat, 21 acres of coastal sage scrub, and 18 acres of transitional habitat would be established with Alternative C. Both Alternatives B and C would initially meet mitigation requirements outlined within the I-5 North Coast Corridor PWP/TREP. While both alternatives would initially meet mitigation requirements outlined in the PWP/TREP, sea level rise and storm events could affect or alter initial habitat acreages (anticipated sea level rise effects are detailed in Section 10.1 and

effects of potential sedimentation from storm events is detailed in Appendix F), as habitats for both alternatives would be designed to allow for natural influences (e.g., sedimentation during episodic storm events) and evolution over time. The history of alternatives considered over the course of project development is provided in Chapter 10 of this EIR.

CHAPTER 5.0
ENVIRONMENTAL IMPACT ANALYSIS

Chapter 5 contains an analysis of the potential environmental impacts that may occur through implementation of the proposed project, including anticipated future maintenance. The environmental resource areas addressed in the following sections include those identified as potentially significant by the lead agency through preliminary review and in response to the NOP. In accordance with Appendix G of the CEQA Guidelines and the City of San Diego's CEQA Guidelines, 15 environmental issues are addressed in the following sections. Each issue analysis includes a summary of existing conditions, including an overview of the regulatory context; thresholds for the determination of impact significance; an evaluation of potential proposed project impacts; and the provision of mitigation measures if applicable, including the resulting overall impact conclusion. Impact thresholds were based on City EIR Guidelines but were occasionally tailored by the lead agency to reflect the unique nature of the project or specific uses/conditions within the project area.

5.1 LAND USE AND RECREATION

This section describes existing environmental conditions related to land use and recreation in the area surrounding San Dieguito Lagoon, including the W-19 restoration site, disposal site, and maintenance placement sites. This section also identifies pertinent policies and regulations governing land use and recreation activities in the designated project areas and evaluates the impacts associated with implementation of the proposed project.

5.1.1 EXISTING CONDITIONS

The relevant policies and regulations guiding land use and recreational uses at the project site are discussed within this section. Additional regulatory requirements pertaining to other specific topic areas, such as noise, air quality, water quality, etc., are discussed in their respective analysis sections.

Regulatory Setting

A full description of the regulatory setting for land use and recreation can be found in Appendix E. The following land use laws, regulations, policies, and plans are applicable to the W-19 and disposal sites and are briefly described below.

- Park Master Plan for the Coastal Area of the San Dieguito River Valley Regional Open Space Park (Park Master Plan)
- San Dieguito River Park Concept Plan (Concept Plan)
- City of San Diego General Plan
- North City Future Urbanizing Area Framework Plan (Framework Plan)
- Carmel Valley Community Plan
- California Coastal Act
- City of San Diego Zoning Code
- City of San Diego Environmentally Sensitive Lands (ESL) Regulations

- City of San Diego Land Development Manual and Biology Guidelines
- City of San Diego Land Development Code (LDC) Historical Resources Regulations and Land Development Manual (LDM) Historical Resources Guidelines
- City of San Diego Multiple Species Conservation Program (MSCP) Subarea Plan and Multiple Habitat Planning Area (MHPA)
- City of Del Mar Community Plan
- City of Del Mar Local Coastal Program (LCP)
- California Department of Fish and Wildlife's San Dieguito Lagoon State Marine Conservation Area (SMCA)
- North Coast Corridor Public Works Plan/Transportation and Resource Enhancement Program (PWP/TREP) and the Resource, Enhancement, and Mitigation Program (REMP)

Park Master Plan for the Coastal Area of the San Dieguito River Valley Regional Open Space Park (Park Master Plan)

The Park Master Plan provides a framework for implementing community goals for the restoration of the San Dieguito Lagoon ecosystem, both tidal and nontidal, and for the provision of public access trails and amenities for public enjoyment and nature study. Major applicable objectives include the following: restore a total, well-functioning ecological unit; expand tidal influence; restore native habitats; establish and enhance habitat for sensitive species; provide CTC Trail access for multiple user groups; and provide resource interpretation.

The Park Master Plan provides specifications for habitat restoration design, including specific locations and acreages for various habitat types. Major components of restoration design detailed in the Park Master Plan include excavation to restore tidal habitat, maintaining an open tidal inlet, river berms, providing appropriate habitat types, enhancing sensitive habitat areas, and tailoring the elevation of design of habitat areas to accommodate threatened and endangered species.

The Park Master Plan describes the provision of public access to the W-19 area through a trail network. Chapter 7 of the existing Park Master Plan describes that the limited trails proposed are intended to provide a well-defined, thoughtfully planned system of pedestrian/bicycle/equestrian trails mostly located along the edges to help ensure the success of the SCE restoration project, as well as the non-tidal habitat areas of the project area that are impacted by the informal and uncontrolled dirt trail network that crisscrosses the area. Most of the trails described in the Park Master Plan have been constructed since the time the plan was prepared and adopted (2000), such as the CTC Trail. The trail, originally referenced as the Mesa Loop Trail, has been developed and is now named the Dust Devil Nature Trail.

Some of the most applicable guidelines include:

- Provide public access for hikers, bicyclists, equestrians, and users of all abilities.
- Provide opportunities for nature study and education.
- Provide connections to existing and proposed local and regional trail networks.
- Provide fencing alongside the trail where appropriate.
- Align trails to take advantage of interpretive opportunities.

San Dieguito River Park Concept Plan (Concept Plan)

The JPA's Concept Plan (San Dieguito River Park JPA 2002) was prepared to formally establish the vision and goals for the future use of the San Dieguito river valley. Portions of the plan apply to San Dieguito Lagoon and the project site. Within the plan, the W-19 project site and disposal site are located in Landscape Unit A, Del Mar Coastal Lagoon.

The Concept Plan specifically states that it endorses the restoration of San Dieguito Lagoon and its associated wetlands ecosystem, including enlargement of the existing tidal basin; creation of a variety of coastal wetland habitats; and restoration of associated upland habitat in order to create a functional, ecological, and hydrological unit that will provide for tidal flushing, open water, wetlands, and grassland and other upland habitat. The Concept Plan also includes policies for the Del Mar Coastal Lagoon Landscape unit related to maintaining views and compatibility of uses with the open space character of the lagoon. A Park Proposal in the Concept Plan includes implementation of a lagoon enhancement and restoration program for San Dieguito Lagoon both east and west of I-5 and also states that the San Dieguito Lagoon and wetlands ecosystem shall be enlarged and restored east and west of I-5 to a total well-functioning ecological and hydrological unit including adequate tidal flushing, open waters, wetlands, uplands, and bluffs.

City of San Diego General Plan

The City's General Plan (City of San Diego 2008) provides a general foundation for land use decisions and policy framework for how the City should grow. Together, the General Plan and the NCFUA Framework Plan described below, seek to guide future growth and development to achieve citywide and community level goals.

Policies most applicable to the project are generally found with the Land Use and Community Planning Element, which designates the W-19 project site as Open Space within Parks, Open Space. The City's General Plan designates the disposal site as Open Space, Parks, and Recreation. This designation identifies areas for preservation of land that has distinctive scenic, natural, or cultural features; that contributes to community character and form; or that contains environmentally sensitive resources. The Recreation Element prescribes goals and policies specific to park and open space lands and the preservation of such resources and implementation of recreational facilities such as trails. The Conservation Element contains a wide variety of policies aimed at protecting natural resources such as wetlands, coastal areas, floodplains, and other ecological resources.

North City Future Urbanizing Area Framework Plan (Framework Plan)

The project site is within Subarea II of the Framework Plan and is designated as Environmental Tier. Within this designation, activities and development within the site are guided primarily by Open Space Guiding Principles. The principles generally call for an interconnected viable system of natural open spaces, the conservation of biological diversity and open space features protected from detrimental human activities, and incorporation of low-impact recreation. The Framework Plan also includes three management zones for Environmental Tier Lands: Habitat Protection Areas, Biological Buffer Areas, and Transition Areas. Each zone includes implementing principles

and allowed and prohibited uses. The majority of Environmental Tier Lands are generally within Habitat Protection Areas, which provide the most restrictive uses and prohibit most structures and recreation. The Biological Buffer Areas allow for more interaction and recreation use while providing distance between sensitive habitat and human development/activity. The Framework Plan also indicates the W-19 site is an area of High Scenic Value.

The disposal site is on land owned by the City of San Diego and is located within the southern portion of the NCFUA, Subarea II and is identified as Additional Sensitive Lands. Within this designation, activities and development within the site are guided primarily by Open Space Guiding Principles.

Carmel Valley Community Plan

The Carmel Valley community is located adjacent to the south of the NCFUA II, and a very southeastern tip of the disposal site extends into the Carmel Valley community boundaries. The Land Use Plan Map for the Camel Valley Neighborhoods (City of San Diego 2014b) designates the hillsides at the southern end of the disposal site as Natural Open Space.

California Coastal Act

The project site is within the Coastal Zone as designated by the CCC. The CCC has coastal permit jurisdiction over the W-19 site. Various Coastal Zone designations apply across the project site. The eastern portion of the project site is not formally mapped, while the western portion is retained under CCC permit jurisdictional authority. A small southern segment of the project site is located within the Local Coastal Program Deferred Certification area (jurisdiction is retained by the CCC). There is a buffer along the San Dieguito River, which is designated as an Appeal Jurisdiction.

The disposal site is within coastal permit authority of the CCC. The disposal site is located within the Local Coastal Program Deferred Certification area, (jurisdiction remaining with the CCC).

Chapter 3 of the California Coastal Act outlines coastal resources planning and management policies, specifically addressing public access, recreation, marine environment, land resources, development, and industrial development (Articles 2–7).

City of San Diego Zoning Code

Two major zoning designations encompass the W-19 project area: Open Space – Floodplain Zone (OF 1-1), which generally buffers the San Dieguito River, and Agricultural – Residential Zone (AR 1-1), which generally encompasses the river valley (City of San Diego 2010a). Natural resource preservation and passive and active recreation are permitted within this zone.

The majority of the disposal site is located within the AR 1-1 Zone. A very small portion of the disposal site that extends into the Carmel Valley Community boundaries is within the Carmel Valley Planned District Open Space Zone (CVPD-OS).

City of San Diego Environmentally Sensitive Lands (ESL) Regulations

The City designates a variety of Environmentally Sensitive Lands (ESL) types and overlays through the General Plan, Municipal Code, and Land Development Manual. As defined in the Municipal Code Section 143.0110, ESLs include those with sensitive biological resources, steep hillsides, coastal beaches, sensitive coastal bluffs, and special flood hazard areas. ESL Regulations apply when these specially designated land resources are present.

As outlined in Appendix E, the presence of sensitive biological resources and wetlands associated with the San Dieguito River and lagoon basin qualify the project site as an ESL, which is therefore subject to the City's ESL Regulations and may require a Site Development Permit from the City. The ESL designation means the project would be subject to the restrictions and requirements outlined in the City of San Diego Land Development Code Biology Guidelines (City of San Diego 2012). Additionally, the project site is entirely within the Federal Emergency Management Agency (FEMA) designated Special Flood Hazard Area for areas subject to inundation by the 1 percent annual chance flood, Zone A (FEMA 2012) and would be subject to additional regulations imposed on lands in special flood hazard areas.

Uses permitted in wetlands as outlined in Municipal Code Section 143.0130 include wetland restoration projects where the primary purpose is restoration of habitat. The proposed project is consistent with this permitted use. The project site is also located within the Coastal Overlay designation (Municipal Code Section 132.04). Thus, the project would be subject to development restrictions associated with the Coastal Overlay designation. The City allows an exception to the Site Development Permit requirement for a restoration project where the sole purpose is enhancement or restoration of native habitats; however, because the project site is within the coastal overlay zone, this exception does not apply. A Site Development Permit may be required as part of project processing under City jurisdiction.

City of San Diego Land Development Code (LDC) Historical Resources Regulations and Land Development Manual (LDM) Historical Resources Guidelines

The City designates guidelines to ensure consistency in the management of the City's historical resources, including identification, evaluation, preservation/mitigation, and development. Guidelines implement the City's Historical Resources Regulations, which are contained in the Land Development Code (Chapter 14, Division 3, Article 2). Regulations are in compliance with the City's *Progress Guide and General Plan*, CEQA, and Section 106 of the National Historic Preservation Act of 1966 (City of San Diego 1999). Restoration, maintenance, and monitoring plans for the proposed project would be prepared in accordance with the goals and guidelines of the LDC Historical Resources Regulations and LDM Historical Resources Guidelines during any subsequent discretionary review process with the City of San Diego.

City of San Diego Multiple Species Conservation Program (MSCP) Subarea Plan and Multiple Habitat Planning Area (MHPA)

The ultimate goal of the Multiple Species Conservation Program (MSCP) is to create a regional habitat preserve system designated as the Multiple Habitat Planning Area (MHPA), while

allowing development projects to occur with a streamlined development review system that avoids the traditional project-by-project review by regulatory agencies. The W-19 site is also partially located with the City's MHPA. The western half of the site is entirely within the MHPA, while a swath through the eastern half of the site is excluded, as shown in Figure 5.1-1. The disposal site is mostly excluded from the MHPA, with a small exception in the southeastern corner (concurrent with the area within the Carmel Valley community planning area).

Restoration, maintenance, and monitoring plans for the project would be prepared in accordance with the goals and guidelines of the MSCP Subarea Plan (City of San Diego 1997), and in consultation with the wildlife agencies. The Subarea Plan addresses topics applicable to the project such as fencing, materials storage, flood control, restoration, public access, and invasive exotics control, among others.

City of Del Mar Community Plan

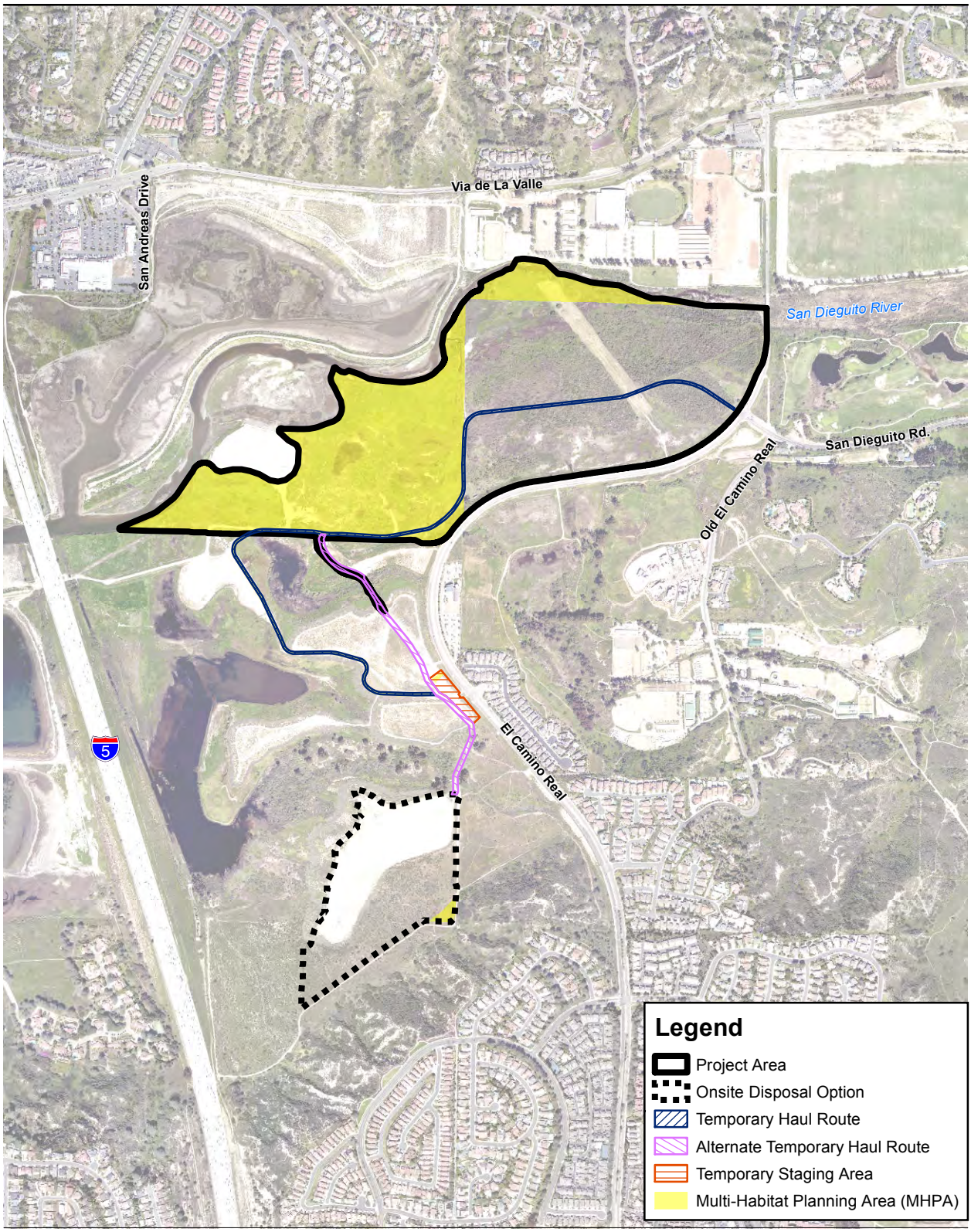
The Community Development section of the Community Plan designates the beach placement site as Beach & Bluffs. Objectives provided in the Community Plan include a requirement for the placement of beach-quality sand on Del Mar beaches whenever beach-quality sand results from the dredging of San Dieguito Lagoon.

City of Del Mar Local Coastal Program (LCP)

The beach placement locations are within the Coastal Zone and are within the jurisdictional boundaries of the City of Del Mar LCP. The LCP Land Use Plan designates the beach areas as Public Parkland (PP) with allowed uses, including public parks, beaches, playgrounds, and ecological preserves. The beach area north of the river inlet is within the North Bluff District and south of the inlet is within the North Beach District. The LCP Land Use Plan was certified by the CCC in 1993 and the City assumed authority of the processing of CDPs for most projects in Del Mar. The CCC retains authority of processing CDPs for projects in areas known as "original jurisdictions" or generally those lands subject to tidal action or claims of public trust (City of Del Mar 1993). The Implementing Ordinances of the LCP were certified by the CCC in 2001 (City of Del Mar 2001). Due to multiple jurisdictions overlaying the project site, a consolidated CDP may be requested from the CCC to streamline the permitting process.

California Department of Fish and Wildlife's State Marine Conservation Area (SMCA)

Under the California Marine Life Protection Act passed in 1999, marine protected areas (MPAs) were established through efforts of the California Department of Fish and Wildlife and California State Parks agencies (California Department of Parks and Recreation 2015). San Dieguito Lagoon State Marine Conservation Area (SMCA) is one of five MPAs located in waters adjacent to Torrey Pines State Natural Reserve. The San Dieguito Lagoon SMCA is located southwest of the W-19 project, west of I-5, and south of the San Dieguito River. The W-19 site is located outside of the San Dieguito Lagoon SMCA and no project activities would occur within the San Dieguito Lagoon SMCA (CDFW 2016e). The SMCA is identified to show location and consistency with W-19 activities.



Source: JPA: Dokken 2015

1,250 625 0 1,250 Feet

Scale: 1:15,000 1 inch = 1,250 feet

Figure 5.1-1
MHPA Boundary within Project Area

Path: P:\2012\60274999_SD_W19\06GIS\6.3_Layout\Reports\EIR\MHPA.mxd, 9/25/2018, paul.moreno

North Coast Corridor Public Works Plan/Transportation and Resource Enhancement Program (PWP/TREP) and the Restoration, Enhancement, and Mitigation Program (REMP)

The proposed project would be considered mitigation for transportation improvements identified in the North Coast Corridor PWP/TREP. The REMP would serve as a guideline for determining what performance standards would be utilized for the proposed project's monitoring plan. Further detail regarding performance standards would be developed during the permitting processes. The following are examples of performance standards that would be developed and quantified: topography, water quality, tidal prism, habitat areas, reproductive success, food chain support, and exotics (Caltrans 2016a).

Land Ownership

W-19 Site

The W-19 site is located within the City of San Diego jurisdiction and is primarily owned by the JPA, while CDFW and 22nd District Agricultural Association each own a parcel in the northern area. The westernmost parcels are currently owned by the City of San Diego, who has an agreement to sell the land to SANDAG once the W-19 site has received all necessary federal and state permits. SANDAG will transfer the property to the JPA after the site meets its success criteria. The project site and land ownership within the lagoon are shown in Figure 2-3.

Disposal Site

The City of San Diego owns the disposal site, while temporary offroad haul routes used to transport materials from the restoration site to the disposal site would traverse lands owned by the JPA and the City of San Diego (see Figure 2-3).

Material Placement Sites

The two beach placement sites proposed for material placement during maintenance activities are located within the jurisdictional boundaries of the City of Del Mar.

Land Uses

W-19 Site

Various land uses surround the W-19 site. The northwestern portion of the site is adjacent to the San Dieguito River and open and vegetated areas of the lagoon, including the area restored by SCE's restoration project. Farther north is Via de la Valle and commercial and residential developments along the roadway. The Del Mar Horse Park is located immediately north of the northeastern portion of the project site and hosts a range of equine-related activities. The CTC Trail alignment traverses west to east along the northern side of the San Dieguito River. El Camino Real serves as the eastern border of the project site. Areas immediately east of El Camino Real include the City-owned properties of Polo Fields and Fairbanks Ranch Golf Course, undeveloped private parcels, and some residential and religious facility uses. The

southern boundary of the W-19 site generally follows an existing maintenance/access road and is adjacent to open and vegetated areas of the lagoon complex. The Dust Devil Nature Trail and associated trailhead/parking area exists south of the W-19 site. The project site narrows in the westernmost portion and has only a small western boundary along the San Dieguito River. Slightly farther west is I-5 and the developed areas associated with the Del Mar Fairgrounds along Jimmy Durante Boulevard west of the freeway.

The 141-acre W-19 site is located adjacent to the San Dieguito River and within areas that were historically part of the larger wetland system within San Dieguito Lagoon but, until fairly recently, had been farmed. The W-19 site is currently vacant and generally undeveloped. The site is bisected by an SDG&E utility corridor that crosses the site in a northwest/southeast alignment. The majority of the utilities present on the W-19 site are consolidated within the 150-foot-wide utility corridor, including above-ground electrical transmission lines, cable fiber-optic lines and poles and below-grade gasoline/oil pipelines, and a natural gas pipeline(see Section 5.13 for utility details). A separate set of utility poles traverse the site farther west. Existing unpaved maintenance/access routes associated with the utility corridor, as well as haul routes associated with the SCE restoration project, also traverse portions of the W-19 site.

Disposal Site

The disposal site and surroundings are undeveloped vegetated open space lands. To the north, the Dust Devil Nature Trail is within approximately 450 feet of the disposal site. Existing maintenance/access roads are located throughout the area and partially serve as the disposal site boundaries to the east and south, but do not cross the disposal site itself. El Camino Real is approximately 500 feet east of the disposal site, with residential development located east of the road. South of the disposal site, steep hillsides lead up to residential developments at the top of the bluffs. The hillsides are generally vegetated with some exposed areas related to steep slopes, runoff channels, or informal paths that lead down toward the San Dieguito River Park.

The disposal site consists of two distinct land uses. The northwestern portion is the disposal site used for the SCE restoration project (DS-36) and consists of unvegetated, slightly elevated, graded and terraced fill material. The southeastern portion of the disposal site is generally undisturbed vegetated terrain. Some small, informal trails have been created in this general area but are not a formal trail network.

Material Placement Sites

The material placement sites on the beaches in Del Mar are currently used for beach recreation. The placement sites are tidally influenced and conditions change daily with the tides and seasonally with varying widths and volumes of sand on the beaches. Thus, no permanent development is located on the sandy beach areas.

Existing Recreational Uses and Facilities

San Dieguito River Park

The San Dieguito River Park CTC Trail is a regional trail planned to extend 71 miles from the ocean to the San Dieguito River's source on Volcan Mountain. Currently, 45 miles of the trail have been opened. Within San Dieguito Lagoon, the CTC Trail is 2.4 miles long and currently begins on the west side of I-5 and continues from Jimmy Durante Boulevard~~the Boardwalk~~ to the east, then under the freeway and along the north side of the San Dieguito River. Figure 3-2 shows the trail network. In the project area, the CTC Trail currently has an eastern terminus at El Camino Real. After the El Camino Real terminus, the CTC Trail does not resume until Santa Fe Valley, approximately 4.5 miles to the northeast. The majority of the CTC Trail within the lagoon area is surfaced with DG and includes a split-rail fence along the sides. The CTC Trail allows nonmotorized use by pedestrians, bicyclists, and equestrians. Based on trail counts taken over the past 3 years, the CTC Trail in the project area experiences approximately 72,400 users annually, or almost 200 users per day. In 2015, the trail users were approximately 83 percent hikers, 16 percent bicyclists, and 1 percent equestrians (Anderson, personal communication, 2016).

The Salt Marsh Bird View Trail is a short secondary trail that connects to the CTC Trail and provides a slightly more southerly pedestrian-only access closer to the lagoon. The Birdwing Open Air Classroom along the CTC Trail provides a shaded facility for San Dieguito River Park educational programs, public events, and a place where visitors and trail users can sit and view the lagoon. Special activities are hosted at the Birdwing Open Air Classroom approximately two to three times per month, including San Dieguito River Valley Conservancy monthly yoga sessions and Watershed Explorers Program activities.

The Dust Devil Nature Trail is a multi-loop trail located in the southeastern portion of the lagoon, entirely south of the river, and is approximately 1.7 miles in length. The Dust Devil Nature Trail is a pedestrian-only trail; biking and equestrian use are not permitted. Based on counts and estimations from JPA Park Rangers, the Dust Devil Nature Trail is assumed to have an average of approximately 28,000 users per year from 2011–2015 (Ward, personal communication, 2015). Trail users range from individual hikers, participants in ranger-led hikes, families, and other groups such as high school cross country teams. Many trail users are local and walk to the trail access point from their residences.

Ranger-led hikes are held monthly, alternating between the CTC Trail and Dust Devil Nature Trail. Regular bird walks are also scheduled along the CTC Trail. Additionally, monthly bird counts occur on the trails in the lagoon network.

Two trailhead parking lots currently provide parking for the lagoon trails. One parking lot is located off of El Camino Real on the east side of the lagoon and provides access to the Dust Devil Nature Trail. This gravel lot is permitted for 25 vehicles and generally experiences light use. A second parking area and street parking are located off of San Andres Drive along the north side of the lagoon that provides access to the CTC Trail. Approximately 60 vehicular spaces are accommodated in the parking lot. Each parking lot provides informational signage at the trail access regarding the trail and permitted uses.

Throughout the lagoon and surrounding area are informal trails and paths that are not part of the official San Dieguito River Park trail network. Use of these informal paths has been greatly reduced in recent years as formal trails are now available and public access is not allowed outside of the trail network. City of San Diego trails associated with the Carmel Valley Open Space area are located along the perimeter of the bluff tops south of the disposal site. Informal paths have been forged over time from the bluff tops down to the river valley. Many equestrian uses occur in the project area, including along the CTC Trail, at the Horse Park located north of the San Dieguito River, at the Polo Fields east of El Camino Real, and along trails near San Dieguito Road east of El Camino Real as part of the Gonzales Canyon Open Space trail network.

Material Placement Sites

Stretches of Del Mar Beach, located immediately to the north and south of the inlet, would be used for material placement during W-19 wetlands maintenance. These beach placement sites are shown in Figure 3-10 and are the same as those designated for beach placement during inlet maintenance of the SCE restoration project. These beach areas are used for common beach recreation activities, such as sunbathing, walking/jogging, water and sand play, and swimming, among others. Beach conditions can vary from sandy to exposed cobbles and rocky terrain. The area north of the inlet is North Beach area, commonly known as Dog Beach, and is a popular location for dog owners to bring their canines. Other uses like volleyball are also popular.

5.1.2 IMPACT THRESHOLDS

A significant impact would occur if implementation of the proposed project would:

A. Require a deviation or variance from a regulatory agency and the deviation or variance would in turn result in a physical impact on the environment;

B. Result in a conflict with the environmental goals, objectives and recommendations of the community plan in which it is located;

C. Conflict with the provisions of the City's Multiple Species Conservation Program Subarea Plan or other approved local, regional or state habitat conservation plan;

D. Physically divide an established community; or

E. Result in temporary or permanent and critical loss of recreational use areas or conflicts with recreational uses.

The CEQA impact thresholds for land use and recreation are those recommended by the City of San Diego Development Services Department as well as thresholds used in other recent lagoon restoration project EIRs. Recreation is also addressed specifically due to the unique recreation focus of the San Dieguito River Park and area beaches.

5.1.3 IMPACT ANALYSIS

The proposed project includes the adoption of an addendum to the Park Master Plan, as detailed in Section 3.4.1 and shown in Figure 3-2. The Park Master Plan would be amended to

redesignate the restored areas as W-19 and incorporate the updated boundaries of restoration and proposed habitat types associated with the proposed project, specify long-term maintenance activities, and describe the proposed trail alignment. The Park Master Plan addendum is specific to the scope of this project and would not modify other elements or components of the Park Master Plan not affected by the project. The following analysis considers the potential implications and environmental effects of the changes that would result from implementation of the Park Master Plan addendum, where applicable.

W-19 Restoration

Land Use

As described in Section 5.1.1, the lagoon restoration project site is located within the City's General Plan jurisdiction and within the NCFUA. The project site is also within the Focused Planning Area for the Coastal Area of the JPA's San Dieguito River Park. As detailed in Appendix E, there is no adopted subarea plan for Subarea II in the NCFUA, and planning and land use policies for this area are contained in the Framework Plan. Thus, the project site is generally governed by the Framework Plan policies, the JPA Park Master Plan, and applicable Coastal Zone regulations. The project site is also subject to City of San Diego zoning, ESL Regulations, and MSCP requirements, as described below and detailed in Appendix E.

City of San Diego General Plan and LDC

The proposed restoration activities and new trail would be consistent with the applicable goals and policies of the General Plan and LDC Historical Resources Regulations related to the maintenance and preservation of open space lands and the protection and enhancement of sensitive ecological and natural resources. There would be no need for a variance or deviation from the policies of the General Plan or LDC and the project would not conflict with the environmental goals, objectives, and recommendations of the plan or codes. **There would be no impact (Criteria A and B).**

NCFUA Framework Plan

Lagoon restoration within the W-19 site would be consistent with the applicable policies, environmental goals, objectives, and recommendations of the Framework Plan for Subarea II, Environmental Tier. The resulting restoration and improved hydraulic and biological function of the lagoon and surrounding river valley would serve to implement the policies pertaining to viable natural open space and conserved biological diversity in a large natural area along with a new low-impact recreational trail. The new trail would be located along the perimeter of the restored habitat area, serving as a buffer area between the sensitive habitat and El Camino Real. Additionally, relocated electrical lines would be incorporated along the existing easement, as well as along El Camino Real, consolidating utility infrastructure traversing the site and not creating substantial new encroachments into sensitive natural open space areas. There would be no need for a variance or deviation from the policies of the Framework Plan and the project would not conflict with the environmental goals, objectives, and recommendations of the community plan. **Impacts would be less than significant (Criteria A and B).**

JPA Park Master Plan

The habitat restoration and wetland creation as a result of the project would serve to implement and further achieve the goals of the Park Master Plan as the project would establish a tidal connection with the San Dieguito River and provide approximately 60 acres of tidal salt marsh. Upland/transitional habitats would be established to support ecological function and promote habitat diversity, and appropriate quality habitat for sensitive species would result. Also, the proposed trail would provide new public access/recreation with opportunity for educational interpretation along the perimeter of the project area and a future connection to the CTC Trail.

Habitat Restoration

As described previously, the Park Master Plan includes restoration design, such as the restoration of tidal habitat, river berms, and habitat types with appropriate elevations. The lagoon restoration activities proposed by the project would implement many of these strategies and design elements and would be consistent with the Park Master Plan.

However, the project includes restoration in areas beyond those designated for wetland restoration activities in the Park Master Plan as shown in the proposed Park Master Plan boundary adjustment in Figure 3-2. The proposed W-19 restoration activities would be located in areas identified for restoration in the Park Master Plan (originally identified as U19, W36, M32, M33, and M37 in the Park Master Plan), as well as other areas west of El Camino Real owned by SANDAG, 22nd District Agricultural Association, and CDFW. Thus, the Park Master Plan addendum would expand the Park Master Plan boundaries to encompass the entire W-19 restoration site and would identify specific habitat designations on a revised habitat map (see Figure 3-3) that may result from the expanded area proposed for habitat restoration. Proposed habitat types included within the project (see Figure 3-3) are similar and complementary to the habitats specified in the Park Master Plan and would serve to meet the overall goals and objectives of the habitat restoration design outlined in the Park Master Plan.

The purpose of the Park Master Plan addendum (described in Section 3.4.1) is not to serve as a deviation or variance from existing policies or objectives; rather, its purpose is to provide an update to the 15-year-old plan and ensure the Park Master Plan accurately includes the current restoration proposal. The addendum focuses only on the W-19 restoration site and does not create new allowable/prohibited uses or substantially change the overall uses and restoration plans prescribed through the current Park Master Plan.

Thus, while the project may result in slight deviations from the original Park Master Plan text (i.e., differences in habitat distribution acres, specific locations, etc.) these minor variations and adjustments would not create substantial inconsistencies with overall policies and would work to achieve the goals of the plan. Additionally, the Park Master Plan addendum as proposed by the project would accurately update the Park Master Plan specific to the W-19 site and correct potential inconsistencies and discrepancies in boundaries or habitat distributions. For these reasons, **implementation of lagoon restoration and the associated Park Master Plan addendum would not conflict with the environmental goals, objectives, and recommendations of applicable planning documents or result in physical impacts due to a deviation or variance, and the impact would be less than significant (Criteria A and B).**

The proposed project is identified as advanced mitigation for future transportation improvements identified in the North Coast Corridor PWP/TREP. The REMP would be consulted in the development of performance standards for the monitoring plan, as necessary. As stated in the REMP, performance standards to measure and monitor the success of the restoration efforts would occur pursuant to future permitting processes. **The project would not conflict with goals of the program. There would be no impact (Criteria A and B).**

Public Access and Interpretation

As part of the Park Master Plan addendum, the proposed trail alignment would be included as a new recreational amenity that was not previously contained in the Park Master Plan. A segment of the proposed new trail would be similar to trail Segment 13 as shown in the existing Park Master Plan figure, *Proposed Trails and Interpretative Facilities for the San Dieguito Coastal Park Master Plan*, although the overall trail route is different.

While the new trail alignment was not included in the existing Park Master Plan, it is consistent with the recommendations and implementing guidelines for trails as outlined in the Park Master Plan. The trail would provide new public access for recreationalists; allow for educational and interpretative opportunities such as kiosks, signage, no-littering information, or ranger-led hikes; and provide connection to the existing trail network. The new trail would be designed according to trail standards outlined in the Park Master Plan, including a 6-foot-wide alignment along the lagoon edge with a DG surface, appropriate split-rail fencing, and uses similar to the Dust Devil Nature Trail.

Adoption of the Park Master Plan addendum, including the new trail alignment, would not substantially alter the existing plan for future trails and recreation opportunities within the JPA Master Plan area and would be consistent with the stated vision and purpose of the limited trail network. Trail plans included in the existing Park Master Plan would remain and the Park Master Plan addendum would formally add the new trail alignment as part of the plan. For these reasons, implementation of the proposed trail and the inclusion of this recreation facility as part of the Park Master Plan addendum would be consistent with existing policies and planning for recreational uses in the lagoon and would not result in significant physical impacts due to a variance or deviation from the planning document. **Impacts would be less than significant (Criteria A and B).**

JPA San Dieguito River Park Concept Plan

The proposed restoration activities and new trail would be compatible with the restoration and habitat creation policies of the Concept Plan and serve to implement restoration and enhancement programs as described. The Concept Plan also includes Design and Development Standards that are intended to protect sensitive natural resources, such as biological, cultural, and visual resources. The restoration activities proposed by the project have been designed to restore wetland habitats and would not include invasive species, would provide appropriate buffers, and would include long-term management of the restored areas in accordance with applicable design and development standards. The project would not include any structures or facilities that could be in conflict with the standards. The new trail has been designed along the edge of El Camino

Real to avoid impacts to sensitive resources within the interior of the restoration site and would include appropriate fencing to reduce intrusion into sensitive areas. As specified in the Design and Development Standards relative to wetland restoration and/or enhancement projects, a study of the effects of the altered flood flows as a result of the restoration project has been completed and identifies less than significant impacts as described in Section 5.2, Hydrology, of this EIR. Implementation of the project would not conflict with the Design and Development Standards of the Concept Plan. **The project would not conflict with the environmental goals, objectives, and recommendations of the plan. There would be no impact (Criterion B).**

Zoning

The OF 1-1 and AR 1-1 zones that encompass the project site permit natural resources preservation and active and passive recreation as described in the City's Municipal Code (Sections 131.0205 and 131.0303). Thus, the habitat restoration and planned trail would be allowable per the applicable zoning regulations and no variance or deviation from the zoning designations and regulations would be required. **There would be no impact (Criteria A and B).**

Environmentally Sensitive Lands

The presence of sensitive biological resources and wetlands associated with the San Dieguito River and lagoon basin qualify the project site as ESLs, which are therefore subject to the City's ESL Regulations and would require a Site Development Permit from the City. The project would be subject to the restrictions and requirements outlined in the City of San Diego Land Development Code Biology Guidelines (City of San Diego 2012). Regulations applicable to the project deal with a wide range of protective restrictions, such as general measures like restriction on the storage of materials or equipment in ESLs without demonstration that the disturbance would not degrade the land or cause permanent habitat loss. Regulations require consistency with the MSCP Subarea Plan and incorporation of recommendations and requirements from wildlife agency input and permitting. The ESL Regulations require the preservation of steep hillsides in their natural state to the extent possible and also provide requirements related to the alteration of rivers or streams and the modification of floodways.

Additionally, the project site is entirely within the FEMA designated Special Flood Hazard Area for areas subject to inundation by the 1 percent annual chance flood, Zone A (FEMA 2012) and would be subject to additional regulations imposed on lands in special flood hazard areas. Steep hillsides (greater than 25 percent slope) are designated in a very small location along El Camino Real at the southeastern corner of the project site but are outside the limits of grading for the project and restoration activities.

Uses permitted in wetlands as outlined in Municipal Code Section 143.0130(d) include wetland restoration projects where the primary purpose is restoration of habitat. The proposed project is consistent with this permitted use.

The project does not propose the development of structures or other permanent built features that might conflict with provisions of the ESL Regulations. The project's habitat restoration and trail would be consistent with applicable requirements and restrictions of the ESL Regulations. The

project would enhance the biological resources within San Dieguito Lagoon and the river basin and also improve the hydraulic function within the floodplain. Elements of the project would be designed to achieve the project objectives and meet permitting requirements to obtain a Site Development Permit as issued by the City. Thus, **a deviation or variance from the ESL Regulations would not be necessary for implementation of the project and the impact would be less than significant (Criteria A and B).**

Coastal Zone

The CCC would need to issue a coastal development permit for the project. The permit would be issued by the CCC as they have retained jurisdiction over the project site.

Many of the policies contained in Chapter 3 of the California Coastal Act do not apply to the project as there would be no development of permanent structures of mass that could affect coastal resources. Additionally, the location of the W-19 site on the eastern edge of San Dieguito Lagoon and east of I-5 is fairly distant and separated from the waterfront and coastal beach areas. The CTC Trail, which provides east/west connection from the W-19 toward the coast would remain open and available for public use, access, and recreation throughout the duration of the project. The restoration project would not conflict with public access policies outlined in Article 2, and Article 6 (Section 20252) or recreation policies outlined in Article 3.

Article 4 outlines policies related to the protection of the marine environment, addressing topics such as biological productivity and protection of water quality in waters, streams, and wetlands; filling or dredging; movement of sediment; and flood control. The restoration project would work toward improved hydrologic function, quality, and health of the wetlands and overall lagoon area and would not conflict with these policies.

Article 5 (Section 30240) specifically addresses environmentally sensitive habitat areas and the protection of such resources. The restoration project would result in improved habitat values and would not conflict with those policies. The continuation of coastal access and protection of land resources would not be altered or restricted in accordance with requirements of Chapter 3 of the California Coastal Act.

Article 6 (Section 30251) addresses the protection of scenic resources. While some landform alteration is necessary as part of the restoration activities to provide the adequate elevations for established habitat and wetlands, the altered landforms would be compatible and comparable with the surrounding environment and scenic aesthetic. The restoration project would not block or obstruct views of the scenic coastal area.

The restoration project would not create substantial conflicts with policies of the California Coastal Act and would generally work to enhance and improve resources protected by the California Coastal Act. **Impacts would be less than significant (Criteria A and B).**

City of San Diego MHPA and MSCP

Consideration of the project's consistency with the Subarea Plan is also provided in the project's Biological Survey Report (Appendix G). The project is consistent with the goals and objectives

of the MSCP, and has been designed to comply with the applicable restrictions and requirements therein. Therefore, **the project would not conflict with the provisions of the City's MSCP Subarea Plan or other approved local, regional, or state habitat conservation plan and a less than significant impact would result from implementation of lagoon restoration activities (Criterion C).**

Surrounding Communities

San Dieguito Lagoon and the river valley are existing natural elements that have been planned for within many of the local community planning documents and are considered throughout past and ongoing development of the area. The project's restoration of hydrologic function, wetlands, and habitats throughout the existing lagoon area and the incorporation of those modifications within the Park Master Plan through an addendum would not create a new physical division within an established community. Rather, the project would result in improved biological conditions within the existing natural resources and also provide increased opportunity for recreational connectivity via the proposed north-south trail. The lagoon restoration activities would not impact or modify the operation of equestrian facilities adjacent to the lagoon. For these reasons, **the lagoon restoration activities would not physically divide an established community and there would be no impact (Criterion D).**

California Department of Fish and Wildlife's San Dieguito Lagoon State Marine Conservation Area

The W-19 site is located outside of the San Dieguito Lagoon SMCA and no project activities, including future maintenance activities, would occur within the San Dieguito Lagoon SMCA. The SMCA is identified to show location and consistency with coastal zone MPAs. **There would be no impact (Criteria A and B).**

Recreation

As described in the existing conditions text and land use analysis above, there is a network of formal trails throughout the lagoon. The new trail proposed by the project would provide formal and maintained public recreational access and educational opportunity along the eastern edge of the lagoon where there was previously no access, as shown in Figure 3-2 and described in Section 3.4. Due to the limitations created by the lack of safe pedestrian crossing over the El Camino Real Bridge, the new trail would not connect to the CTC Trail north of the San Dieguito River in the immediate term. However, the proposed replacement of the El Camino Real Bridge by the City of San Diego includes pedestrian walkways and bike lanes on each side of the bridge as part of the proposed design for the approved Eastern ~~preferred A~~alignment alternative (City of San Diego 2015a). The planned pedestrian facilities associated with the new bridge would ~~be adequate to~~ provide a safe crossing, once the El Camino Real Bridge replacement is complete (anticipated completion in December 2024), to the new trail connection implemented by the proposed project. Future trail connection would allow recreationalists to safely cross over the San Dieguito River. ~~over the San Dieguito River for future trail users.~~ Once the new bridge was installed, the northern end of the new trail alignment would be modified to allow access to the El Camino Real Bridge pedestrian crossing. This would provide trail users the ability to safely cross

the river and connect with the CTC Trail located on the north side of the river. However, even prior to the future connection to the CTC Trail, the new trail as proposed by the project would create an additional mile of trail within the lagoon and would expand the existing trail network through connection with the Dust Devil Nature Trail.

The proposed new trail alignment would provide the opportunity for a future north/south connection that is currently lacking between the Dust Devil Nature Trail in the southeastern portion of the lagoon to the north and eventually to the CTC Trail that traverses the northern boundary of the lagoon. The linkage provided by the new trail (once the El Camino Real Bridge replacement is complete) would increase the functionality of the existing trail network by allowing recreationalists to seamlessly connect to both trails and traverse the entire lagoon areas, whereas the existing trails currently operate independently with no available connectivity. The new trail would also provide a link from the Gonzalez Canyon trail system to the southeast to the CTC Trail, including potential equestrian access in the future (although the proposed El Camino Real Bridge/Road Widening ~~Replacement~~ Project is not designed to accommodate equestrians). This connectivity would be even more critical into the future as the eastern segments of the regional CTC Trail continue to be developed.

The new trail would be designed according to trail standards outlined in the Park Master Plan and would include interpretative elements such as signage at appropriate places along the trail and split rail fencing consistent with existing trail fencing.

During construction, recreation activities would be restricted in some areas for safety but generally able to continue in areas surrounding the active construction area (see Materials Disposal below for discussion of haul routes and trails). The W-19 site is not currently open to the public and no formal trails traverse the area. Recreational enjoyment of the area, such as trail hiking and nature observation from the trails or Birdwing Open Air Classroom, may be slightly disturbed or altered during the restoration activities as recreationalists in the immediate vicinity (such as along the CTC Trail to the north) would be able to view and hear construction activities. This visual and audible disruption of the area would be temporary and would cease at the end of lagoon restoration activities. While these effects could be considered a temporary nuisance to the recreationalists in the immediate vicinity of the restoration site, the recreational opportunities would remain available throughout construction and would not be lost or permanently impacted.

Thus, lagoon restoration activities would not result in temporary or permanent and major loss of recreational use areas or major conflicts with recreational uses, and the impact would be less than significant (Criterion E).

Materials Disposal

This section provides analysis of land use and recreation impacts that would result from materials disposal, including the use of offroad haul routes.

Unlike the project restoration site, the disposal site is outside of the JPA Park Master Plan and there is no element of the project that would modify the jurisdictional authority or add it to be within the Park Master Plan boundary.

Land Use

City of San Diego General Plan

Use of the site for the disposal of material and revegetation does not conflict with the general designation of Open Space, Parks, and Recreation as it would remain as vegetated open space once the project is complete and does not preclude future development from occurring.

As described for the restoration activities, policies most applicable to the project are generally found within the Land Use and Community Planning Element, Recreation Element, and Conservation Element. The proposed materials disposal would be consistent with the applicable goals and policies of the General Plan related to the maintenance and preservation of open space lands and the protection and enhancement of sensitive ecological and natural resources, including maintaining and preserving scenic views (see Section 5.7 for visual resources analysis), such as those of the Pacific Ocean from El Camino Real. There would be no need for a variance or deviation from the policies of the General Plan and the project would not conflict with the environmental goals, objectives, and recommendations of the plan. **Impacts would be less than significant (Criteria A and B).**

NCFUA Framework Plan

Within the Subarea II Additional Sensitive Lands designation, activities and development within the site are guided primarily by Open Space Guiding Principles. While the disposal site would be disturbed during the placement of material, once complete, the site would be revegetated as coastal sage scrub and would continue to be vegetated open space with no structures or other development. There would be no need for a variance or deviation from the policies of the Framework Plan and materials disposal would not conflict with the environmental goals, objectives, and recommendations of the community plan. **Impacts would be less than significant (Criteria A and B).**

Carmel Valley Community Plan

During disposal activities, the small portion of the disposal site located within the Carmel Valley Community Plan would be disturbed and vegetation removed. However, once materials disposal activities are completed, the disposal site would be revegetated as coastal sage scrub. The site would continue to be open space vegetated with coastal sage scrub. This would be consistent with the Natural Open Space designation of the Carmel Valley Community Plan and would not result in significant physical impacts due to a variance or deviation. **Materials disposal would not conflict with the environmental goals, objectives, and recommendations of the community plan. Impacts would be less than significant (Criteria A and B).**

JPA San Dieguito River Park Concept Plan

The Concept Plan does not specifically address materials disposal as part of the lagoon restoration plan; however, the design of the disposal site would maintain views of the Pacific Ocean to the west and would be consistent with the Special Design Considerations for the Del

Mar Coastal Lagoon Landscape Unit related to the protection of open space views. The Design and Development Standards in the Concept Plan emphasize limited grading and, while a large amount of earthwork would be necessary during placement of the disposal material, the placement would be designed to blend and contour into the existing hillsides and have a natural final appearance. As described in the Design and Development Standards, the exposed soils of the disposal site would be revegetated after material placement to minimize potential for erosion. Also consistent with the standards, revegetation would use native coastal sage scrub vegetation. There are no structures or facilities associated with disposal that would be subject to the specifications of the Design and Development Standards. Thus, the proposed disposal site would be compatible with the policies of the Concept Plan and would not conflict with the environmental goals, objectives, and recommendations of the plan. **Impacts would be less than significant (Criterion B).**

Zoning

The City of San Diego Municipal Code Section 153.0312 states that within in this zone open space preservation is required and limits the future use of open space. The majority of the disposal site has been used previously as a materials disposal location and the addition of material from the W-19 restoration activities to the site would not compromise the open space nature of the site and the land would continue to be undeveloped. After disposal is complete, the site would be revegetated as coastal sage scrub and could continue to be vegetated open space with no structures or other development. Thus, **the use of the disposal site would be consistent with the existing zoning regulations and would not result in significant physical impacts due to a variance or deviation. No impacts would occur (Criteria A and B).**

Environmentally Sensitive Lands

There are steep hillsides (greater than 25 percent slope) designated in various areas immediately south of the disposal site; however, the steep hillsides are outside of the disposal site boundaries and disposal activities would not encroach into the designated sensitive steep hillsides. The disposal site is located outside of special flood hazard areas as designated by FEMA (FEMA 2012) and there are no wetlands or wetland buffer areas associated with the disposal site. There are sensitive biological resources near the disposal site area, such as various scrub habitats. The City would make the final determination whether ESL Regulations apply to the disposal site.

Similar to the project site, the entire disposal site is located within the City's Coastal Overlay designation and would be subject to development restrictions associated with that designation. **The use of the disposal site would be consistent with ESL and Coastal Overlay regulations; thus, a less than significant impact would result (Criteria A and B).**

Coastal Zone

Similar to the W-19 site, the disposal site is under coastal permit authority of the CCC as it is located within the Local Coastal Program Deferred Certification area. The disposal site would remain as open space and be revegetated once disposal activities are complete. As detailed in Section 3.4, materials disposal would raise the elevation of the site, but placement has been

specifically designed to maintain an elevation lower than El Camino Real to avoid blocking westerly ocean views. Disposal activities would be consistent with coastal zone policies and would not result in a deviation or variance that would create a physical impact on the environment. **A less than significant impact would result (Criteria A and B).**

Similar to the restoration project, many of the policies contained in Chapter 3 of the California Coastal Act do not apply to disposal as there would be no development of permanent structures that could affect coastal resources. Like the restoration site, the location of the disposal site on the southeastern edge of San Dieguito Lagoon and east of I-5 is fairly distant and separated from the waterfront and coastal beach areas. The Dust Devil Nature Trail that would be temporarily closed during the week does not provide coastal access. The restoration project would not conflict with public access policies outlined in Article 2 and Article 6 (Section 20252) or recreation policies outlined in Article 3.

Article 5 (Section 30240) specifically addresses environmentally sensitive habitat areas and the protection of such resources. The disposal would disrupt some areas of vegetation as material is placed; however, the area would be revegetated with coastal sage scrub habitat and the sensitive habitat would be restored and expanded throughout the site. Thus, the resulting protection of land resources would be in accordance with requirements of Chapter 3 of the California Coastal Act.

Article 6 (Section 30251) addresses the protection of scenic resources. While landform alteration is necessary as part of materials disposal, the placement has been designed to conform to the abutting hillsides and result in a natural and comparable aesthetic with the surrounding topography. The height of material placed on the site has been designed to be at levels below the sight line from El Camino Real toward the coast and would not block or obstruct views toward to the scenic coastal area. Thus, the **materials disposal would not create substantial conflicts with policies of the California Coastal Act and impacts would be less than significant (Criteria A and B).**

City of San Diego MSCP

The disposal site is not located within the MHPA boundaries; thus, regulatory requirements associated with the City's MSCP Subarea Plan do not apply to the disposal site. Regardless, disposal activities and revegetation of the site would be consistent with the goals and objectives of the MSCP, after restoration of coastal sage scrub habitat. **Disposal would not conflict with the provisions of the City's MSCP or other approved local, regional, or state habitat conservation plan and a less than significant impact would result (Criterion C).**

Surrounding Communities

As described above under W-19 Restoration, San Dieguito Lagoon and the river valley are existing natural elements incorporated into local community planning and development. The disposal of material would not create a new physical division within an established community as a portion of the area has been used previously for the purpose of materials disposal and generally consists of open space that is not formally accessible to the public. The raised topography resulting from the materials disposal would not block views or otherwise divide or

separate the area as the overall openness of the area would be retained. For these reasons, **the materials disposal would not physically divide an established community and there would be no impact (Criterion D).**

Recreation

During materials disposal, there would be temporary disruptions to the existing trail network due to the haul routes used to transport material from the W-19 site to the disposal site. The use of offroad haul routes would avoid the need for construction vehicles to travel on public roadways. To minimize new areas of disturbance, haul routes would utilize existing maintenance roads and trail alignments and, in some locations, parallel or cross over trails. Specifically, this would affect the Dust Devil Nature Trail as shown in Figure 3-8. During construction, a portion of the haul routes would utilize segments of the Dust Devil Nature Trail's northern loop and eastern loop and would also cross over the trail in certain locations. As part of standard construction practices (Table 3-2), the affected trail segments would be closed to public use during weekday construction activities, and simultaneous use of the trail by construction equipment and recreationalists would not occur. Construction is scheduled Monday through Friday, which would allow for safe trail use during the weekend as the trail would be open at this time. Though restricted during the week, the Dust Devil Nature Trail loops would continue to be accessible to the public during weekends throughout the construction period (PDF-5).

Once material has been transported to the disposal site, construction equipment would spread and compact it. While there are no formal trails or public use areas near the disposal site, informal pathways and maintenance roads are used by hikers and are located around the perimeter of the site, particularly the southern, eastern, and northeastern sides. To avoid potential safety hazards due to recreationalists hiking near the disposal site area, the disposal site perimeter would be temporarily fenced to restrict public access and signage would be placed to inform the public of the active construction operations as part of standard construction practices (Table 3-2).

Similar to lagoon restoration, recreational enjoyment may be slightly disturbed or altered during materials disposal operations as recreationalists in the immediate vicinity would be able to view and hear construction activities. This visual and audible disruption of the area would be temporary and would cease at the end of disposal activities. While these effects could be considered a temporary nuisance to the recreationalists in the immediate vicinity of the disposal site, recreational opportunities would remain available throughout construction and would not be lost or permanently impacted.

The CTC Trail or other recreational facilities would not be affected by disposal and the new trail alignment would not be impacted as the new trail would not open until lagoon restoration and disposal operations were complete. Access to other recreational facilities and opportunities within the lagoon are not located near the haul routes or disposal site and would not be affected by disposal.

Because trail access would remain available along the CTC Trail and the Dust Devil Nature Trail would be available during weekend days throughout construction, disposal would not result in

substantial temporary or permanent loss of recreational use areas or major conflicts with recreational uses. **The impact would be less than significant (Criterion E).**

W-19 Wetlands Maintenance

Land Use

Inlet maintenance after large storm events would be required after implementation of the project. Sediment removal would be limited to identified inlet and adaptive maintenance areas that are within the proposed W-19 project footprint (Figure 3-9). The maintenance activities would assist in achieving and maintaining the long-term success of the project and would not change the land use from the enhanced open space wetland. There would be no modification of land outside of the project footprint or any type of activities that could influence surrounding uses. Maintenance within the inlet and interior of the wetlands would generally not be of the nature to conflict with existing land uses or land use planning documents, such as the beach nourishment policies found in the City of Del Mar Community Plan (City of Del Mar 1976). While access to the active construction area on the beach would be temporarily restricted for public safety during material placement, access to surrounding beach areas would remain available and would not conflict with public access policies of the City of Del Mar.

Implementation of the proposed project would require monitoring, maintenance, and adaptive management plans as detailed in Section 3.5. While exact specifications would be determined during final design and permitting, the general activities are similar in nature to those proposed as part of the project, such as biological surveys, material removal from wetlands interior, monitoring of construction activities, and vegetation planting and removal. These activities would all take place within the footprint of the proposed project and would not expand beyond the area analyzed for project implementation. Additionally, these monitoring, maintenance, and adaptive management activities are similar to the actions proposed by the project and are generally not of the nature to conflict with existing land uses or land use planning documents, or require a deviation or variance that could physically impact the environment.

The proposed inlet maintenance and ongoing management activities would be consistent with the applicable goals and policies applicable to the project site related to the maintenance and preservation of open space lands and the protection and enhancement of sensitive ecological and natural resources. There would be no need for a variance or deviation from applicable policies; the project would not conflict with the MSCP or other environmental goals, objectives, and recommendations; and the project would not divide an established community. **There would be no impact (Criteria A, B, C, and D).**

Del Mar LCP and California Coastal Act

The tidally influenced beach areas would be within the retained coastal permit authority of the CCC and all necessary CCC coordination and permit requirements would occur as part of project approval. **Disposal activities would be consistent with LCP policies and a less than significant impact would result (Criteria A and B).**

Several sections of the California Coastal Act focus on shoreline construction, specifically Sections 30235, 30233, and 30706. All of these sections contain an element pertaining to the protection of existing structures and the protection of public beaches in danger of erosion. Section 30233(b) of the California Coastal Act specifies that dredge spoils suitable for beach nourishment should be transported for such purposes to appropriate beaches or into suitable longshore current systems. Similar to the restoration activities, many of the policies contained in Chapter 3 of the California Coastal Act do not apply to maintenance material placement as there would be no development of permanent structures that could affect coastal resources. The placement of material on the beaches would require the temporary restriction of public access to the immediate beach area receiving material, but would not conflict with public access policies outlined in Article 2 and Article 6 (Section 20252), or recreation policies outlined in Article 3 as access to surrounding beach areas would be maintained. Article 6 requires spoils disposal to be planned and carried out to avoid significant disruption of marine and wildlife habitats, and water circulation. As described in Sections 5.3, Coastal Processes and Sediment Delivery, and 5.6, Biological Resources, of this EIR, the marine environment would not be significantly impacted by material placement. Article 5 (Section 30240) specifically addresses environmentally sensitive habitats and parklands and the protection of such resources. The beach placement would not affect sensitive habitat and the scenic areas at the top of the bluffs would not be affected. The material placement would provide additional protection for the sensitive coastal bluffs located the back of the beach along the northern placement site and sandy beach areas would be restored and expanded throughout the placement sites. Thus, the resulting protection of land resources would be in accordance with requirements of Chapter 3 of the California Coastal Act. Article 6 (Section 30251) addresses the protection of scenic resources and the placement of material would not be at an elevation that could block or obstruct views toward to the ocean. **Thus, maintenance would not create substantial conflicts with policies of the California Coastal Act and impacts would be less than significant (Criteria A and B).**

Recreation

The locations identified for material removal would be within the project footprint (Figure 3-9) and in locations not accessible to the public or immediately adjacent to trails. Material removal would not affect recreational uses in or around the lagoon. The haul routes necessary to transport sediment removed during maintenance would, at certain locations, be adjacent to or require crossing the proposed new trail, as shown in Figure 3-10. When construction operations would interfere with safe use of the new trail, that portion of the trail would be closed until construction activities were complete, similar to the requirements listed for initial restoration work in PDF-5. Because trail access would remain available along the CTC Trail and Dust Devil Nature Trail, and the new trail would be available during weekend days, inlet maintenance activities would not result in substantial temporary or permanent loss of recreational use areas or major conflicts with recreational uses. **The impact would be less than significant (Criterion E).**

Material removed during inlet maintenance activities would be placed at beach locations as shown in Figure 3-10. These locations are the same locations used in the ongoing SCE restoration project maintenance and the material placement methods would also be similar. Material placement would require temporary beach closures in the immediate vicinity of the construction activities for safety purposes (PDF-6). Beach access by construction equipment

would be as shown in Figure 3-10. Public access points to the local beaches, outside of the active construction area, would not be restricted (PDF-7, PDF-9). Once completed, the affected beach area would be reopened to the public and have an increased sand volume for recreational beach enjoyment. The temporary closure of a beach area during material placement would not result in a substantial loss of recreational use or conflict as similar beach use is available in the surrounding areas and beach recreation would be enhanced with the material placement. **The impact would be less than significant (Criterion E).**

5.1.4 SIGNIFICANCE OF IMPACTS

No significant impacts to land use or recreation have been identified for the proposed project. Table 5.1-1 summarizes the impact conclusions identified in the Impact Analysis for each threshold of significance.

Table 5.1-1
Summary of Land Use Impact Conclusions

Threshold	W-19 Restoration	Materials Disposal	W-19 Wetlands Maintenance
A. Require a deviation or variance from a regulatory agency and the deviation or variance would in turn result in a physical impact on the environment.	Less than Significant	Less than Significant	Less than Significant
B. Result in a conflict with the environmental goals, objectives and recommendations of the community plan in which it is located.	Less than Significant	Less than Significant	Less than Significant
C. Conflict with the provisions of the City‘s Multiple Species Conservation Program Subarea Plan or other approved local, regional or state habitat conservation plan.	Less than Significant	Less than Significant	No Impact
D. Physically divide an established community.	No Impact	No Impact	No Impact
E. Result in temporary or permanent and critical loss of recreational use areas or conflicts with recreational uses.	Less than Significant	Less than Significant	Less than Significant

5.1.5 MITIGATION MEASURES

No significant land use or recreation impacts were identified for lagoon restoration, materials disposal, or maintenance. No mitigation is required.

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5.2 HYDROLOGY

This section describes existing environmental conditions related to hydrology within the lagoon, within the project area specifically, at the disposal site, and at the beach placement sites. The section also summarizes pertinent policies and regulations, and evaluates the impacts associated with implementation of the proposed project.

Information in this section is largely derived from the modeling performed for the project, compiled in the W-19 Fluvial and Tidal Hydraulic, Sedimentation, Water Quality and Sea Level Rise Modeling Studies (Appendix D), and the El Camino Real Outlet Protection Memo (Moffatt & Nichol 2015).

5.2.1 EXISTING CONDITIONS

Regulatory Setting

A full description of the regulatory setting for this document can be found in Appendix E. The following laws, regulations, policies, and plans are applicable to this resource area:

- Executive Order 11988 – Floodplain Management
- Cobey-Alquist Flood Plain Management Act
- California Fish and Game Code Section 1602
- Construction General Permit
- San Diego Regional Municipal Storm Water Permit
- City of San Diego Flood Mitigation Plan
- City of San Diego Drainage Design Manual
- San Dieguito River Watershed Management Area Water Quality Improvement Plan

San Dieguito Lagoon and San Dieguito River

Groundwater Aquifer Recharge

San Dieguito Lagoon is located within the San Dieguito Valley Groundwater Basin. This basin includes a surface area of approximately 5.6 square miles along the lower portions of the San Dieguito river valley (DWR 2004). The water-bearing materials that form this basin are composed of Quaternary age alluvium, the La Jolla Group, and Santiago Peak Volcanics, as well as Holocene age alluvium. Groundwater is generally unconfined and characterized by exchange with the overlying lagoon (Izbicki 1983). Groundwater quality degrades dramatically to the west in the area of San Dieguito Lagoon. The basin has high sulfate, chloride, and total dissolved solids (TDS) concentrations that cause inferior ratings for domestic and irrigation use for most of the basin (DWR 1967). As such, the water is not suitable for potable reuse.

Based on a groundwater monitoring well study from 2012 to 2013, depths to groundwater ranged from 6.32 to 9.69 feet below ground surface within the W-19 site and the groundwater has high salinity. The approximate groundwater flow direction is toward the west (Geocon 2012). Natural recharge of the alluvial aquifer underlying San Dieguito Lagoon primarily occurs via percolation

of flow in the San Dieguito River, with smaller amounts contributed by percolation of precipitation to the valley floor, underflow beneath Hodges Dam, and underflow through the alluvial sediments (Izbicki 1983).

Drainage/Circulation and Surface Runoff

Historically, San Dieguito Lagoon and its adjoining coastal wetlands occupied much of the western San Dieguito river valley and included a mosaic of vegetated salt and brackish marsh, with associated tidal embayments, sloughs, and mudflats (SFEI 2014). The San Dieguito wetlands have experienced extensive filling and alteration, beginning as early as the late 1800s. Current wetlands consist largely of those restored as part of the SCE restoration project.

Loss of water in the lagoon may occur via evapotranspiration and seepage as well as drainage during low tide. The hydrologic water balance and the circulation dynamics of the lagoon are dependent on the surrounding landform topography and the lagoon bathymetry, as well as conditions that vary seasonally relative to the following:

- Precipitation (watershed drainage and direct rainfall to the lagoon);
- Tidal prism (the total volume of water exchanging between the ocean and lagoon);
- Groundwater level and groundwater/surface flow relationships (e.g., groundwater mounding or springs and seepage);
- Urban dry weather runoff;
- Evaporative water loss due to combinations of temperature, humidity, and wind; and
- Aquatic and wetland plant transpiration water loss.

Several additional modifications have affected circulation within San Dieguito Lagoon. These modifications include infrastructure crossing the lagoon such as the railroad, Highway 101, and I-5 bridges; Jimmy Durante Boulevard Bridge, and El Camino Real Bridge, as well as the existing utility corridor crossing the W-19 site. Bridges typically provide a constriction in flow area, thereby affecting water surface and bed elevations for some distance upstream and downstream, depending on the severity of the constriction. Roadway and railway embankments, and their associated bridge openings, have created finite choke points within the riverine system, forcing both the daily tidal exchange and the more infrequent flood flows through more well-defined corridors, which during flood flows contribute to stream bed degradation at each of these choke points. These constrictions can reduce lagoon circulation, increase water residence times, and degrade water quality in the lagoon.

Residence time (i.e., the average length of time during which water is in a given location) is used as an index of water circulation. Reduced circulation can lead to increased residence times. Long residence times are indicative of stagnant water with poor flushing, while short residence times are indicative of good water circulation and flushing. These hydraulic inefficiencies within San Dieguito Lagoon were addressed as part of the SCE restoration efforts, which have improved drainage patterns, increased circulation, decreased residence times, and improved water quality

throughout the lagoon. Additionally, the SCE restoration efforts changed the flood and ebb velocities post-restoration. Currently, the SCE wetlands have peak flood and ebb velocities that are lower than 2 feet per second (fps) and therefore are not high enough to expel sand from the entrance channel.

To protect the SCE restored wetlands from erosion and sedimentation, the SCE restoration project constructed berms to focus flood flows and sediment along the existing river alignment. The SCE restoration project also included various engineered erosion control measures, including rock slope protection. Overall, the SCE restoration project increased tidal wetland habitat and the tidal prism within the lagoon and wetlands.

San Dieguito Lagoon is fed by two main hydrologic forces; the San Dieguito River (fluvial) and the ocean/tidal inlet (littoral). The San Dieguito River experiences seasonal flows typical of coastal slope drainages in San Diego County. Natural surface flows in the San Dieguito River are dominated by urban and agricultural runoff during the dry season and precipitation during the rainy season. Surface flow increases substantially during wet weather or flood events due to precipitation and stormwater runoff from the San Dieguito watershed into the river and lagoon. Lake Hodges, located approximately 10.5 miles upstream from the coast, traps virtually the entire bed material load (coarse sediment) from upstream sources. Only the San Dieguito River, located downstream of the dam, contributes coarse sediment to the lagoon. Prior to construction of the dams, the main source of sediment load for the San Dieguito River was derived from the highlands. Water release from the dam is controlled by the City of San Diego; however, during large flood events water from Lake Hodges may overtop the spillway, flowing downstream through the San Dieguito River to the coast. Although the dam reduced flows to the lagoon, the increase in impermeable surfaces and irrigation surrounding the lagoon, specifically from surrounding development and urbanization, has elevated overall base flows in the river system. Development within the lower portion of the watershed and floodplain encroachment have constricted channel flow, thereby increasing water depths, flow velocities, and the potential for channel bed scour.

The SCE restoration project included the construction of three berms adjacent to the San Dieguito River to improve river hydraulics and hydraulic capacity through the main channelized section. As a result, there is an existing berm north of the river adjacent to the W-19 site. This berm includes culverts to help balance water levels in existing tidal lagoons and the river channel during flood events.

Existing tidal basins in the lagoon receive water through tidal exchange. Tidal exchange occurs between the basins and the ocean through a dynamic coastal inlet located west of the Del Mar Fairgrounds. Historically, the inlet remained open 34 percent of the time (USFWS and San Dieguito River Park JPA 2000) and closed when the littoral sediment supply overwhelmed the energy of tidal and river currents to keep the river mouth open. As part of the SCE restoration project, the inlet is maintained to remain open to promote continual tidal exchange. Prior to implementation of the SCE project, the City of Del Mar performed inlet maintenance on average every 2.5 years. Since completion of the SCE project in 2011, however, maintenance has only been required once, in 2015. During extreme flood events, sedimentation and erosion can be dramatic (Appendix D) and can move substantial volumes of sediment to the coast and into the

littoral zones. Overall, the tidal hydraulic system is flood dominant and therefore more sediment is transported into the system than expelled over time, leading to inlet closure unless maintained.

Floodplain

The impact of floodplain encroachment (i.e., filling in land that used to flood) is an important consideration related to the location of the Del Mar Fairgrounds' property, the Horse Park, commercial and industrial development along Via de la Valle in the lower northern portion of the floodplain, and residential and other light commercial development along the lower southern margin of the floodplain (USFWS and San Dieguito River Park JPA 2000). The fairground and other floodplain encroachments are subject to flooding in large storm events (35-year event or greater) as they are not elevated enough to be completely removed from flood inundation limits. The existing berms along the bank of the river effectively channelize flows from storm events less than a 35-year event and the natural fluvial processes through this section of the river. Flooding affects most of the low-lying development downstream of El Camino Real, creating potential problems for many low-lying areas, both in terms of flood inundation and riverine scour.

Both the railroad bridge and the Jimmy Durante Boulevard Bridge and their associated abutments cause substantial channel constrictions, and are not capable of passing the 100-year design flood in their existing condition. Under existing conditions, there is potential for erosion at the bridge abutments. The railroad bridge, due to its wood trestle construction, also creates the potential for substantial debris (trees, branches, etc.) loading during flood flows, which could clog the channel conveyance up to the bridge deck and affect water surface profiles upstream of the bridge (USFWS and San Dieguito River Park JPA 2000).

Inundation by Seiche, Tsunami, or Mudflow

The interior of the lagoon and structures along its perimeter are currently protected from high wave energy along the beaches by the relatively narrow inlet channel (San Dieguito River Park JPA 2000). Development has permanently altered historical natural conditions and maintains the river mouth at its present northerly extent, with adjacent residential improvements on the south side of the inlet.

Seiches are oscillations generated in enclosed bodies of water usually as a result of earthquake-related ground shaking. A seiche wave has the potential to overflow the sides of a containing basin to inundate adjacent or downstream areas. Seiches can also occur in conjunction with a tsunami event. There is no historical precedence for large damaging seiches in the San Diego region.

Tsunamis are large ocean waves caused by sudden displacement of water that results from an underwater earthquake, landslide, or volcanic eruption. These tidal phenomena affect low-lying areas along the coastline. Seismic conditions and fault zones within the San Diego region are discussed in Section 5.5, Geology/ Soils. The California Emergency Management Agency (2009) provides detailed maps showing the areas of inundation from tsunamis for the San Diego region that are used to determine whether a project footprint lies within the maximum potential limits of

inundation. The western section of the lagoon is currently mapped within the tsunami inundation area; however, the W-19 site lies east and outside of the tsunami inundation area (California Emergency Management Agency 2009). Therefore, the risk of tsunami is not considered further in this section.

Mudflows are shallow water-saturated landslides that travel rapidly down slopes carrying rocks, brush, and other debris. Mudflows typically occur in areas containing slopes composed of high clay-bearing soils and are often triggered by unusually heavy rains that cause the slopes to fail and mud, water, and debris to flow like a flood.

W-19 Site

Impervious Surfaces

The W-19 site consists primarily of disturbed upland habitat and does not contain impervious surfaces.

Groundwater Aquifer Recharge

The W-19 site is located within the San Dieguito Valley Groundwater Basin and the existing conditions for the W-19 site in relation to the aquifer recharge do not differ from what is described above.

Drainage/Circulation and Surface Runoff

The general topography of the W-19 restoration site consists of flat and gentle sloping land that was historically within the freshwater/brackish wetland area of the lagoon. The site is generally elevated compared to the adjacent river channel, with two small channels extending into the site from the river. Drainage across the site is typically runoff (e.g., storm or irrigation) from offsite locations, including culverts and drainage ditches along El Camino Real. Flows from the Gonzales Canyon watershed, which has a drainage area of 2.5 miles, drain into the W-19 project area via a 24-foot-wide storm drain undercrossing under El Camino Real. High flow velocities sometimes occur under this crossing during high flow storm conditions (Moffatt & Nichol 2015). After entering the site, velocities dissipate and water percolates into the soil or sheet flows across the site.

Floodplain

The surface elevation of the site generally ranges between 5 and 15 feet NGVD. The majority of the study area and surrounding areas are within the mapped FEMA 100-year floodplain. The W-19 site is in the floodplain south of the river and across from the SCE wetlands. It is not inundated or influenced by tidal flows; however, hydraulic modeling showed that with a 10-year frequency flood event, flood water overflows the river banks flooding lower-lying W-19 areas and a 25-year frequency flood event will cover most of the existing W-19 site. The south side of the river is not channelized or hardened.

Inundation by Seiche, Tsunami, or Mudflow

As further discussed in Section 5.5, Geology/Soils, the W-19 site is flat and relatively level terrain.

Materials Disposal

Impervious Surfaces

The disposal site for the proposed W-19 project is partially located in an area used for materials disposal for the SCE restoration project, and contains no impervious surfaces. The DS-36 area continues to be intermittently used by SCE and has had fiber rolls and hydromulch applied to stabilize the soils. ~~and~~ Portions of the DS-36 site ~~is~~are currently unvegetated (Nordby, personal communication, 2016a).

Groundwater Aquifer Recharge

Due to the existing slopes and distance to the aquifer, it is unlikely that percolation is currently able to reach the depths of the aquifer for groundwater recharge.

Drainage/Circulation and Surface Runoff

The disposal site is upslope from the W-19 site and does not contain any channels or open water. During rain events, stormwater flows downslope toward the San Dieguito River and lagoon.

Floodplain

The disposal site is upslope from the W-19 site and is not within the San Dieguito River floodplain.

Inundation by Seiche, Tsunami, or Mudflow

The disposal site ~~is~~ includes areas that are either currently vegetated or recently hydroseeded, or have had fiber rolls or hydromulch applied for soil stabilization, which minimizes the possibility of a mudslide as the roots of the vegetation and surface treatments support soil stabilization.

5.2.2 IMPACT THRESHOLDS

A significant impact would occur if implementation of the proposed project would:

A. Result in substantial increase in impervious surfaces and associated increased runoff;

B. Result in decreased aquifer recharge, because the area available for aquifer recharge is reduced;

C. Cause substantial alteration of the existing drainage pattern of the site or area, (e.g., the SCE restoration project area), including through the alteration of the course of a stream

or river or increase in river flow velocities, in a manner which would result in substantial scour or erosion that causes instability of slopes, river control berms, adjoining roadway embankments, or bridge abutments;

D. Result in substantial increase in the flow rate or amount (volume) of surface runoff in a manner that would result in flooding on- or offsite, causing damage to structures or exposing the public to substantial risk; or

E. Increase risks of damage to coastal structures, including inundation by seiche, tsunami, or mudflow.

5.2.3 IMPACT ANALYSIS

Restoration activities within the lagoon would require the excavation and removal of approximately 1.1 mcy of sediment from the W-19 restoration site. The extent of grading and other ground disturbance within W-19 can be seen in Figure 3-4, Limits of Disturbance. The currently designed side slopes vary from a maximum cut slope ratio of 2:1 (horizontal to vertical) and a maximum fill slope ratio of 3:1. As discussed in Chapter 3, no structures would be built as part of the proposed project, and the proposed trail would be constructed of DG. Construction and post-construction phases of the project have the potential to impact hydrology and are analyzed by threshold below:

W-19 Restoration

The W-19 site is part of the overall lagoon complex. Consequently, changes to the site may be interrelated with the greater lagoon complex. Consequently, this section addresses impacts that could occur to the W-19 site as well as the larger complex.

Impervious Surfaces

The trail and road segments would be surfaced with DG and would not create a change in impervious surfaces. **As a result, there would be no impact associated with an increase in impervious surfaces (Criterion A).**

Groundwater Aquifer Recharge

Hydrologic connectivity between groundwater and the lagoon may increase as a result of the increased wetland area after implementation of the proposed project. **No decreases in area available for recharge would result and no impacts would occur (Criterion B).**

Drainage/Circulation and Surface Runoff

Temporary Impacts

As described in Section 3.4.2, construction activities would be conducted in a phased approach. Throughout the grading component of the project, a small area would remain in place to act as a perimeter dike between the river and the project construction area at the inlet to both the salt

marsh and brackish marsh. The majority of construction would occur adjacent to the river and not within active waterways. Therefore, no water level controls would be required as part of the project. There may be minor grading occurring adjacent to the river when areas are graded down along the north edge of the W-19 site, and when the restored marsh area river connections (both tidal and brackish) are opened during the last phase of construction. Water levels and flow velocities and regimes within the lagoon would not increase relative to existing conditions during construction activities.

Permanent Impacts

Once completed, the proposed project would increase flow through the lagoon, including both peak flood and ebb tidal flows, as a result of change to the river channel and tidal prism (Table 5.2-1). Velocity would be higher in the confined channels under bridge crossings and lower in the wetland areas. Tidal hydrology would remain flood dominant as under existing conditions, with more sediment transported into the system than expelled over time.

Table 5.2-1
Tidal Flow Velocities (fps) Upstream of the Ocean Inlet (Dredged Inlet)

Site Name	Peak Flood Tidal Flow		Peak Ebb Tidal Flow	
	Existing	Proposed	Existing	Proposed
Highway 101	3.60	4.03	-2.99	-3.13
Railroad Bridge	2.18	2.38	-1.65	-1.77
Jimmy Durante Boulevard	1.95	2.24	-1.11	-1.22
I-5 West	0.77	1.24	-0.58	-0.78

Source: Appendix D – W-19 Fluvial and Tidal Hydraulic, Sedimentation, Water Quality and Sea Level Rise Modeling Studies

Tidal exchange at the W-19 restoration site would deliver both water and sand to the W-19 inlets (during flooding tides), and would discharge both water and sand from the entrance channels (during ebbing tides). Over time, shoaling (localized shallowing due to sediment accumulation) within the inlets at W-19 would occur; sediment accumulation would be substantial after severe storm events. Removal of accumulated sediment from the W-19 inlets would be required after large storm events to maintain circulation and create the desired tidal inundation in the wetland basins, as described in Section 3.2. Overall, the dry weather tidal flow velocity would be too low to raise any scour concerns in the W-19 wetlands (Appendix D). Tidal flows during wet weather conditions would be higher than dry weather conditions, as wet weather conditions drive fluvial velocity.

As shown in Table 5.2-2, the implementation of W-19 would have little impact on the entrance velocity of the SCE restoration wetland basins (Appendix D). The proposed project would slightly reduce the tidal range in the SCE restored wetlands, but both peak flood and ebb velocities are lower than 2 fps and therefore are not high enough to measurably change shoaling patterns in the inlets to those wetland areas.

Table 5.2-2
Tidal Flow Velocities (fps) at Entrance to Wetlands (Dredged Ocean Inlet)

Wetland Name	Peak Flood Tidal Flow		Peak Ebb Tidal Flow	
	Existing	Proposed	Existing	Proposed
W-1 (SCE Wetland)	1.91	1.95	-0.91	-0.96
W-4/W-16 (SCE Wetland)	1.39	1.33	-1.03	-0.86
W-19	N/A	0.64	N/A	-0.31

N/A = not applicable
Source: Appendix D – W-19 Fluvial and Tidal Hydraulic, Sedimentation, Water Quality and Sea Level Rise Modeling Studies

The restoration of the W-19 site would expand tidal wetland area and would increase the tidal prism by approximately 30 percent compared to existing conditions. Changing the drainage patterns of the project site would lead to an increased tidal prism within the entire wetland system at San Dieguito Lagoon, which would lead to modified tidal flow velocities at the ocean entrance channel and the SCE restoration site. Water levels would be slightly lower throughout the lagoon, including the SCE wetlands, which is discussed in further detail in Section 5.6, Biological Resources.

Modeling indicates the main river channel currently has the potential to reroute through SCE's W-5/W-10 wetlands and the existing tern nesting island near the restoration site during a major storm, and there is also currently potential for scour within the river along the utility corridor crossing, where existing utilities are at risk of being exposed during high flow conditions (Appendix D). Implementation of the proposed project would not substantially change potential scour of exposure of utilities compared to existing conditions. Specific portions of the W-19 site would be protected with erosion control (i.e., riprap) and vegetated material to stabilize soils and minimize erosion. Riprap would be provided along the southern portion of the utility corridor and at both ends of the brackish marsh berm, as well as at the existing drainage culvert extending under El Camino Real (Moffatt & Nichol 2015). An energy dissipation basin (i.e., riprap) located at the outlet of the storm drain undercrossing would be installed to reduce downstream velocities, which would reduce the risk of downstream scour and erosion to the undercrossing and El Camino Real (Moffatt & Nichol 2015). Flow velocities downstream of the undercrossing would be reduced under the proposed project under all storm events (i.e., 10-, 25-, 50-, and 100-year).

The project would be constructed in compliance with applicable regulations (i.e., Construction General Permit, Municipal Permit) to minimize erosion during construction activities. Specifically, as noted in Table 3-2, Standard Construction Practices, the Construction General Permit would address erosion control through the preparation and implementation of the Storm Water Pollution Prevention Plan (SWPPP). Erosion-control best management practices (BMPs) (e.g., riprap, hydraulic mulch, soil binders, hydroseed) would be identified and implemented by the contractor in compliance with existing regulations to minimize scour and impacts on surface drainage patterns and existing drainage systems.

The slopes created through grading at the site would incorporate proper drainage designs per applicable regulatory requirements to eliminate or minimize increases in discharge flow rate, runoff volume, or erosion potential. Areas of exposed soil, including portions of the site with erosion protection, would be planted with native vegetation, with the exception of subtidal and

unvegetated marsh areas. Post-construction, temporary staging areas would be decompacted, revegetated, and restored to pre-construction conditions.

Although the proposed project would substantially alter the existing drainage pattern of the W-19 restoration site, these changes would not cause substantial scour or erosion, including in SCE restored wetlands. **Impacts would be less than significant (Criterion C).**

Flooding

As part of the proposed project, two berms from 8 to 12 feet above existing ground would be constructed to protect the wetlands from damage due to flooding. The elevation of the top of the berm would be 20 feet NGVD around the salt marsh and 22 feet NGVD along the brackish marsh. Flows into the salt marsh during larger storm events would continue to occur over the southern part of the utility corridor. Flooding of adjacent infrastructure and/or roadways and the potential for exposure of people or property to flooding hazards would not be increased over existing conditions, as the proposed project would reduce flooding elevations in comparison to the existing flood levels (Appendix D). **No increases in flow rate or volume of runoff that would result in flooding onsite or offsite would occur, and there would be no impacts to flood conditions (Criterion D).**

Seiche, tsunami, or mudflow

As stated above, there is no historical precedence for large damaging seiches in the San Diego region. Seiche hazards would not increase over existing conditions because the additional wetland areas added by the proposed project would be relatively small in size and would not add substantial fetch (length of exposed surface) to the lagoon. Mudflow typically occurs as a result of heavy rainfall on a slope that contains loose soil. The terraces in the area where construction activities are proposed to occur are not considered steep and loose slopes that would be susceptible to mudflow. The typical conditions that create geologic hazards from landslides or mudflows, such as slopes or hillsides, do not occur within the W-19 restoration site. Therefore, removal of materials for restoration and ongoing maintenance purposes would not increase slope instability that could cause landslides or mudslides, ground failure, or other adverse geologic hazards. In addition, raised elevations such as berms, utility corridor, and open water flow channel slopes constructed as a part of the proposed project would be designed for safety under multiple conditions, including mudflows. **Increased risks of damage to coastal structures, including inundation by seiche, tsunami, or mudflow, would not result from construction of the proposed project and no impacts would occur (Criterion E).**

Materials Disposal

Impervious Surfaces

Construction work at the disposal site would consist primarily of soil placement, grading, and planting of vegetation. **The proposed project would not increase impervious surfaces; therefore, no impacts would occur (Criterion A).**

Groundwater Aquifer Recharge

Under the proposed project, approximately 1.1 mcy of material would be placed on the disposal site. The disposal site would be designed with a 4:1 ratio along the western, northwestern, northern, and northeastern sides. Due to the height of the slopes and the distance to the aquifer, it is highly unlikely that percolation would be able to reach the depths of the aquifer for groundwater recharge. **Although the design of the site would be different from the existing conditions, the potential for aquifer recharge would be similar to existing conditions and no impacts would occur (Criterion B).**

Drainage/Circulation and Surface Runoff

The slopes of the disposal site have been designed to promote sheet flow runoff to avoid gullying and erosion (PDF-1, PDF-2). Once material has been excavated and disposed of, and grading is complete, slopes would be hydroseeded or planted for erosion control and stabilization purposes (PDF-3), which would also minimize gullying along the slopes. **Although the drainage patterns of the disposal site would change, the change would not be detrimental and would not result in substantial scour or erosion that would cause the instability of slopes; impacts would be less than significant (Criterion C).**

Flooding

Although drainage patterns of the site would change, no changes in flow rates and volumes of surface runoff are anticipated and flooding onsite or offsite would not occur. **Impacts would be less than significant (Criterion D).**

Risk of Seiche, Tsunami, or Mudflow

The location of the disposal site is upland and would not present risks of damage to coastal structures, including inundation by seiche, tsunami, or mudflow. Engineering of the site would ensure appropriate compaction of material to further ensure slope stability and avoid landslides or similar hazards along the slopes. The edges along the western, northwestern, northern, and northeastern sides of the disposal site would slope down to the existing elevation at a 4:1 ratio and the southern side would blend into the existing hillside. The slopes would be properly engineered and designed to be at a gradient that would not be overly steep and lead to slope instability or mudflow. Engineering would also dictate the appropriate compaction of material to further ensure slope stability and avoid landslides or similar hazards along the slopes. **Although the design of the site would change, the risk of inundation by seiche, tsunami, or mudflow would be similar to existing conditions and no impacts would occur (Criterion E).**

W-19 Wetlands Maintenance

Impervious Surfaces

Sediment removal conducted as part of maintenance would not increase impervious surfaces within W-19. Although sediment removed would be placed on the beach, this deposition would not result in impervious surfaces and would disperse over time in the dynamic beach

environment. **Therefore, no impacts associated with an increase in impervious surfaces would occur (Criterion A).**

Groundwater Aquifer Recharge

Removal of sediment deposited in the W-19 restoration site after large storm events would restore hydrologic connectivity between groundwater and the lagoon to post-restoration levels. Placement on the beach would not affect existing aquifers. **Therefore, impacts associated with decreased aquifer recharge would not occur (Criterion B).**

Drainage/Circulation and Surface Runoff

Temporary Impacts

The deposition of substantial amounts of sediment within the project site could result in alteration of the drainage patterns that would be created by the proposed project, and maintenance after severe storm events would be required to restore elevations within the site and help the site function as designed**.** One of the triggers for sediment maintenance activities is maintaining circulation and connectivity between established wetland areas and the river, and maintenance would be required following large storm events as described in Chapter 3. Construction methods for sediment maintenance activities, which could occur within the restored W-19 inlets and/or the interior of the established wetlands, would utilize the same construction methods described for project implementation earlier in this section. While deposited sediment is being removed, a small (approximately 3,000 cy) area of soil would be retained to act as a perimeter dike between the river and the project construction area. Water level controls would not be required as part of the project, and flow regimes and flood elevations within the lagoon would not increase relative to existing conditions during maintenance activities. Open water areas of the lagoon would continue to experience slow velocities, so increased erosion and flow rates would not be anticipated during maintenance activities.

Permanent Impacts

As described above, one of the primary purposes of sediment maintenance following sediment deposition would be the restoration of drainage patterns that existed following restoration. Maintaining the increased level of tidal flow that would result from project implementation is a critical element of facilitating continued wetland function, within both the W-19 site and nearby restoration efforts. Erosion control products (i.e., riprap) and vegetation would be utilized as needed to stabilize soils.

Similar to initial construction activities, wetlands maintenance and other adaptive maintenance efforts would be constructed in compliance with applicable regulations (i.e., Construction General Permit, Municipal Permit) to minimize erosion. Specifically, the Construction General Permit would address erosion control through the implementation of the SWPPP. Erosion-control BMPs (e.g., riprap, hydraulic mulch, soil binders, hydroseed) would be identified and implemented by the contractor in compliance with existing regulations to minimize scour and impacts on surface drainage patterns and existing drainage systems. **Wetlands maintenance would not substantially alter the existing drainage pattern of the site or area (including**

SCE restored wetlands) in a manner that would cause substantial scour or erosion (Criterion C), and impacts would be less than significant.

Flooding

Sediment maintenance would restore elevations in the lagoon to those that existed post-restoration. Therefore, as described in the restoration analysis earlier in this section, flooding elevations would continue to be lower than they are under existing conditions. **Impacts related to flooding conditions would not occur (Criterion D).**

Seiche, tsunami, or mudflow

Construction of the proposed project was not found to result in impacts related to seiche, tsunami, mudflow, or any other cause of damage to coastal structures. Because wetlands maintenance activities would restore the project site to post-restoration conditions, risks of these events would be the same as those analyzed for construction. **Therefore, increased risks of damage to coastal structures, including inundation by seiche, tsunami, or mudflow, would not result from construction of the proposed project and impacts would not occur (Criterion E).**

5.2.4 SIGNIFICANCE OF IMPACTS

Table 5.2-3 below summarizes the impact conclusions for each threshold of significance identified in the Impact Analysis. All impacts associated with hydrology would be less than significant or no impact, as described above.

Table 5.2-3
Summary of Hydrology Impact Conclusions

Threshold	W-19 Restoration	Materials Disposal	W-19 Wetlands Maintenance
A. Result in substantial increase in impervious surfaces and associated increased runoff.	No Impact	No Impact	No Impact
B. Result in decreased aquifer recharge, because the area available for aquifer recharge is reduced.	No Impact	No Impact	No Impact
C. Cause substantial alteration of the existing drainage pattern of the site or area, (e.g., the SCE restoration project area), including through the alteration of the course of a stream or river or increase in river flow velocities, in a manner which would result in substantial scour or erosion that causes instability of slopes, river control berms, adjoining roadway embankments, or bridge abutments.	Less than Significant	Less than Significant	Less than Significant

Threshold	W-19 Restoration	Materials Disposal	W-19 Wetlands Maintenance
D. Result in substantial increase in the flow rate or amount (volume) of surface runoff in a manner that would result in flooding on- or offsite, causing damage to structures or exposing the public to substantial risk.	No Impact	Less than Significant	No Impact
E. Increase risks of damage to coastal structures, including inundation by seiche, tsunami, or mudflow.	No Impact	No Impact	No Impact

5.2.5 MITIGATION MEASURES

No significant hydrology impacts would result from the proposed project and no mitigation measures are required.

5.3 COASTAL PROCESSES AND SEDIMENT DELIVERY

This section discusses sediment movement from two natural process—coastal/ocean (littoral) transport along and at the shoreline, and river (or fluvial) transport to the shoreline. Both processes are complex and vary substantially by season and storm events. Because the proposed W-19 project is hydrologically connected to the San Dieguito River and involves placement of sediment on the beach near the river mouth from periodic maintenance, project impacts must consider interactions with both processes.

This section addresses the proposed project effects on fluvial sediment dynamics within the San Dieguito River, specifically as it relates to changes in sediment delivery from upland to the coast. Changes to coastal river/lagoon inlet dynamics can also affect sand volumes in the littoral zone; therefore, the inlet to San Dieguito Lagoon at the Pacific Ocean is analyzed. Areas identified for materials disposal/reuse during maintenance are also evaluated with respect to their potential effect on littoral processes. The upland disposal site is not addressed in this section since it is not hydraulically connected to the river or lagoon, and does not have the potential to affect, or be affected by, coastal processes.

This section is based largely on modeling information compiled in the W-19 Fluvial and Tidal Hydraulic, Sedimentation, Water Quality and Sea Level Rise Modeling Studies (Appendix D); the San Dieguito Lagoon W-19 Inlet and Ocean Entrance Maintenance Study (Appendix H); and the San Dieguito Lagoon W-19 Restoration Project Revised Coastal Sediment Budget Analysis (Moffatt & Nichol 2016). Other studies include a study of littoral cells and sand budgets in California (Patsch and Griggs 2006). Information from the SCE restoration project is also discussed, as appropriate, because the proposed project would utilize sediment placement sites identified for coastal inlet maintenance in the SCE restoration project.

Section 5.2, Hydrology, and Section 5.4, Water Quality, address circulation, tidal dynamics within the W-19 site, and tidal dynamics within the adjacent restoration areas in the context of hydrology and water quality, respectively. Section 5.4 also addresses water quality within the ocean as it relates to placement of disposal/reuse materials during maintenance.

5.3.1 EXISTING CONDITIONS

Regulatory Setting

A full description of the regulatory setting for this document can be found in Appendix E. The following laws, regulations, policies, and plans are applicable to this resource area:

- Coastal Zone Management Act
- California Coastal Act

Coastal Process Context

Coastal processes describe the movement of water and sand in the beach and nearshore portions of the coast, which are collectively defined as the littoral zone. The amount of sand in the littoral

zone can affect physical conditions on the beach as well as within the nearshore area. Specific coastal processes discussed in this section encompass the San Dieguito River as it extends through San Dieguito Lagoon to the ocean, and the coastal littoral zone, which extends from the shoreline to outside the surf zone.

Shorelines in the Del Mar/Solana Beach area are characterized by typically sandy beaches backed by residences, riprap, and bluffs. Beaches vary in width and sand cover, both seasonally and annually. The nearshore area of the project's littoral zone is characterized by sandy bottom, with reefs located north and south of the lagoon and proposed placement sites.

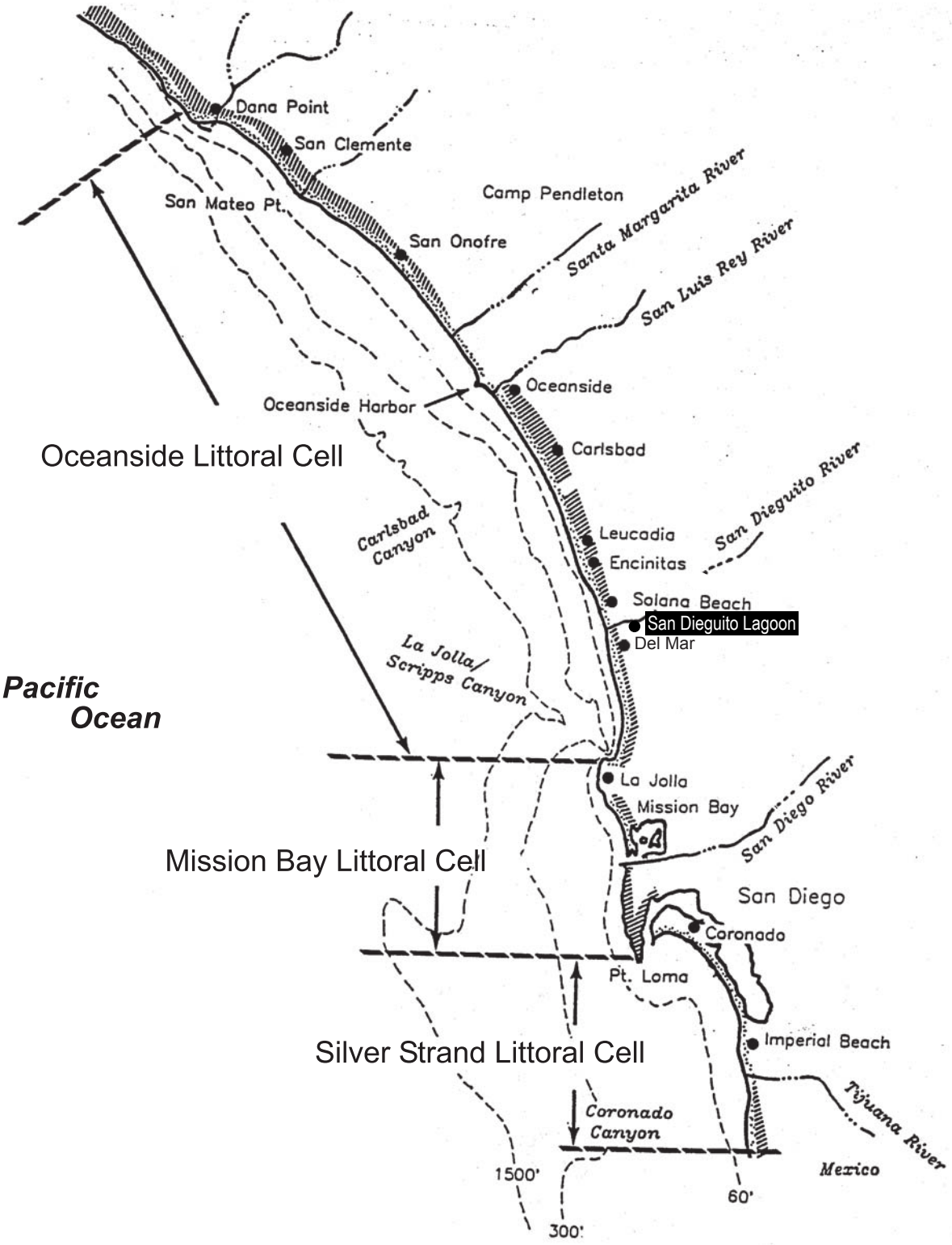
The southern half of the Oceanside littoral cell stretches from Oceanside to La Jolla and includes the shorelines of Oceanside, Carlsbad, Encinitas, Solana Beach, Del Mar, and La Jolla, and encompasses the project study area (Figure 5.3-1, Littoral Cells in the San Diego Region). A littoral cell contains a complete cycle of sedimentation including sources, transport paths, and sinks. Sources can include beaches, rivers, eroding bluffs, artificial nourishment, etc. while sinks can be submarine canyons, storm events conveying sediment to off-shore deepwater areas, inland lagoons, and harbors. Dams and urbanized watersheds have reduced natural sand delivery to the coast by 55 percent within the Oceanside littoral cell (UCSD 2005). The sediment budget within the Oceanside littoral cell is currently in a deficit, estimated at nearly 55,000 cubic yards per year, due to reductions in historical sand sources from rivers and bluff erosion (Patsch and Griggs 2006). A sediment budget deficit means beaches are narrowing because more sand is being lost to sinks than added. Although previous studies conducted on the Oceanside littoral cell indicate that river sources represent only 16 percent of littoral sediments (Young and Ashford 2006), any further reduction from river sources like San Dieguito would contribute to the existing deficit and could negatively affect littoral processes in the project area.

San Dieguito Lagoon Inlet

The San Dieguito River extends through San Dieguito Lagoon and provides both a connection with the ocean for the river to drain and for tidal exchange into the lagoon. Longshore transport of sand within a littoral cell results in a "river of sand" moving parallel to the shoreline. As this "river" crosses lagoon/river mouths that are open to tidal action, the cross-current action of an outgoing or incoming tide deflects material from its parallel movement. This leads to sand bar formation either out into deeper water (ebb bar) or into the lagoon/river itself (flood shoal). Site-specific littoral cell conditions in the vicinity of San Dieguito Lagoon vary seasonally, but sand is generally transported south over time (Patsch and Griggs 2006).

Flood shoals can close lagoon inlets to ocean tides, with adverse impacts to the system. Regular maintenance at lagoon and river inlets minimizes closure/constriction if entrained sand is removed from the inlet and placed on nearby beaches. There it can continue to contribute to sand volumes in the littoral cell (referred to as bypassing sand). Maintenance at lagoon inlets helps to retain tidal exchange and overall function of coastal water bodies.

The San Dieguito River inlet is maintained "open" by SCE as part of their restoration project conditions. The SCE restoration project included construction of a "sand trap" at the river inlet between Camino Del Mar and the railroad. The trap is an excavated depression in the



Source: Moffatt & Nichol Engineers, 2015.

0 10 Miles

Figure 5.3-1
Littoral Cells in the San Diego Region

river bottom, created by the excavation of sand during the initial SCE restoration project construction (Coastal Environments 2010). This helps to collect entrained sand in a known location instead of having it flow farther upstream, and ensures the collected sand is located in a more easily accessible spot for maintenance removal. As the sand trap fills with entrained sand, maintenance is conducted to remove the accumulated sand and place it on the beach either north or south of the inlet (depending on the seasonal current direction). Thus, it is returned to the littoral cell. Modeling for the SCE restoration project predicted a required maintenance cycle of every 2 years to remove an estimated 16,000 cy of material from maintenance areas west of the railroad (Coastal Environments 2010). To date, sand accumulation has been slower than predicted. Since construction of the project in 2011, maintenance has only been conducted in fall 2015, during which 16,000 cy was removed from the sand trap and placed on the permitted beach sites (DS-40, shown in Figure 2-2). These sites have an estimated capacity of 50,000 cy, and are those also identified for use during W-19 maintenance and described in Section 3.4.2. Maintenance conducted in 2015 required approximately 2 to 3 weeks to complete (Appendix H).

San Dieguito River Sediment Transport

Sediment travelling down the San Dieguito River originates from the watershed and is carried to the river in runoff flow during dry weather (e.g., from irrigation) and during storm events. While Lake Hodges Dam currently blocks the majority of sediment flow from upstream of the dam, some sediment is still delivered through the river to the coast and littoral zone, primarily during larger storm events. These larger events have higher water velocities that can scour sediment and keep it entrained in the water flow as it travels down the riverbed. Since much of the sediment delivered through the river occurs during intermittent storm events, it is difficult to obtain actual measured data. Therefore, modeling can be used to predict river behavior, including sediment delivery, in the existing conditions as well as post- project.

Previous modeling was conducted in 2004 as part of the SCE project design process. The one-dimensional model used at that time was comprehensive and appropriate for that planning effort, as the SCE design confined future storm flows and sediment along the existing river. This project included design options that initial modeling showed would result in large flows leaving the main river and creating secondary flow and sediment paths down the river. To model and compare design options with and without secondary flow and sediment paths a two-dimensional model was used to simulate storm, sediment and tidal flows. It identified sediment flow in the river for both baseline and post-project conditions under various flows and storm events. The two-dimensional sediment transport modeling was conducted by the U.S. Army Engineer Research and Development Center. Model methodology and results are discussed in detail in Appendix D.

Model results estimate current sediment delivery through the W-19 site for the existing condition (i.e., before W-19 restoration) to the coastline for a number of storm events, as well as over an assumed 100-year storm series. The assumed 100-year storm series described in Appendix D provides a general context for estimating long-term delivery patterns, including net deficits or increases in sediment delivery through and past the W-19 site. Predictions made for long-term sediment delivery (using the assumed storm series) did not take into account specific storm event maintenance, and therefore sediment delivery volumes for the sum of individual storm (or flood)

events will differ from sediment delivery volumes from the 100-year storm series. Given the uncertainty of the magnitude and timing of future storm events, the 100-year storm series was chosen for consistency with the prior SCE analysis. Existing sediment delivery estimates based on modeling are shown in Table 5.3-1. As expected, more sediment is delivered in a more intense, less frequent, storm event.

Table 5.3-1
Existing Estimated Sediment Delivery through San Dieguito River to the Littoral Zone

Storm Event	Existing Sediment Delivery (kcy)
10-year	25
25-year	142
50-year	321
100-year	407
100-year storm series	990

kcy = thousands of cubic yards

W-19 Maintenance

Beneficial reuse of dredged sediment is a principle put forth by the U.S. Environmental Protection Agency (EPA) and Corps, as well as the CCC. W-19 maintenance proposed as part of the project in Section 3.4.2 (including interior maintenance identified as part of adaptive management discussed in Section 3.5.4) would constitute beneficial reuse pertaining to beach and nearshore nourishment. The potential impacts of placing maintenance material on the beach are described within this section because they have the potential to affect shoreline conditions and littoral processes.

Two sand placement sites are proposed, as shown in Figure 3-10; one each north and south of the San Dieguito River inlet. Both are currently permitted for placement as part of the SCE restoration project maintenance process, although the proposed project would obtain permits for placement of material associated with this specific effort. The beach north of the lagoon inlet, also called Dog Beach, is backed by bluffs with houses on top, while the beach south of the inlet is backed by homes with protective riprap between residences and the beach. The sand width varies depending on the year and season.

5.3.2 IMPACT THRESHOLDS

A significant impact to coastal processes would occur if implementation of the proposed project would:

A. Disrupt the local littoral system due to changes in inlet configuration, tidal prism, maintenance dredging or sand placement for disposal/reuse; or

B. Decrease the amount of river sediments destined for the beach and littoral cell.

The CEQA impact thresholds for coastal processes were derived from a combination of thresholds used in environmental analyses for similar coastal enhancement projects, including the San Elijo Lagoon Restoration Project (SCH No. 2011111013) and SCE's restoration project (SCH No. 98061010).

5.3.3 IMPACT ANALYSIS

W-19 Restoration

San Dieguito Lagoon Inlet

Based on tidal modeling, lowering elevations within the W-19 site to establish wetlands would increase the tidal prism within the lagoon as a whole by approximately 30 percent (Appendix D). An increased tidal prism would increase flushing of sediment from the inlet, but would also increase the amount of sand entrained at the ocean inlet by approximately 25 percent. This anticipated increase would result in an additional 2,100 cy of sand annually trapped near the inlet instead of conveyed to the beach, based on predicted sedimentation rates. As indicated by the less frequent maintenance need observed by SCE, this accumulation rate may vary, but it is provided as a conservative estimate for analysis. **While the anticipated annual amount of entrained sand is modest, given the deficit conditions in the Oceanside littoral cell, a significant impact to coastal processes would result (Criterion A).**

San Dieguito River Sediment Transport

Sediment transport modeling estimated existing sediment delivery through the San Dieguito River within the study area to the coast, as shown above in Table 5.3-1. Predicted changes in sediment delivery with implementation of the proposed project under various storm events are shown in Table 5.3-2 below. As shown, the model generally predicts less sediment will be transported to the coast under post-project conditions, when storm events are 50-year or less. In these scenarios, some sediment would settle at or near the restoration site, but some sediment would settle in other locations along the route. In a larger, 100-year storm event, with higher velocities, more sediment would be transported toward the inlet under post-project conditions.

Table 5.3-2
Changes in Sediment Delivery to the Littoral Zone

Event	Existing Delivery (kcy)	Delivery Post-Restoration (kcy)	Change in Sediment Delivery (kcy)	Anticipated Inlet Maintenance Volumes (kcy)	Anticipated Adaptive Maintenance Volumes (kcy)	Net Change In Sediment Delivery (kcy)
10-yr	25	23	-2	None	None	-2
25-yr	142	127	-15~~25~~	5	None	-10
50-yr	321	312	-9	20	10	+21
100-yr	407	433	+26	15	45	+86

kcy = thousands of cubic yards

The ultimate deficit or surplus delivery that is predicted by the model to occur to the coastline under each scenario is provided in the far right column of Table 5.3-2. This column reflects the net change, post-project, also considering sediment conveyed to the coast via inlet maintenance after a 25-year or greater storm event, as well as maintenance within the interior of the site after greater than a 50-year storm event. Together, these maintenance volumes would reduce the net deficit in sediment delivery to the coastline, as shown below, but would not completely compensate for the decreased sediment delivery to the littoral zone during the 10- and 25-year storm events.

While specific storm event information is helpful to understand the dynamics of sediment delivery, it is critical to note reductions in sediment being carried down the river do not occur uniformly over the 100 years, but episodically based on the magnitude of various storm events. To estimate the long-term net loss of river sediment delivery to the coast, the 100-year storm series can be used. Over the assumed storm series used for the fluvial hydraulic modeling performed by the Corps, a 75,000 cy net reduction in sediment volume reaching the Jimmy Durante Boulevard Bridge was predicted as the result of the proposed project. Maintenance over that time is anticipated to total approximately 45,000 cy, including both inlet and adaptive maintenance volumes (Appendix H), resulting in a net reduction to sediment delivery to the coast totaling approximately 30,000 cy over the 100-year storm series. Because the littoral cell is already in a deficit of sand, any decrease is considered significant. **Post-restoration, river sediments supplies destined for the beach and littoral cell would therefore decrease, and a significant impact would result (Criterion B).**

Materials Disposal

The disposal site would accommodate material excavated from the W-19 site during project implementation, but is located in an upland portion of the San Dieguito Lagoon complex east of I-5. **Materials placement at the disposal site would not have the potential to affect coastal processes through changes to littoral transport patterns or fluvial sediment delivery in the area; therefore, no impact would occur (Criteria A and B).**

W-19 Wetlands Maintenance

Modeling by the Corps, which compared sediment displacement under existing conditions and with the proposed project, concluded that the proposed project does not create the need for additional maintenance downstream, as discussed in Attachment B of Appendix D. The Corps modeling found bed displacement during storm events shows similar patterns within the W4/W16 and W5/W10 wetlands under both existing conditions and with the proposed project for most storm events. With a 25-year storm event, modeling predicts that the proposed project may actually reduce effects to the W5/W10 wetlands. Under existing conditions, the 25-year storm event bed displacement shows the river channel would shift through the W5/W10 wetlands (Figure 9-8 in Attachment B of Appendix D). With the proposed project, the anticipated 25-year storm event bed displacement shows no channel shift through the W5/W10 wetlands, which would leave it intact (Figure 9-15 in Attachment B of Appendix D). With or without the proposed project, the river channel would shift to flow through the W5/W10 wetlands with the occurrence of 50-year or larger storm events. The modeling does not predict increased sedimentation within

the SCE wetland areas under the various storm event scenarios, therefore additional maintenance related to the SCE wetlands is not anticipated.

As discussed above and quantified in Table 5.3-2 (also see Sections 3.43.2 and 3.54.4), the maintenance of the W-19 wetlands would involve periodically removing accumulated sediment after severe storm events to maintain tidal exchange, circulation, and habitat distribution and avoid the development of public health hazards (e.g., vector breeding areas). Sediment removed from the site would be transported to the coast and placed on the same beach sites used for the SCE restoration project. Material placed within these sites would then be allowed to disperse through the littoral zone and would partially offset sand losses due to the project within the Oceanside littoral cell. **Effects within the littoral cell due to W-19 wetlands maintenance would be beneficial to the littoral zone and impacts would be less than significant (Criterion A). Material placement as part of maintenance would offset decreased delivery of sand to the littoral zone resulting from the project, and no impacts would occur (Criterion B).**

5.3.4 SIGNIFICANCE OF IMPACTS

Significant impacts to coastal processes and sediment delivery have been identified for the proposed project for both littoral (flood shoal entrainment at the inlet) and fluvial (reduced river sediment conveyed to the ocean) sediment. Table 5.3-3 summarizes the impact conclusions identified in the Impact Analysis for each threshold of significance.

Table 5.3-3
Summary of Coastal Processes and Sediment Delivery Impact Conclusions

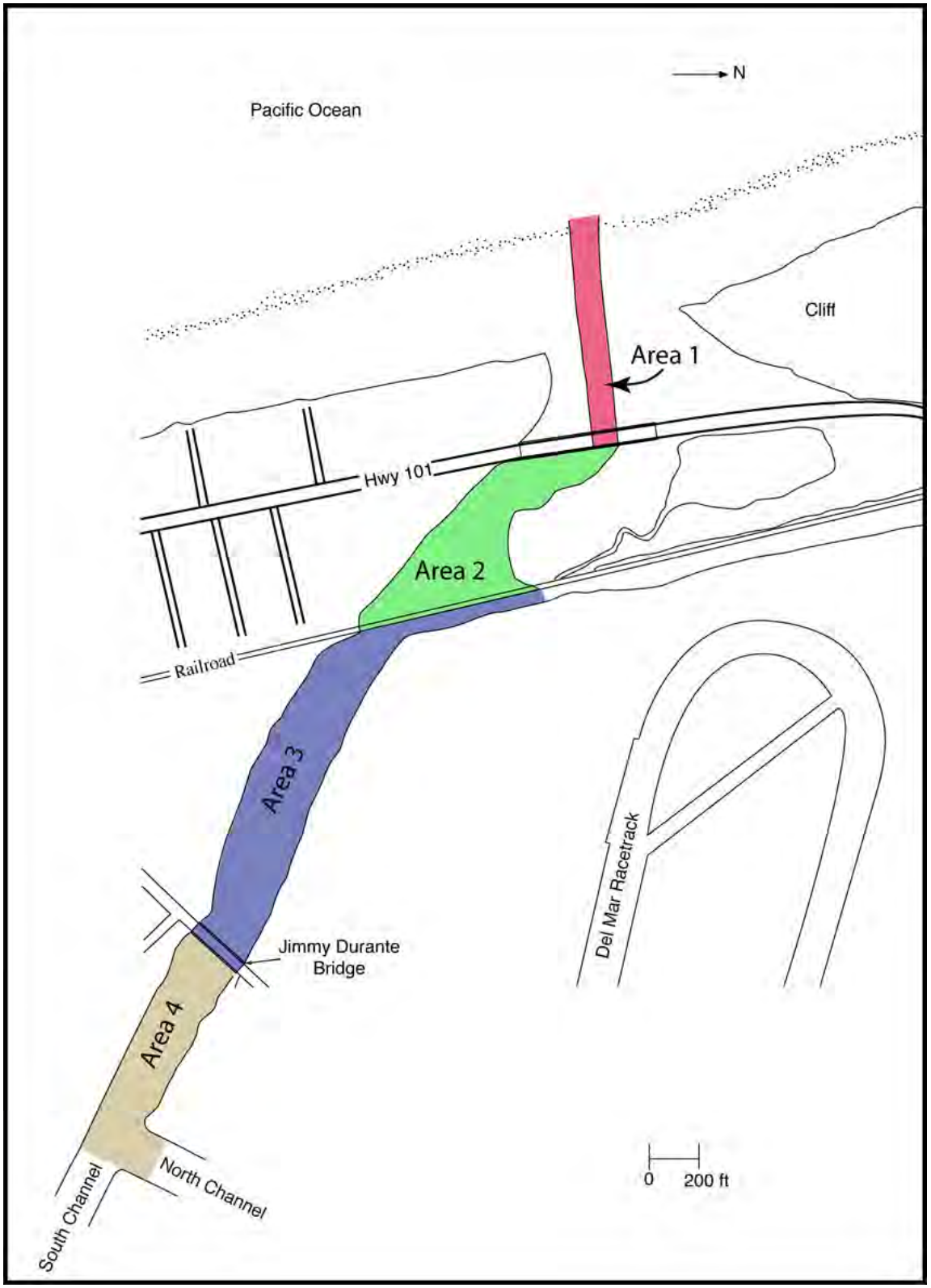
Threshold	W-19 Restoration	Materials Disposal	W-19 Maintenance
A. Disrupt the local littoral system due to changes in inlet configuration, tidal prism, maintenance dredging or sand placement for disposal/reuse.	Significant	No Impact	Less than Significant
B. Decrease the amount of river sediments destined for the beach and littoral cell.	Significant	No Impact	No Impact

5.3.5 MITIGATION MEASURES

Mitigation Measures Coastal Processes-1 and 2 would be required to address the significant impacts associated with the predicted reduction in the local littoral sand volumes due to the proposed project (Criteria A and B). With implementation of mitigation, significant impacts would be reduced to less than significant.

Coastal Processes-1

To mitigate for the loss of sand from the coastal sediment budget due to increased entrainment of material in the San Dieguito River inlet, the proposed project will deepen the sand trap created and maintained by SCE in the river channel bottom. The sand trap will be deepened between Camino Del Mar and the railroad within Area 2 of the designated dredge area for SCE, as shown in Figure 5.3-2, SCE Inlet Maintenance Areas. The approximate boundaries of the existing sand



Source: Coastal Environments CE Reference No. 10-07

100 0 200

Figure 5.3-2
SCE Inlet Maintenance Areas

trap and proposed area for deepening are shown in Figure 5.3-3, Coastal Processes-1 – Sand Trap Deepening. The deeper sand trap will capture the additional sand entrained in the river mouth as a result of the proposed project.

The existing sand trap will be deepened to increase its capacity to capture the additional entrained sediment due to the project over a predicted maintenance cycle of 2 years (4,200 cy). This sand, if not captured in the sand trap downstream of the railroad, would effectively be lost from the coastal sediment budget. The existing sand trap will be deepened approximately 2 feet over the proposed area. Approximately 4,200 cy of material will be removed from the river channel to create the initial deepened sand trap, and this material will be placed on the beach. Excavation will utilize land-based equipment (e.g., two scrapers with 25+ cy capacity, excavator, pump) and require approximately 5 days to construct initially. After construction, it is anticipated that maintenance would occur concurrent with inlet maintenance performed by SCE and would require 2 additional days beyond the SCE maintenance.

Material removed from the channel during both initial creation of the sand trap and maintenance activities is anticipated to be suitable for placement on the beach (Ellis, personal communication, 2015) and will be transported to beach placement sites by scrapers or large off-road trucks and spread along the shore using bulldozers. Similar to W-19 wetlands maintenance placement, beach placement sites identified as part of the SCE inlet maintenance will be used (Figure 3-10), and placement would occur north or south of the inlet depending on the dominant direction of sand transport (which varies seasonally). The capacity of the beach receiver sites is relatively large (approximately 50,000 cy) and is greater than the sand quantity that can be generated by maintenance. Either site can accommodate the initial 4,200 cy required as part of sand trap creation as well as future sand captured by the sand trap. Capturing and bypassing the additional sand entrained in the inlet due to project implementation would mitigate long-term loss of sand in the littoral cell.

Coastal Processes-2

As modeled, there would be a net reduction in sediment delivery through the San Dieguito River to the coast and littoral zone of approximately 30,000 cy over the long term. To mitigate for the loss of sand from the coastal sediment budget due to the predicted net fluvial reduction, the W-19 project will implement a beach nourishment program within the vicinity of the river inlet. The program will utilize the same placement sites as those used for W-19 wetlands maintenance (also the SCE permitted placement sites) and will:

- Place 5,000 cy of imported beach-quality sand on the material placement sites within 1 year of the completion of the construction of W-19; and
- Place an additional 5,000 cy of imported beach-quality sand on the material placement sites once every 10 years until a total of 30,000 cy of imported sand is placed over an anticipated 50 years.

A total of six placement events would occur and may extend slightly past the 50 years depending on frequency of placement. Potential sand sources vary and could include upland quarries as well as opportunistic reuse of material generated from construction excavation or other regional

Source: Dokken Engineering 2016

Not to Scale

Figure 5.3-3
Coastal Processes -1
Sand Trap Deepening

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wetland/river dredging. Examples of these types of sources are currently used throughout the county (e.g., City of Encinitas). The initial sand placement could include sand removed from the sand trap as part of the implementation of Mitigation Measure Coastal Processes-1.

A variety of potential mitigation options were considered to compensate for the predicted loss of fluvial sand within the littoral cell with the fewest potential impacts. These options considered the feasibility of nourishing the beaches adjacent to the lagoon inlet in advance of project implementation, and varying volumes and frequencies of sand nourishment.

While mitigation through deepening the sand trap maintained by SCE and providing intermittent nourishment on the beaches would be feasible and would eliminate significant impacts to coastal processes, these mitigation measures would result in additional significant impacts to traffic and noise. The potential of mitigation to result in impacts to other resource areas was considered, as summarized in Table 5.3-4. Only those resources with potential effects were considered.

Table 5.3-4
Summary of Impacts due to Mitigation Measures
Coastal Processes-1 and Coastal Processes-2

Resource Area	Coastal Processes-1 Impact Evaluation	Coastal Processes-2 Impact Evaluation	Significance Conclusion
Land Use and Recreation	No land use conversion would occur as a result of mitigation. Sand trap excavation and sand placement on area beaches would temporarily affect recreational access in areas of active construction, but restrictions would be temporary (on the order of 1 week or less) and adjacent beaches would remain available to the public. Impacts would be less than significant.	No land use conversion would occur as a result of sand placement on area beaches. Recreational access in areas of active construction would be temporarily affected, but restrictions would be short term (on the order of 2 weeks) and adjacent beaches would remain available to the public. Beach placement activities would be coordinated with the City of Del Mar to minimize impacts to recreation and special events. Impacts would be less than significant.	Less than Significant
Hydrology	Sand trap excavation and maintenance within the river channel would not substantially change the hydrology of the river channel near the inlet. Placement of material on the beach sites would temporarily add beach width, but no substantial differences in currents would occur due to that placement. Material would disperse throughout the littoral zone over time and no changes to hydrology in the vicinity of the lagoon or placement sites would occur. Impacts would be less than significant.	Placement of material on the beach sites would add beach width after each placement event, but no substantial differences in currents would occur due to that placement. Material would disperse throughout the littoral zone over time and no changes to hydrology in the vicinity of the lagoon or placement sites would occur. Impacts would be less than significant.	Less than Significant
Coastal Processes	Sand trap excavation and placement of material on the beach as part of sand trap maintenance would eliminate the net loss in sand volumes within the littoral cell resulting from increased entrainment at the inlet.	Placement of material on the beach as part of beach nourishment would eliminate the long-term, net loss in sand volumes within the littoral cell resulting from reduced fluvial sediment delivery.	Not Applicable

Resource Area	Coastal Processes-1 Impact Evaluation	Coastal Processes-2 Impact Evaluation	Significance Conclusion
Water Quality	Sand trap excavation and placement of sand on the beach could result in temporary turbidity as sediment is suspended in the water column due to removal or wave action. Turbidity would be temporary and anticipated to dissipate quickly since beach-suitable material would be composed of relatively large-grained material that would settle out of the water column rapidly. Impacts would be less than significant.	Placement of sand on the beach could result in temporary turbidity as sediment is suspended in the water column due to wave action. Turbidity would be temporary and anticipated to dissipate quickly since beach-suitable material would be composed of relatively large-grained material that would settle out of the water column rapidly. Impacts would be less than significant.	Less than Significant
Geology/Soils	Excavation of sand as part of sand trap deepening and maintenance would include removal of littoral material and would not affect underlying parent material. Placement of sand on area beaches would not require excavation. No impacts would occur.	Placement of sand on area beaches would not require excavation; and sand would be provided by others as a source material for the proposed project. No impacts would occur.	No Impact
Biological 1Resources	Sand excavated from the sand trap deepening would be material recently deposited in the channel bottom, which represents a relatively dynamic environment with primarily highly mobile species. While sand placement on beaches may have temporary impacts to invertebrates on the beach, these organisms typically have a rapid recovery rate and would be able to naturally recruit from adjacent sand areas. Temporary impacts to bird species foraging in the area may also occur, but these temporary impacts would occur outside of the breeding season to the extent possible, or would be limited to areas substantially impacted by sediment and no longer supporting suitable habitat. Birds would be mobile, and adjacent foraging areas would remain available. Nearshore sensitive resources are not located adjacent to the placement sites and would not be substantially affected by sand placement. Impacts would be less than significant.	Sand placement on beaches may have temporary impacts to invertebrates on the beach, but these organisms typically have a rapid recovery rate and would be able to naturally recruit from adjacent sand areas. As described in PDF-28, placement would not occur during grunion runs and/or coordination with CDFW would be required, so impacts to grunion would not occur. Temporary impacts to bird species foraging in the area may also occur, but these temporary impacts would occur outside of the breeding season to the extent possible, or would be limited to areas substantially impacted by sediment and no longer supporting suitable habitat. Birds would be mobile, and adjacent foraging areas would remain available. Nearshore sensitive resources are not located adjacent to the placement sites and would not be substantially affected by sand placement. Impacts would be less than significant.	Less than Significant
Traffic, Access, and Circulation	Excavation of the deepened sand trap and resultant material placement would not require transportation on roads, as material would be removed from the inlet and immediately placed on the adjacent beach. Impacts related to traffic, access, and circulation would not occur. Impacts would be less than significant.	Material placement would require transportation on neighborhood roads to access the placement sites, as discussed for W-19 wetlands maintenance. Congestion on local roadways currently at capacity would increase temporarily as material is transported to the beach, and impacts related to traffic, access, and circulation would occur. This would be	CP-1 Less than Significant CP-2 Significant and Unmitigable

Resource Area	Coastal Processes-1 Impact Evaluation	Coastal Processes-2 Impact Evaluation	Significance Conclusion
		a significant impact. The discussion in Section 5.8.5 regarding feasible mitigation measure to reduce impacts associated with maintenance would be applicable to the transport of material to the beach for placement to reduce fluvial sediment delivery. No feasible mitigation measures have been identified and the impact would remain significant and unmitigable.	
Air Quality	Emissions would be generated by off-road construction equipment and worker trips. The Air Quality Technical Study (Appendix M) describes estimated criteria pollutant emissions associated with implementation of the mitigation measure. These calculations show that the maximum daily and annual emissions would not exceed the recommended impact thresholds. Impacts would be less than significant.	In addition to the use of off-road equipment consistent with CP-1, material placement for CP-2 would require the use of haul trucks for transport to the beach. The calculations in the Air Quality Technical Study (Appendix M) show that the maximum daily and annual emissions would not exceed the recommended impact thresholds. Impacts would be less than significant.	Less than Significant
Noise	Construction and excavation of the deepened sand trap would utilize land-based equipment, such as scrapers, excavators, and pumps. Activities are anticipated to occur during the weekday hours of 7 a.m. to 7 p.m., consistent with the noise ordinances of the City of Del Mar. Construction noise during sand trap excavation and placement of the material on the beach sites would exceed City of Del Mar noise ordinance limits for construction noise and would cause a temporary increase of greater than 10 dBA L_{eq} over ambient conditions at residential receptors located immediately south of the river inlet and at beach front residences along the southern placement site, as described in Section 5.10. This would be a significant noise impact. Mitigation Measures Noise-2, Noise-3, and Noise-4 as required in Section 5.10 would be applicable to the sand trap excavation, maintenance, and beach placement. However, implementation of these mitigation measures would not reduce the noise impact to below a level of significance. The noise impact would remain significant and unmitigable.	Placement of material on the beach sites could temporarily exceed City of Del Mar noise ordinance limits for construction noise and would cause an increase of greater than 10 dBA L_{eq} over ambient conditions at residences adjacent to the southern placement site. This would be a significant noise impact. Mitigation Measures Noise-2, Noise-3, and Noise-4 as required in Section 5.10 would be applicable to the beach nourishment associated with addressing reduced fluvial sediment delivery. However, implementation of these mitigation measures would not reduce the noise impact to below a level of significance. The noise impact would remain significant and unmitigable. The increase in traffic volume on area roadways to access the beach placement sites would not cause substantial noise increases in the ambient noise environment and would not exceed the 12-hour 75 dBA L_{eq} threshold of the City of San Diego or the 1-hour 75 dBA L_{eq} threshold of the City of Del Mar. Noise associated with haul trips on local roads would be a	Significant and Unmitigable

Resource Area	Coastal Processes-1 Impact Evaluation	Coastal Processes-2 Impact Evaluation	Significance Conclusion
	Measurement details and noise level modeling information for the sand trap excavation are provided in the Noise Technical Report, Appendix I. The noise information specific to beach placement is the same as the analysis provided in Section 5.10 and detailed in the Noise Technical Report for placement of material on local beaches related to project maintenance.	less than significant impact. The noise information specific to beach placement is the same as that provided in Section 5.10 for placement of material on local beaches related to project maintenance and detailed in the Noise Technical Report, Appendix I. The consideration of potential roadway noise resulting from haul trips is based on the traffic noise analysis associated with haul trips related to maintenance, as provided in Section 5.10.	
Cultural Resources	Sand excavated from the deepened sand trap would be deposited in the channel bottom after transport throughout the littoral system. Therefore, intact cultural resources would not occur within this transported and deposited sediment. Placement of sand on area beaches would not require excavation so there is no risk of disturbing previously undiscovered resources. No impacts would occur.	Placement of sand on area beaches would not require excavation so there is no risk of disturbing previously undiscovered resources. No impact would occur.	No Impact
Paleontological Resources	Sand excavated from the sand trap would be recently deposited material from the littoral system. This material does not have a moderate or high sensitivity related to paleontological resources. No impacts would occur.	Sand placed on the beach would not represent intact formations with moderate or high sensitivity related to paleontological resources. No impacts would occur.	No Impact
Public Safety and Hazardous Materials	Sand trap construction and maintenance would expand upon activities already being conducted as part of the SCE restoration project. Impacts related to increases in fire risk, risk to evacuation routes, hazardous materials, or vectors would not occur. While material placement could temporarily present a potentially dangerous situation from the presence of construction equipment on the beach, the implementation of standard construction measures and PDFs would prevent impacts related to public safety and hazardous materials. Impacts would be less than significant.	Material placement could temporarily present a potentially dangerous situation from the presence of construction equipment on the beach; however, the implementation of standard construction measures and PDFs would prevent impacts related to public safety and hazardous materials. Impacts would be less than significant.	Less than Significant
Greenhouse Gas Emissions	The methodology for the air quality analysis was also used to estimate GHG emissions. As shown in the Air Quality Technical Study (Appendix M), equipment activities associated with CP-1 would not exceed the threshold of 900 MT CO_2e per year. Impacts would be less than significant.	Equipment activities and on-road vehicle transport associated with CP-2 would not exceed the threshold of 900 MT CO_2e per year. Impacts would be less than significant.	Less than Significant

5.4 WATER QUALITY

This section is based primarily on information from project modeling compiled in the W-19 Fluvial and Tidal Hydraulic, Sedimentation, Water Quality and Sea Level Rise Modeling Studies (Appendix D). Other studies include El Camino Real Roadside Drainage Study (Moffatt & Nichol 2015).

5.4.1 EXISTING CONDITIONS

Regulatory Setting

A full description of the regulatory setting for this document can be found in Appendix E. The following laws, regulations, policies, and plans are applicable to this resource area:

- 1972 Clean Water Act (CWA)
- Federal Antidegradation Policy
- California Ocean Plan
- Construction General Permit
- Porter-Cologne Water Quality Control Act
- State Antidegradation Policy
- San Dieguito River Watershed Management Area Water Quality Improvement Plan
- San Diego Municipal Storm Water Permit
- San Diego Regional Water Quality Control Board (RWQCB) Basin Plan

Certain actions related to water quality would be required by regulatory agencies prior to project initiation. The project would be required to implement PDFs and construction and post-construction BMPs to address water-related impacts, as identified in Table 3-2. Prior to implementation, it must comply with the Construction General Permit, Order 2009-0009-DWQ (as amended by Orders 2010-0014-DWQ and 2012-0006-DWQ). As a standard construction practice, and in compliance with the Construction General Permit, a project SWPPP would be prepared before beginning project construction activities to identify BMPs that would be used to minimize pollutant discharges.

San Dieguito Lagoon

The W-19 restoration site was historically part of the freshwater/brackish marsh wetland area of San Dieguito Lagoon, which decreased in size over time as development and agricultural uses encroached on historical wetland areas. The SCE restoration project has restored parts of the lagoon and is responsible for maintaining an open lagoon inlet, allowing for continuous tidal exchange within the lagoon. The W-19 restoration site is adjacent to the restored SCE wetlands and San Dieguito River channel, but is currently elevated compared to adjacent areas with only very small channels extending off the river into the site. Therefore, the existing conditions discussion for the W-19 site is only applicable to groundwater, while surface water existing conditions discussion applies to the ocean and river.

Dissolved Oxygen

Fluctuations in dissolved oxygen (DO) are typical in lagoon and estuary systems, and result from various environmental factors such as impoundment, circulation and aeration, temperature, plant respiration, decomposition of organic matter, and stratification of the water column. Low DO concentrations are caused from one or more of the following factors: low insolation (solar radiation) that reduces oxygen production, increased freshwater inflow and impeded circulation that prevents turnover and ventilation of bottom waters, and poor bottom water ventilation due to stratification (MACTEC 2009).

According to the Basin Plan, DO levels should not be less than 5.0 milligrams per liter (mg/L). Previous measurements within the lagoon have reported average monthly DO concentrations within San Dieguito Lagoon ranging from 0 to 17.9 mg/L (Schroeter, personal communication, 2015). Overall, average DO was lower at the CDFW tidal basin location and higher at W-1 (tidal basin). Measurements were most consistent at W-1, averaging 7 mg/L from 2013 to 2015.

Groundwater DO levels ranged from non-detect to 7.3 mg/L at GW-1, from non-detect to 4.5 mg/L at GW-2, and from non-detect to 5.1 mg/L at GW-3 (Geocon 2012). There is no threshold for DO levels in groundwater.

Nutrients

Excessive concentrations of nutrients, such as nitrogen and phosphorus, can lead to algal blooms that in turn promote eutrophication and hypoxia (depressed DO) that can stress aquatic organisms and cause unpleasant odors. Nutrient levels affect the DO levels in the water column, which are an important parameter for sustaining aquatic life. High nutrient levels can cause algae growth; algae can affect DO by releasing oxygen during the day, and by respiring and pulling DO out of the water column at night, thus lowering DO levels. Excessive growth of algae is also a sign of poor circulation and potentially compromised water quality for organisms. San Diego Coastkeeper measurements from 2013 to 2016 found that the majority of measured nutrient levels within the lagoon fell below Coastkeeper thresholds, although infrequent exceedances have occurred.

Coliform Bacteria

The San Dieguito River is listed as impaired on the CWA Section 303(d) list (SWRCB 2015) for indicator bacteria (fecal coliform and *Enterococcus*). San Diego Coastkeeper (2016) measured *Enterococcus*, *E. coli*, and total coliform concentrations from the San Dieguito River location upstream of the W-19 restoration site from 2013 to 2015. The majority of measurements fell below Coastkeeper and Basin Plan thresholds, although severe exceedances were noted occasionally, particularly during the winter months.

Sedimentation

Sediment can degrade water quality if present in sufficient concentrations. Land disturbance, such as construction and agriculture, can lead to high sediment levels entering water bodies

through stormwater runoff. Areas prone to high bank erosion rates as well as urbanized areas also contribute large amounts of turbidity to nearby waters, through stormwater pollution. Sedimentation and erosion within the estuary can be dramatic during extreme river flood events.

San Diego Coastkeeper (2016) indicated variable turbidity levels during the 2013 to 2016 monitoring period, and the majority of measurements were below the threshold used by San Diego Coastkeeper.

Circulation

San Dieguito Lagoon may experience a loss of water via evapotranspiration and seepage, as well as drainage during low tide. The hydrologic water balance and the circulation dynamics of the lagoon are dependent on the surrounding landform topography and the lagoon bathymetry, as well as conditions that vary seasonally relative to the following:

- Precipitation (watershed drainage and direct rainfall to the lagoon);
- Tidal prism (the total volume of water exchanging between the ocean and lagoon);
- Groundwater level and groundwater/surface flow relationships (e.g., groundwater mounding or springs and seepage);
- Urban dry weather runoff;
- Evaporative water loss due to combinations of temperature, humidity, and wind; and
- Aquatic and wetland plant transpiration water loss.

Several road and rail infrastructure projects, as described in Section 5.2, Hydrology, have affected circulation within San Dieguito Lagoon. These constrictions can reduce lagoon circulation, increase water residence times, and degrade water quality in the lagoon. Residence time (i.e., the average length of time during which water is in a given location) is used as an index of water circulation. Reduced circulation can lead to increased residence times. Long residence times are indicative of stagnant water with poor flushing, while short residence times are indicative of good water circulation and flushing. These hydraulic inefficiencies within San Dieguito Lagoon were addressed as part of the SCE restoration efforts and that restoration has improved drainage patterns, increased circulation, decreased residence times, and improved water quality throughout the lagoon. Additionally, the SCE restoration efforts changed the flood and ebb velocities post-restoration. Currently, the SCE wetlands have peak flood and ebb velocities that are lower than 2 fps and therefore are not high enough to expel sand from the entrance channel. SCE periodically uses equipment to remove entrained sand at the inlet and keep the lagoon “open” to tidal flushing.

Materials Disposal

Material removed from the W-19 site during restoration would be transported for placement on the disposal site shown in Figure 3-5, Limits of Disturbance – Disposal Site. The disposal site is located on an upland slope south of the W-19 site and does not have features that would harbor

groundwater. The site is sloped to promote stormwater runoff and is mostly vegetated with some areas of bare ground. There is a potential for turbidity in stormwater runoff; however, no evidence of erosion currently exists.

5.4.2 IMPACT THRESHOLDS

A significant impact would occur if implementation of the proposed project would:

A. Result in a violation of water quality standards or waste discharge requirements or degradation of beneficial uses in adjacent water bodies;

B. Substantially degrade water quality in adjacent restoration projects by increasing sedimentation, leading to a violation or degradation of water quality standards or beneficial uses; or generate pollutions in violation of such standards; or

C. Alter circulation patterns in adjacent restoration projects in a way that inhibits mixing or promotes stagnation.

CEQA impact thresholds for water quality are derived from those used in SCE's San Dieguito Lagoon Restoration Project (SCH No. 98061010) and Buena Vista Lagoon Enhancement Project (SCH No. 201304179). City thresholds do not specifically address water quality issues unique to coastal restoration.

5.4.3 IMPACT ANALYSIS

W-19 Restoration

Water Quality Standards and Beneficial Uses

Construction activities could have the potential to impact lagoon water quality and beneficial uses through the release of construction-related pollutants such as sediment, oil and grease, and trash and debris, etc. to surface waters. Any type of soil disturbance would expose soil to erosion from wind and water that could also result in sedimentation to receiving surface waters. Pollutants such as excessive nutrients, metals, and pesticides that become entrained within the water column as a result of sedimentation could increase the potential for eutrophic conditions to develop within the lagoon.

As a standard construction practice (Table 3-2), the project would be required to comply with applicable water quality regulations (e.g., Municipal Permit, Construction General Permit) to minimize pollutant transport during construction activities. A project SWPPP would be required and would identify BMPs that would be used to protect water quality, minimize erosion and pollutant discharge, and avoid sediment transport during construction. In addition, specific BMPs may also be incorporated as conditions of the 401 permit process with the RWQCB to manage total coliform during construction because the lagoon has been 303(d) listed for those constituents. Through development and implementation of the SWPPP, BMPs would provide protection of lagoon waters. BMPs, such as silt curtains, flocculants, and jute netting, would be implemented during excavation to control turbidity and sedimentation within the water column.

Erosion- and sediment-control BMPs such as fiber rolls, silt fences, gravel bag barriers, hydraulic mulch, soil binders, and stabilized access roads and construction entrances, would also be implemented during construction activities to minimize sediment disturbance and erosion potential. San Dieguito Lagoon is especially sensitive to the effects of pollutants and oxygen depletion due to restricted or intermittent tidal flushing (Project Clean Water 2016).

Since the mouth of the San Dieguito Lagoon is listed as impaired by total coliform and the San Dieguito River is impaired by *Enterococcus*, fecal coliform, nitrogen, phosphorous, TDS, and toxicity (CWA Section 303[d]), BMPs would target construction-related sources of nutrients and bacteria, while also minimizing the effects of sediment disturbance (e.g., erosion). Table 5.4-1 provides a list of typical BMPs that would be implemented during construction activities.

Table 5.4-1
Potential Construction-Phase Best Management Practices

Type of BMP	Description and Purpose
Turbidity Control	
Flocculants	A flocculant is a substance that promotes the coagulation of suspended particles to induce settling and decrease turbidity. Non-toxic, anionic polyacrylamide flocculants would be based on site-specific lagoon soil and water samples to maximize effectiveness. Application would be as close to the area of disturbance as possible. Flocculant would be used in tandem or combination with other BMPs presented in this table.
Jute Netting	Captures suspended sediments in the water column, when used in conjunction with flocculant polymers to enhance coagulation of suspended particles directly on webbing. Jute netting is an organic product.
Temporary Dikes	Help to minimize the impact of dredge-related turbidity within a localized work area. Implementation would depend on contractor preference. Used for short-term control as tidal conditions allow.
Silt Curtains	Allow suspended sediment to settle out of the water column in a controlled area, to minimize the area affected by potential increased suspended sediment within the water column. Silt curtains are an impermeable barrier constructed of a flexible reinforced thermoplastic material. Provide similar temporary turbidity control where tidal surge is minimal. If used, silt curtains would likely be most effective in smaller tributary channels far from the lagoon mouth (i.e., higher in the watershed).
Filtration Device (gunderbooms)	Allows water to flow through the curtain while filtering suspended dredged sediment from the flow. Gunderbooms extend from the water surface to the bottom. Gunderbooms are permeable geotextile fabrics.
Sediment Control	
Silt Fence	Detains sediment-laden water, promoting sedimentation behind the fence. Suitable for use at edge of disturbance areas; around temporary stockpiles; along the perimeter of a site; below areas where sheet flows discharge from the site; below the toe or downslope of exposed and erodible slopes.
Fiber Rolls	Intercept runoff, reduce flow velocity, release the runoff as sheet flow, and provide removal of sediment from the runoff (through sedimentation). Suitable for use along the perimeter of a site; downslope of exposed soil areas; around temporary stockpiles.
Gravel Bag Berm/Straw Bale Barrier	Intercepts and ponds sheet flow runoff, allowing sediment to settle out. Suitable for use along the perimeter of a site; below the toe of slopes and erodible slopes; downslope of exposed soil areas; around temporary stockpiles; at the top of slopes to divert runoff away from disturbed slopes.
Biofilter Bags	Detain flow and allow a slow rate of discharge through the wood media; remove suspended sediment through gravity settling of the detained water and filtration within the bag. Suitable for use along the perimeter of disturbed sites; around temporary stockpiles; below the toe of slopes and erodible slopes; downslope of exposed soil areas.

Type of BMP	Description and Purpose
Erosion Control	
Hydraulic Mulch	Sprayed onto soil surface at disposal site to provide a layer of temporary protection from wind and water erosion. Suitable for disturbed areas that require temporary stabilization to minimize erosion or prevent sediment discharges until permanent vegetation is established. Can be applied in combination with seeding/planting efforts.
Soil Binders	Soil stabilizer applied to the soil surface to temporarily prevent water- and wind-induced erosion of exposed soils. Suitable for disturbed areas requiring temporary erosion and sedimentation protection until permanent vegetation is established. Can be applied in combination with seeding/planting efforts.
Straw/Wood Mulch	Reduces erosion by protecting bare soil from rainfall impact, increasing infiltration, and reducing runoff. Suitable for disturbed areas requiring temporary erosion and sedimentation protection until permanent vegetation is established. Can be applied in combination with seeding/planting efforts.
Hydroseeding	Seed applied to soil surface to temporarily protect exposed soils from water and wind erosion. Suitable for disturbed areas requiring temporary erosion and sedimentation protection until permanent vegetation is established. Can be used to apply permanent stabilization. Hydraulic seed should be applied with hydraulic/straw mulch for adequate erosion control.
Materials Management	
Spill Prevention and Control	Prevent or reduce the discharge of pollutants to watercourses from leaks and spills by reducing the chance for spills, stopping the source of spills, containing and cleaning up spills, and properly disposing of spill materials. Cover and berm outdoor storage/equipment areas, store spill cleanup materials in clearly marked locations, and clean spills immediately. Suitable for pollutants including sediment, nutrients, trash, metals, and oil and grease.
Stockpile Management	Reduce stormwater pollution from stockpiles by locating stockpiles as far away as possible from stormwater flows, watercourses, and inlets, and covering stockpiles. Protect stockpiles from stormwater runon using temporary perimeter sediment barriers such as silt fences, fiber rolls, sandbags, gravel bags, or biofilter bags.
Solid Waste Management	Prevent or reduce the discharge of pollutants from solid waste by providing waste collection areas and an adequate number of containers, arranging for regular disposal, collecting site trash daily, and cleaning up spills immediately. Suitable for construction and domestic wastes including food containers such as beverage cans, coffee cups, paper bags, plastic wrappers, and cigarettes. Targeted pollutants include sediment, nutrients, bacteria, trash, oil and grease, and metals.
Housekeeping Practices	Maintain clean and orderly work sites; dispose of wash water, sweepings, and sediments properly; recycle or dispose of fluids properly; and train contractors in BMPs and pollution prevention. Targeted pollutants include sediment, nutrients, bacteria, trash, oil and grease, and metals.
Monitoring	
Downstream Monitoring	Monitor turbidity downstream of the W-19 site during construction and maintenance activities to verify erosion control measures are effective. Evaluate need for post-construction monitoring as part of SWPPP process.

Post-construction, the water quality within the lagoon is expected to be similar or better than existing conditions due to overall enhanced circulation under the proposed condition (Appendix D). Although the proposed project may slightly lower the summer month temperatures in the existing wetland system due to an increased tidal prism and improved circulation, the change in temperatures would be an improvement compared to the existing conditions, as high temperatures can cause eutrophic conditions. Additionally, the project would not change the existing salinity patterns within existing wetlands. The proposed project would not affect pH, conductivity, nutrients, and turbidity upstream and/or downstream of the project location. The project would not change storm flows or the pollutant input; therefore, the project would not change or degrade the wet weather water quality conditions. As the project would reduce residence times (discussed further below under Circulation) in existing wetland areas and the river, the existing dry weather water quality conditions would be improved. **As a result,**

construction of the proposed project would not result in a violation of water quality standards or waste discharge requirements or degradation of beneficial uses in adjacent water bodies and impacts would be less than significant (Criterion A).

Sedimentation

Project construction activities that cause soil disturbance, most notably excavation and grading, would expose soil to erosion from wind and water. Eroded soils could have the potential to cause sedimentation to receiving surface waters; however, construction and post-construction BMPs and PDFs would minimize erosion and sedimentation into the river and downstream SCE wetlands.

Excavation would occur in the "dry" condition as the connections to the river would remain closed until the last phase of construction. When the inlets are connected to the river some turbidity would occur, but excavation of the dikes would be scheduled during low tide and would minimize turbidity. Suspended sediment would settle to the riverbed in a short time frame. Additionally, the use of cofferdams and dewatering active work areas during construction activities would help to prevent release and transport of disturbed sediment to both the river and downstream SCE wetlands. Although some turbidity and sedimentation within the lagoon would have the potential to occur, BMPs, such as silt curtains, filtration devices (e.g., gunderbooms), flocculants, and jute netting, may also be implemented during sediment removal to control turbidity and sedimentation within the water column.

Post-construction, the entrance channel to W-19 may experience slight sedimentation as a result of morphological adjustment of the channel shape toward an equilibrium condition; however, this condition would be temporary and would not be expected to require any regular maintenance under the dry weather condition and should remain stable (Appendix H). Sedimentation is not anticipated to extend to adjacent SCE restored wetland areas.

To protect and minimize sedimentation into the established wetlands from storm events, the proposed project would include the construction of two berms. A vegetated berm, planted with a mix of transitional and upland plants, would be constructed between the salt marsh and the river channel. Another vegetated berm planted with coastal sage scrub species would be constructed between the brackish marsh habitats and the river channel. The berms would also protect the marshes from flood event damage and maintain sand movement to the ocean. **The project would not substantially degrade water quality in adjacent restoration projects by increasing sedimentation or generate pollutions in violation of such standards, and impacts would be less than significant (Criterion B).**

Circulation Pattern

The circulation pattern within the lagoon is represented by the residence time of water within it, which is a measure of tidal circulation efficiency and is affected by the tidal prism. The restoration of the W-19 site would expand tidal exchange to the east portion of the lagoon complex and would increase the tidal prism of the lagoon by approximately 30 percent compared to existing conditions (Appendix D). Additionally, the inlet would be kept open through

maintenance activities so that tidal exchange within W-19 wetlands would be continuous. The increase in tidal prism would shorten the existing residence time during dry weather conditions in the adjacent SCE sites (W-4 and W-16, shown in Figure 2-2). As seen in Table 5.4-2 below, the decrease in residence time within the SCE wetlands represents an increase in water circulation within the lagoon. Under the proposed project, the W-19 site would have a slightly longer residence time than the W-4 and W-16 SCE wetlands, as its connection to the main channel is farther upstream and farther away from the ocean inlet. The proposed project would reduce residence time by at least a day compared to existing conditions within SCE restored wetland areas, as a result of more tidal flow being drawn into the entrance channel.

Table 5.4-2
Summary of Residence Time (in Days)

Location	Existing Conditions		Project Conditions	
	Dredged	Shoaled	Dredged	Shoaled
W-1 (SCE Wetland)	7.7	18.7 (9.8*)	5.7	8.9
W-4 (SCE Wetland)	6.8	8.9	5.8	7.9
W-16 (SCE Wetland)	6.8	8.9	5.8	7.9
W-19	N/A	N/A	7.78	21.7

N/A – not applicable
*The residence time would be 9.8 days without the bounce back during the neap tide.
Source: Appendix D – W-19 Fluvial and Tidal Hydraulic, Sedimentation, Water Quality and Sea Level Rise Modeling Studies

As previously stated, excavation would occur in the "dry" condition, as the connection to the river would remain closed until the last phase of construction. During the grading phase of construction, minor alterations to lagoon circulation would occur; however, these changes would be temporary and localized. Water levels within the lagoon would not be expected to increase during construction activities relative to existing conditions, and circulation would remain primarily unaltered.

The project has been designed to maintain circulation so that it will be adequate for water quality. The entrance channel to the brackish marsh would receive daily tidal circulation. In the loop channel of the brackish marsh, the channel would be graded to have a hydraulic gradient resulting in net one-way outflow from the marsh to the river. The marsh bed would be graded to be higher than the groundwater table in the dry season to prevent standing water (Appendix D).

Overall, the proposed project would slightly improve the dry weather circulation and reduce residence times in the existing marshes and the river. Therefore, no impacts would occur to circulation pattern within the lagoon and river. **The proposed project would not alter circulation patterns in adjacent restoration projects (including the SCE wetlands) in a way that inhibits mixing or promotes stagnation, and no impacts would occur (Criterion C).**

Materials Disposal

The disposal site for the proposed project is located 0.4 mile south of the project area. Approximately 1.1 mcy of soil is anticipated to be placed on the disposal site from the excavation of the project area. The 4:1 slope ratio design will encourage water to gently sheet flow down the slope sides, rather than concentrate and create rills and gullies along the slope,

which would encourage erosion. **The disposal location would not be located near a receiving water body and would therefore not result in the violation or degradation of water quality in a receiving water body; no impact would occur (Criteria A, B, and C).**

W-19 Wetlands Maintenance

As described for project construction earlier in the section, maintenance activities could have the potential to unintentionally impact lagoon water quality and beneficial reuse. However, the project would be required to comply with applicable regulations and BMPs developed during the permit process. Standard BMPs, as described in Table 5.4-1, would also be incorporated into inlet and wetlands maintenance activities as appropriate. Additionally, because the extent of wetlands maintenance following storm events would be more limited than the initial construction footprint, it is anticipated that water quality impacts would be both shorter term and reduced in physical extent from those anticipated for lagoon restoration. Placement of this material on the beach following maintenance activities would occur via land-based equipment. As wave action distributes material placed during maintenance, there may be short-term turbidity in the nearshore zone. This area is typically relatively turbid, however, due to waves, and material places would be beach-suitable and therefore of relatively large grain size that would settle out quickly. Turbidity impacts, if noticeable, would be of short duration and would dissipate quickly. **Therefore, maintenance activities would not result in a violation of water quality standards, waste discharge requirements or degradation of beneficial uses in adjacent water bodies, and impacts would be less than significant (Criterion A).**

Post-storm maintenance activities would require the disturbance of deposited sediment as it is gathered with land-based construction equipment and transported to the beach for placement. These activities could expose soil, which would then be subject to erosion from wind and water, although the extent of these areas would be limited to those undergoing maintenance and would be more limited than those exposed during initial project construction. Eroded soils could have the potential to cause sedimentation to receiving surface waters; however, BMPs and PDFs would minimize erosion and sedimentation into the river and downstream SCE wetlands.

Although maintenance would be conducted with land-based equipment, such as backhoes and/or excavators, as described in Chapter 3, inlet maintenance activities could result in some turbidity and/or sedimentation as hydraulic connectivity is improved and the channel re-shifts toward an equilibrium condition, but the suspended sediment would settle out quickly. Therefore, these conditions would be temporary and BMPs would be implemented to control turbidity and sedimentation as needed throughout maintenance activities. Once material is placed on the beach, it would disperse naturally and would not be subject to erosion or result in increased sedimentation or turbidity in adjacent water bodies. **Impacts related to sedimentation would be less than significant (Criterion B).**

As described in Section 5.2, one of the primary purposes of inlet maintenance and adaptive sediment maintenance is the restoration of circulation within the lagoon following large storm events. If sufficient sedimentation occurs to block tidal flows or create stagnant areas within W-19 wetlands, maintenance activities would be implemented and circulation restored.

Therefore, inlet and wetlands maintenance activities would not result in impacts related to the alteration of circulation patterns in adjacent restoration projects (Criterion C).

5.4.4 SIGNIFICANCE OF IMPACTS

Table 5.4-3 below summarizes the impact conclusions for each threshold of significance identified in the Impact Analysis for the W-19 restoration site and the disposal site. All impacts associated with water quality would be less than significant at both locations, as described above.

Table 5.4-3
Summary of Water Quality Impact Conclusions

Threshold	W-19 Restoration	Materials Disposal	W-19 Inlet Maintenance
A. Result in a violation of water quality standards or waste discharge requirements or degradation of beneficial uses in adjacent water bodies.	Less than Significant	No Impact	Less than Significant
B. Substantially degrade water quality in adjacent restoration projects by increasing sedimentation, leading to a violation or degradation of water quality standards or beneficial uses; or generate pollutions in violation of such standards.	Less than Significant	No Impact	Less than Significant
C. Alter circulation patterns in adjacent restoration projects in a way that inhibits mixing or promotes stagnation.	No Impact	No Impact	No Impact

5.4.5 MITIGATION MEASURES

No significant water quality impacts would result from lagoon restoration or materials disposal and no mitigation measures are required.

5.5 GEOLOGY/SOILS

This section describes existing environmental conditions related to geology and soils in the project area, including W-19, the disposal site, and beach placement sites proposed as part of W-19 wetlands maintenance. The section also summarizes pertinent policies and regulations, and evaluates the impacts associated with implementation of the proposed project.

Information in this section is largely derived from the Preliminary Geotechnical Report for the San Dieguito Lagoon Restoration (Geocon 2011), the Additional Geotechnical Studies for the San Dieguito Lagoon Restoration (Geocon 2012), the Sediment Disposal Study (Appendix C) and the W-19 Fluvial and Tidal Hydraulic, Sedimentation, Water Quality and Sea Level Rise Modeling Studies (Appendix D).

5.5.1 EXISTING CONDITIONS

Regulatory Setting

A full description of the regulatory setting for this document can be found in Appendix E. The following laws, regulations, policies, and plans are applicable to this resource area:

- U.S. Geological Survey Landslide Hazard Program
- Alquist-Priolo Earthquake Fault Zoning Act
- Building Codes
- Construction General Permit
- Seismic Hazards Mapping Act of 1990

Geologic Setting

The project area, disposal site, and maintenance beach placement sites are located in the coastal plain and the western foothill slopes of the Peninsular Ranges geomorphic province. The geologic reference map indicates that the project site and disposal site are generally underlain by young alluvial floodplain deposits (Qya), and that these Holocene and late Pleistocene young alluvial floodplain deposits typically consist of poorly consolidated, poorly sorted, permeable sands and silts (Kennedy and Tan 2008).

Regional soils information, as described in the Sediment Disposal Study (Appendix C), indicates that soils at the project site are primarily Tujunga Sand with Grangeville Fine Sandy Loam, a combination consistent with soils formed in alluvium weathered from granitic sources. Tujunga Sand and Grangeville Fine Sandy Loam are typically found in alluvial fans and floodplains with slopes between 0 and 9 percent.

The general topography of the W-19 site consists of flat and gentle sloping terrains. The surface elevation of the site generally ranges between 5 and 15 feet NGVD. Man-made features that alter the generally flat topography of the lagoon in the project area include the existing utility corridor.

The disposal site is at higher elevations than the W-19 site as it is located to the south where the terrain slopes up toward the hilltops above. Portions of the site used for disposal (DS-36) are elevated relative to the surrounding terrain due to the previous placement of material and are relatively flat with no substantial geologic features or slopes. The southernmost portion of the disposal site is currently undisturbed and has more varied terrain, rising up to the south to meet the steep foothills. Elevations in the southern portion of the disposal site range from approximately 130 to 140 feet across the majority of the area with a steeper slope in a small southeastern corner extending up to approximately 165 feet. The disposal site and nearby portions of the haul routes are underlain by marine terrace deposits and alluvial fill.

The topography of the beaches proposed for material placement is dynamic, but generally characterized by sand overlying Marine Beach Deposits (Qmb).

Subsurface Testing

On July 8, 2011, a total of eight geotechnical borings were conducted on the W-19 site to depths between 1 foot and 20 feet below the existing grade. Groundwater was encountered in all borings, at depths between 7 and 9.5 feet below the existing grade. All borings contained alluvial deposits consisting of very soft to soft sandy silt (Unified Soil Classification System [USCS] Classification ML). Loose to medium dense silty sand (USCS Classification SM) was also encountered within the upper 2 to 4 feet in six of the borings. Occasional gravel and pockets of clayey sand (USCS Classification SC) were encountered at varying depths. Due to the highly variable fines content of the soils in the area, excavated soils are not anticipated to be suitable for use as structural backfill. However, the material would generally be usable in berms, embankments, and other non-structure fill uses. No substantial levels of pollutants or hazardous wastes were found in the boring samples. Detailed results of these borings can be found in the Preliminary Geotechnical Report (Geocon 2011).

Between October 30 and November 2, 2012, six additional borings were conducted and three groundwater monitoring wells were placed within W-19, as detailed in the additional Geotechnical Studies (Geocon 2012). The borings were drilled to a maximum depth of 41.5 feet, and the groundwater monitor wells were drilled to a depth of 20 feet. All borings again contained alluvium, consisting of very loose to dense silty sand to poorly graded sand (USCS Classification SP) and fine to medium sand to poorly graded sand (USCS Classification SP-SM), as well as very soft to firm sandy silt. Groundwater was encountered in all borings at depths between 7 and 10 feet below the existing grade.

Faulting and Seismicity

The southern California region is a seismically active area with a large number of known faults traversing the region. Neither the W-19 site nor the disposal site is located within an Alquist-Priolo Earthquake Study Zone as established by the State Geologist, and no active faults have been discovered within or near the site. The site is located approximately 4 miles east of the Newport-Inglewood-Rose Canyon fault zone (Oceanside section) (Geocon 2011).

Liquefaction and Lateral Spreading

Liquefaction is a seismic hazard in which loose, saturated soils located beneath the groundwater table lose strength during strong ground motions. The geotechnical investigation (Geocon 2011) for the project indicates that the W-19 project site is vulnerable to liquefaction due to the soil characteristics and water table level. The potential for liquefaction at the site is considered moderately high, and there is a potential for surface settlement and slope movement. Additionally, there is the potential for lateral spreading in liquefiable areas adjacent to slopes (such as river channels or large bodies of water). The potential for lateral spreading in the project area is considered moderate, due to the presence of liquefiable materials and a relatively shallow groundwater table.

Erosion

As described in the Preliminary Geotechnical Report, slope erosion in the project area consists primarily of minor rilling of fill and cut slopes in cohesionless soils. There are features within the project area, including berms and/or flow channel slopes, with a high erosion potential. Bridge abutments within the project area are armored, and the channel cross section at El Camino Real Bridge has an armored layer covered by sediment deposits. At present, the utility corridor bisecting the project site is not armored or protected with other erosion control measures. Based on modeling, unprotected areas of the riverbed in the areas north of the W-19 site are susceptible to substantial scour in some locations under existing conditions. Substantial bifurcation just downstream of the utility corridor is also predicted after 100-year series simulation of storm events under the existing condition. This means that flows associated with a 100-year storm event under current conditions would likely result in the river channel branching or forking into multiple smaller channels with the main river channel migrating northward and eroding behind the SCE extended bank armoring. There is also erosion upstream of the utility corridor (Appendix D).

The disposal site is also subject to erosion, including minor rilling of the slopes at the southern end of the disposal site. In general, the vegetated and undisturbed soils of the disposal site are mostly stable and do not experience substantial erosion. The portion of the area used as a disposal site (DS-36) for the SCE restoration project has been terraced and continues to be intermittently used by SCE, followed by soil stabilization activities to help reduce the potential for both wind and water erosion.

5.5.2 IMPACT THRESHOLDS

A significant impact would occur if implementation of the proposed project would:

A. Expose people or structures (including infrastructure) to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards;

B. Result in a substantial increase in wind or water erosion of soils, either on or off the site; or

C. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction or collapse.

The CEQA impact thresholds for geology and soils are those recommended by the City of San Diego Development Services Department.

5.5.3 IMPACT ANALYSIS

W-19 Restoration

Restoration activities within the lagoon would require the excavation and removal of approximately 1.1 mcy of material. The extent of grading and other ground disturbance within the W-19 site can be seen in Figure 3-4, Limits of Disturbance. The currently designed side slopes vary from a maximum cut slope ratio of 2:1 (horizontal to vertical) and a maximum fill slope ratio of 3:1. The two berms would be planted with a mix of transitional and upland habitat that would aid in the stabilization of the exposed soils. The elevation of the top of the salt marsh berm would be 20 feet NGVD and the elevation of the top of the brackish marsh berm would be 22 feet NGVD. The elevation of the existing surface currently ranges from 8 to 12 feet NGVD. Transitional areas would have gentle slopes and utilize a drought-resistant native plant palette to provide vegetative cover.

Geologic Hazards

The project area is located within the seismically active southern California region and is subject to strong seismic ground shaking. However, the project would not increase the potential for seismic activity to occur on or near the project site. Fault rupture on the project site is not considered likely as there are no known active faults that traverse the site. Furthermore, built structures that involve or accommodate public use are not proposed as part of the project. The project could include the replacement and consolidation of the existing onsite overhead electrical transmission lines located within the utility corridor that transects the site from north to south. Current utility poles would be removed and new foundations and poles would be installed within the corridor or in an expanded area on the west side of the corridor. New utility poles would be installed per applicable design and engineering standards as required by SDG&E that protect against damage from seismic activity. Elevation changes to the utility corridor would not be required. Additionally, public access is not allowed within the utility corridor.

The proposed trail paralleling El Camino Real would accommodate public access. Generally, ground disturbance associated with trail construction would include some amount of vegetation clearing, grading, and/or fill with earth and DG to prepare a relatively flat trail surface. Steep slopes or major surface modifications would not be required or created as part of the trail installation and the provision of the trail for public use would not create increased exposure of people to geologic hazards. Additional structures that would increase the risks to or create additional exposure of people or structures associated with seismic ground shaking or other geologic hazards would not be constructed. **Thus, direct or indirect geologic hazards to people or structures as a result of lagoon restoration would be less than significant (Criterion A).**

Earthwork within the W-19 site would modify elevations to create designed inundation frequencies, habitat types, and channels. The site is generally flat with areas of man-made raised elevations such as the berm and utility corridor. Berms and open water flow channel slopes constructed as a part of the proposed project would be designed for safety under multiple conditions, including long-term seepage, rapid drawdown, and earthquake. In general, a slope of 3:1 or flatter would be considered acceptable from a geologic hazard perspective (Geocon 2011). The typical conditions that create geologic hazards from fault rupture, landslides, or other ground failure do not occur within the project area and the undeveloped lagoon basins are generally not highly susceptible to geologic hazards associated with slope or soil instability due to the flat and relatively level terrain. Because the removal and or placement of material from the generally flat project site would not occur in locations that provide stability for other natural features, such as slopes or hillsides, the removal of materials for restoration and ongoing maintenance purposes would not create increased slope instability that could cause landslides or mudslides, ground failure, or other adverse geologic hazards. **Thus, lagoon restoration activities would not increase risks to or create additional exposure of people or structures associated with geologic hazards, and impacts would be less than significant (Criterion A).**

Erosion

Groundwork, including sediment removal, would largely be confined to the interior of the project site particularly within channel areas. Therefore, the exposure to and potential for wind erosion is limited because of the generally damp soil conditions. As described in Section 5.4, Water Quality, the project would be required to comply with applicable permit regulations (e.g., Municipal Permit, Construction General Permit) to minimize temporary onsite or offsite erosion during construction activities. The Construction General Permit, Order 2009-0009-DWQ, requires the development of a project SWPPP that identifies BMPs that would be used to minimize erosion during construction. Manufactured slopes would be planted and maintained to reduce erosion. Slope irrigation would be limited to the amount required to support vegetation cover (PDF-1). Until adequate erosion-control vegetation is established, jute mesh or other treatments could be used to minimize soil transport by runoff (PDF-2). Minor bank erosion (primarily caused by rainfall) would likely be captured within interior tributaries of the lagoon and this, along with short-term sloughing and rounding of underwater contours, would be part of the naturalizing process as the lagoon's affected areas respond and regain a natural appearance following construction. **The potential for long-term water erosion would be minimal as vegetation reestablishes throughout the project site and erosion impacts would be less than significant (Criterion B).**

Access roads and staging areas located within W-19 and to/from the disposal site and construction access points would generally be located on drier upland areas where ground surface disturbance would be more likely to result in erosion. As a part of the permitting process, BMPs specific to the condition of each area would be developed. Erosion- and sediment-control BMPs as specified by the SWPPP and other permit requirements, such as fiber rolls, silt fences, gravel bag barriers, hydraulic mulch, soil binders, and stabilized access roads and construction entrances, would also be implemented during construction activities to

minimize sediment disturbance and erosion potential. **Erosion impacts would be less than significant (Criterion B).**

Modifications of existing channel hydrology throughout the project site would have the potential for increased velocity that could cause erosion both within the W-19 site or at locations downstream. Preliminary modeling shows implementation of the project would have the potential for erosion, similar to that under existing conditions, both east and west of the armored section of the El Camino Real Bridge in 25-, 50- and 100-year storms. Local velocities would also slightly increase near the El Camino Real Bridge (Appendix D). Similar to existing conditions, this erosion could lead to undercutting of the armoring of the bridge from both the upstream and downstream ends. The ongoing potential for erosion at the El Camino Real Bridge would be addressed through the design of the new bridge structure as proposed by the City of San Diego. Because the project would result in comparable conditions to the existing conditions, future erosion potential at the bridge undercrossings would not be increased. Additionally, modeling shows that project implementation would not substantially exacerbate the potential for scour of the utilities that cross under the river, and erosion patterns at the utility corridor would be similar to those under existing conditions.

Downstream of the utility corridor, the 100-year storm series shows the river channel would shift and follow the southernmost path where the channel has already split in two. This change would reduce existing erosion behind the SCE extended bank armoring. The maximum current velocities modeled at locations downstream, such as the SCE weir and I-5 bridge, were found to be lowered compared to existing conditions (Appendix D). The Hydrodynamic and Sedimentation Study also concluded that the proposed project did not pose any additional erosion threat in the lower portion of the system west of the I-5 bridge (Appendix D). **The proposed project would result in similar erosion under various storm events to existing conditions at locations downstream, and impacts would be less than significant (Criterion B).**

To minimize future long-term erosion potential in susceptible locations as described above, RSP within the site would be installed as part of the project along the utility corridor at specific locations and around the westerly end of the proposed brackish marsh berm, as well as at the outlet of the existing stormwater culvert extending under El Camino Real as shown in Figure 3-3. Material used for the RSP would be imported and generally consist of gravel mulch, DG, and concrete as detailed in Section 3.4. The installation of RSP would follow the recommendations of the project geotechnical reports (PDF-4). The use of RSP minimizes erosion during storm events by armoring exposed areas with the potential for erosion from the scouring effects of moving water with material that is less susceptible to erosion. The armoring would be placed and then covered with 1 to 2 feet of revegetation to provide a stabilizing substrate while still allowing for vegetated habitat. **Thus, the project would not result in a substantial increase in wind or water erosion of soils, either on or off the site, and impacts would be less than significant (Criterion B).**

Geologic Instability

As described in Section 5.5.1, the project site is located on soil types that could become unstable and result in lateral spreading, subsidence, liquefaction, or collapse. The potential for liquefaction at the site is considered moderately high with potential for surface settlements and slope movements. Additionally, there is moderate potential for lateral spreading in liquefiable areas adjacent to slopes (such as river channels or large bodies of water). Lagoon restoration activities would remove a large volume of sediment from the lagoon basins and channels. These actions would not change or modify the type or conditions of the underlying soils and geology that could increase the susceptibility of the project site to unstable conditions.

Embankment fills, including berms and open water flow channels, would be derived from adjacent excavated soils. Initial geotechnical investigations indicate that materials being excavated are suitable for use as fill in the proposed berms. The fills are expected to be composed predominantly of sandy silt and silty sand. In areas receiving new fills, surface settling would occur due to compression in existing surficial soil and new fill material. The magnitude of this settlement would be related to the thickness of the new fill and the compressive characteristics of the subsurface soils. Because the onsite material is relatively sandy, most settlement would be expected to occur during fill placement (Geocon 2011). Manufactured slopes would be properly engineered and designed to maintain geologic stability, and recommendations of the geotechnical reports for the project would be incorporated into the design of manufactured slopes, berms, or other features (PDF-4). Construction of the proposed trail would generally involve minimal earthwork or modifications with nominal surface grading to create a relatively level path. Instability throughout the project site would be similar to existing conditions and would not pose a safety risk. **The project would not create geologic conditions or build structures or other features that would be at risk or put people at risk from geologic instability; therefore, impacts related to hazards as a result of geologic instability would be less than significant (Criterion C).**

Materials Disposal

Material excavated from the W-19 site would be used as fill to construct berms and other elevated transitional areas within the site, and the remainder would be placed within the proposed disposal site (approximately 31 acres) 0.5 mile south of the lagoon restoration activities, as shown in Figure 2-3. A portion of the site is used for disposal of sediment for SCE's restoration project (DS-36). The disposal site is elevated relative to the surrounding terrain due to the previous placement of material and is relatively flat with no substantial geologic features or slopes. The southernmost portion of the disposal site is currently undisturbed and is not part of DS-36. This portion of the disposal site has more varied terrain, rising up to the south to meet the steep foothills that extend to the residential neighborhoods on the top of the hillsides to the south. Elevations in the southern portion of the disposal site range from approximately 130 to 140 feet across the majority of the area with a steeper slope in a small southeastern corner ranging from 140 feet to approximately 165 feet. Disposal of the excavated material would occur across the disposal site and raise the general elevation to a maximum height of 145 feet, which represents a maximum increase of 55 feet from existing grade. In general, the material would be designed to slope down to existing elevations at a 4:1 ratio along the western, northwestern, northern, and northeastern sides. Along the southern edge of the disposal site, the material would be placed to

blend into the existing slope, as shown in Figure 5.7-6, KOP 5 – View from Dust Devil Nature Trail (South). Slopes are planned to mimic a natural hillside as the site is owned by the City and not planned for future development.

Geologic Hazards

The placement of material on the disposal site would not expose people or structures to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards as there are no structures existing in the area and none are proposed by the project. The Dust Devil Trail provides recreational public access to the vicinity, but is approximately 450 feet north of the disposal site. There are no official trails or access points to or through the disposal site, though there is some informal public use of existing access roads that traverse around the east and south edges of the disposal site. The disposal site and active construction areas would be temporarily fenced during construction activities, as described in Table 3-2, Standard Construction Practices, to ensure the public does not enter the area.

Based on preliminary evaluations, soils bored from the W-19 site are suitable for nonstructural construction fill. Berms or other fill features would be constructed per specifications and engineering requirements identified within the geotechnical reports (PDF-4). Material transported to the disposal site would be spread across the site and would vary in height to blend with surrounding natural landforms. The final grading would result in an elevated surface but would not exceed a maximum of 145 feet, which represents an approximate increase of 55 feet from the existing grade. The average increase from existing grade would be approximately 21 feet and would be below the sight line from El Camino Real west toward the ocean. The edges along the western, northwestern, northern, and northeastern sides of the disposal site would slope down to the existing elevation at a 4:1 ratio and the southern side would blend into the existing hillside. The slopes would be properly engineered and designed to be at a gradient that would not be overly steep and lead to slope instability. Engineering would also dictate the appropriate compaction of material to further ensure slope stability and avoid landslides or similar hazards along the slopes. If some ground failure were to occur, there are no public access areas or structures within the vicinity that could be subject to risk. Therefore, if continued or new use of informal paths occurred in areas adjacent to the disposal site, pedestrians would not be subject to increased geologic hazards. The addition of material throughout the disposal site would not create geologic conditions that would induce or increase hazards such as seismic activity, landslides, or other ground failure. **The generally undeveloped nature of the disposal site and surrounding area minimizes the potential for risk of people or structures due to geologic hazards and the impact would be less than significant (Criterion A).**

Erosion

During material hauling and placement at the disposal site, the potential for construction-related erosion would be minimal as the majority of material would be partially wet or damp due to its location within W-19 and thus would be relatively resistant to wind erosion or becoming airborne during transportation. However, as with other exposed soils, once placed in the disposal site and dried there would be the potential for erosion to occur, particularly wind-borne dust via the prevailing westerly winds. Once placed and appropriately compacted, exposed soil at the disposal site would be hydroseeded or planted (PDF-3). The plantings and/or hydroseeding

would aid in providing ground cover and a root system to keep exposed soil from being eroded via water or wind. Additionally, the appropriate compaction of the soil would also help prevent wind and water erosion. Until adequate long-term erosion-control vegetation is established on exposed soils, shorter-term erosion control measures using natural material such as jute mesh, straw waddles, or other appropriate treatments would be used to minimize soil transport as specified in PDF-2 and/or required by the SWPPP.

The potential for long-term erosion to result from the placement of soil and other loose materials at the disposal site would be minimized due to hydroseeding and/or planting that would occur once the soil is placed and appropriately compacted (PDF-3). To aid in the success of revegetation, topsoil from the previously undisturbed portion of the disposal site would be removed prior to soil placement. This material, along with topsoil from the W-19 site excavation, would be stockpiled during construction and placed on top of the disposal site after soil placement to facilitate planting success. The vegetation would aid in securing the soil and making it less susceptible to erosion. In addition, appropriate leveling and compaction of the disposal material would reduce the potential for runoff from the disposal site and associated slopes. **Materials disposal would not result in a substantial increase in wind or water erosion of soils, either on or off the site, and impacts would be less than significant (Criterion B).**

Geologic Instability

Due to the sandy nature of the material to be removed from the lagoon and disposed of, settlement is expected to result from placement of material within the disposal site. Risk associated with this natural settlement of material would be minimized through appropriate compaction of the material as it is placed in accordance with compaction requirements and geotechnical recommendations provided in initial geotechnical investigations (Geocon 2011) and any future geotechnical investigations. At completion of material disposal activities, the disposal site would continue to be open space with no structures or formal public access on the site; thus, the potential risks associated with hazards to structures or people due to settlement are minimal. While settlement may occur with the newly placed material, the placement of material at the disposal site would not cause additional risks of lateral spreading, subsidence, liquefaction, or collapse in areas offsite or affect the stability of surrounding landforms such as the hillsides to the south. The material may be placed against or abutting portions of the hillsides; however, the location of the material would not create geologic hazards. In some cases, the material against the lower slopes may provide added stability to the slopes from erosion or other land movement. The residential developments located on the top of the slopes at the southern end of the disposal site would not be exposed to increased geologic risk from material disposal.

As described above, the nearest trail is located approximately 450 feet north of the grading limits and toe of the northern slope of the disposal site. At this distance, any potential settlement and other subsidence or instability of material would not create a hazard for trail users. As risk for slope failure would be minimized through proper engineering and construction of the manufactured slopes (PDF-4), people choosing to hike along unauthorized informal routes nearer to the disposal site would not be at substantial risk from geologic hazard associated with the disposal site. Though the potential exists for unstable soil conditions due to soil types present

throughout the vicinity, as well as settlement associated with the placement of material, the project does not propose to construct structures or result in other features that would be at risk or put people at risk from geologic instability in the vicinity of the disposal site. **Impacts related to hazards as a result of geologic instability would be less than significant (Criterion C).**

W-19 Wetlands Maintenance

Geologic Hazards

Maintenance proposed within W-19 inlets as described in Section 3.4.2 and the interior areas discussed in Section 3.5.4 would not increase the potential for seismic activity to occur on or near the project site or involve structures that would be subject to seismic activity. Steep slopes or major surface modifications would not be created as part of maintenance or create increased exposure of people to geologic hazards. Wetlands maintenance within W-19 would involve sediment removal limited to areas of recent deposition within the site. While elevations and slopes within W-19 maintenance areas may change with sediment removal, slopes would not exceed post-restoration conditions, which would be designed in accordance with regulations as noted above. Similarly, placement of material on nearby beaches would not create steep slopes that would result in an increased risk to people or structures. **Wetlands maintenance activities would not increase risks to or create additional exposure of people or structures associated with geologic hazards and no impacts would occur (Criterion A).**

Erosion

Sediment removal associated with wetlands maintenance would occur after substantial sediment deposition within the site, which would alter wetland elevations and potentially cover existing habitat in vegetated, exposed areas. Maintenance would be confined to the W-19 inlets and wetlands portion of the project site, particularly within channel areas, to maintain the design elevations and maintain circulation within the restoration site. Material would be damp as it is transported to the placement sites and spread on area beaches. Exposure to and potential for wind erosion would be limited because of the generally damp conditions. As described in Section 5.4, Water Quality, the project would be required to comply with applicable permit regulations (e.g., Municipal Permit, Construction General Permit) to minimize temporary onsite or offsite erosion during construction activities. After maintenance, exposed slopes would be monitored for plant reestablishment and planted as necessary, as described in Section 3.5.4, Adaptive Management and Maintenance. Minor bank erosion after sediment deposition would likely be captured within interior tributaries of the lagoon and this, along with short-term sloughing and rounding of underwater contours, would be part of the naturalizing process as the lagoon's affected areas respond and regain a natural appearance following extreme storm events. The potential for long-term water erosion would be minimal as vegetation reestablishes throughout the project site. While removal of deposited sediment from channels during maintenance activities could increase water velocity throughout the site, channels would only be restored to the designed restoration specifications. Therefore, increased erosion would not be anticipated, either within the W-19 site or downstream from it, as a result of sediment removal associated with wetlands maintenance. RSP installed during the restoration construction period would provide protection from erosion, and placement of removed material on area beaches would not result in erosion. Material

placement on the beach would potentially minimize shoreline erosion by providing a buffer between the tidal movement and exposed shoreline areas. **Thus, increased erosion would not occur as a result of wetlands maintenance efforts and impacts would be less than significant (Criterion B).**

Geologic Instability

As described under existing conditions, the potential for liquefaction at the restoration site is considered moderately high with potential for surface settlements and slope movements. Additionally, there is moderate potential for lateral spreading in liquefiable areas adjacent to slopes (such as river channels or large bodies of water). Wetlands maintenance would involve removing sediment from portions of the lagoon basins and channels following large storm events. The sediment removal associated with inlet or wetlands maintenance would only remove material recently deposited in the inlets or project site through water transport; no existing or parent materials would be altered. These actions would not change or modify the type or conditions of the underlying soils and geology that could increase the susceptibility of the project site to unstable conditions. As removed material is placed on the beach, some surface settling would occur. However, no structures would be built on top of this material, which would disperse over time in the dynamic beach setting. In some locations, material placement on the beach could help improve the geologic stability of coastal bluffs at the back of the beach by temporarily providing a buffer against the wave action that can undercut the exposed bluffs. Thus, the project would not create geologic conditions or build structures or other features that would be at risk or put people at risk from geologic instability. **Impacts related to hazards as a result of geologic instability would not occur (Criterion C).**

5.5.4 SIGNIFICANCE OF IMPACTS

Table 5.5-1 summarizes the impact conclusions for each threshold of significance identified in the Impact Analysis. All impacts associated with geology and soils would be less than significant, as described above.

Table 5.5-1
Summary of Geology/Soils Impact Conclusions

Threshold	W-19 Restoration	Materials Disposal	W-19 Inlet Maintenance
A. Expose people or structures (including infrastructure) to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards.	Less than Significant	Less than Significant	No Impact
B. Result in a substantial increase in wind or water erosion of soils, either on or off the site.	Less than Significant	Less than Significant	Less than Significant
C. Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction or collapse.	Less than Significant	Less than Significant	No Impact

5.5.5 MITIGATION MEASURES

No significant geologic or soil impacts would result from lagoon restoration or material disposal and no mitigation measures are required.

5.6 BIOLOGICAL RESOURCES

This section describes existing environmental conditions related to biological resources within the lagoon, the disposal site, and the beach areas proposed for material placement following maintenance events. The section also summarizes pertinent policies and regulations and evaluates the impacts associated with implementation of the proposed project. Information in this section is based primarily on the Biological Survey Report (Appendix G), Wetland Delineation Report (Appendix J), and Preliminary Jurisdictional Determination (Appendix J).

The laws, ordinances, regulations, and guidance applicable to this section are summarized in Appendix E. The following is a list of those that pertain to biological resources addressed within this document:

- Clean Water Act (Section 404 Discharge of Dredge or Fill Material)
- Endangered Species Act
- Executive Order 11990 – Protection of Wetlands
- Executive Order 13112 – Invasive Species
- Magnuson-Stevens Fishery Management and Conservation Act, as amended 1996 (Public Law 104-267)
- Marine Protection, Research, and Sanctuaries Act
- Migratory Bird Treaty Act
- California Endangered Species Act
- California Environmental Quality Act
- California Fish and Game Code (Section 1602 Streambed Alteration, Section 3503 and 3503.5, Protection of Birds, Nests, and Raptors, and Fully Protected Species)
- California Native Plant Protection Act
- Natural Community Conservation Plans and Habitat Conservation Plans
- Porter-Cologne Water Quality Control Act
- City of San Diego Environmentally Sensitive Lands (ESL) Regulations
- City of San Diego Land Development Manual and Biology Guidelines
- City of San Diego Multiple Species Conservation Program (MSCP) Subarea Plan
- Park Master Plan for the Coastal Area of the San Dieguito River Valley Regional Open Space Park

The presence of sensitive biological resources and wetlands associated with the San Dieguito River and lagoon basin qualify the project site as environmentally sensitive, which is therefore subject to the City's ESL Regulations. The ESL designation means the project would be subject to the restrictions and requirements outlined in the City of San Diego Land Development Code Biology Guidelines (City of San Diego 2012). The W-19 site is also partially located with the City's MHPA, as shown in Figure 5.1-1. The western half of the site is entirely within the MHPA, while a swath through the eastern half of the site is excluded. Details regarding the ESL Regulations and MSCP are provided in Section 5.1, Land Use and Recreation, and further described in Appendix E, Regulatory Setting.

5.6.1 EXISTING CONDITIONS

The W-19 site is currently dominated by disturbed habitats and coyote bush scrub that established after the cessation of agricultural uses. There are some remnant marsh and riparian areas in the interior of the site, as well as nonnative grasslands. The site is relatively disturbed compared to adjacent SCE restoration project areas, which currently provide contiguous good quality habitat for sensitive species within the lagoon.

The disposal site is composed of both coyote bush scrub as well as an area that remains in active use as part of the SCE project (DS-36) boundary, which continues to be disturbed by intermittent grading/scraping or reseeding efforts. The surrounding slopes that remain undisturbed provide additional coyote bush scrub as well as some patches of coastal sage scrub that support nesting and foraging sensitive species.

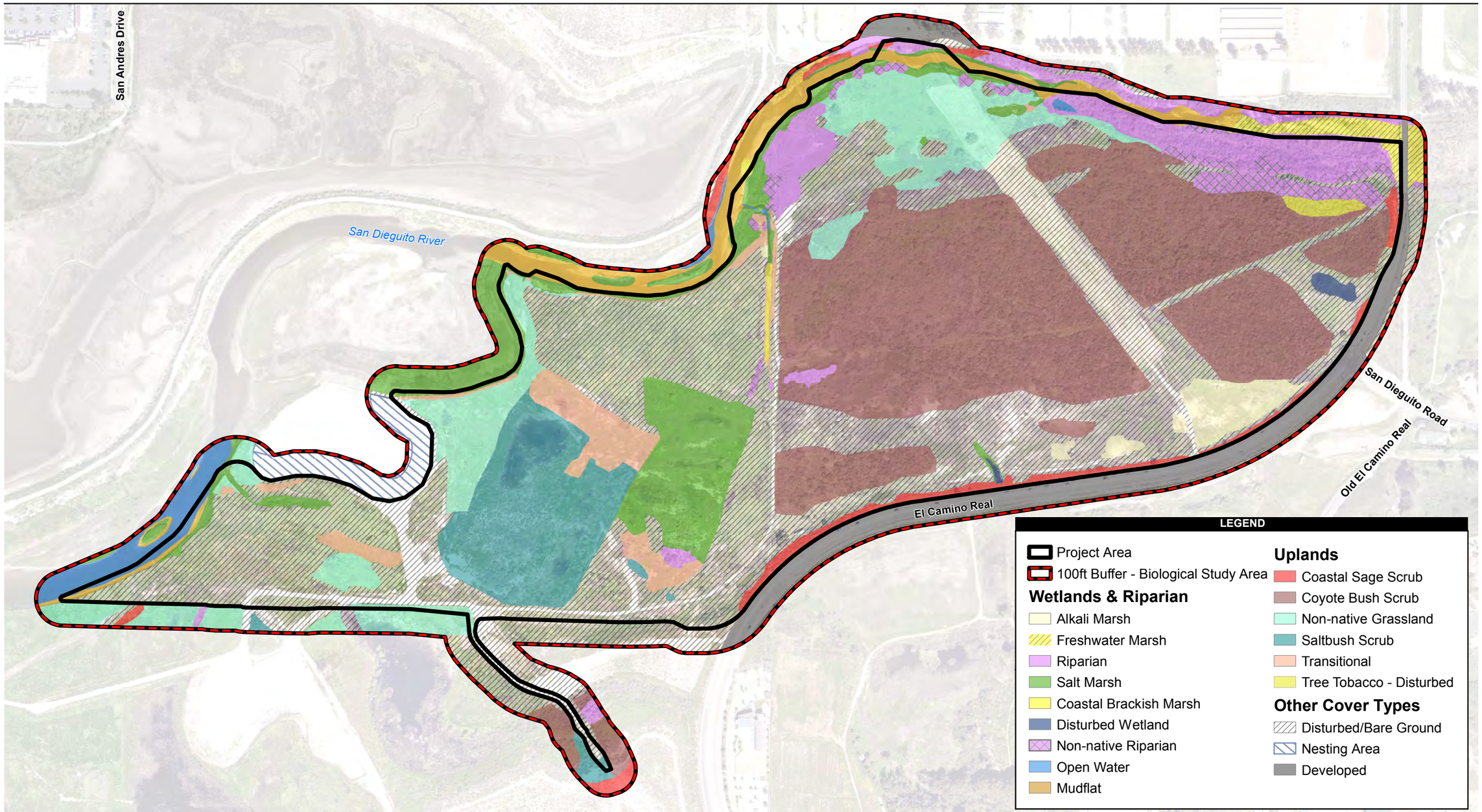
The W-19 restoration site, disposal site and associated haul routes, and a 100-foot buffer around the project site are described below. These areas are collectively referred to as the biological study area (BSA). The inclusion of a buffer around the site itself provides biological context and allows for the identification of potential indirect effects on adjacent areas.

Beach sites that would be utilized for material placement following maintenance within the lagoon are described separately because of their dynamic state and the intermittent nature of impacts from maintenance.

W-19 Restoration/Materials Disposal

Vegetation Communities

The classification of vegetation communities is based on the life form of the dominant species within that community and the associated flora. Descriptions of the vegetation communities and other cover types present within the BSA were provided by Nordby Biological Consulting, and were generalized into the categories for the discussion below. Three categories are being used to characterize and discuss vegetation communities and cover types observed during mapping: riparian and other wetlands, uplands, and cover types. Within these three categories, nine riparian and wetland communities, six upland communities, and three cover types were mapped. The acreages of each vegetation community and land cover type within the W-19 site and buffer are provided in Table 5.6-1, and acreages of each vegetation community and land cover type within the disposal site, haul routes, and buffers are provided in Table 5.6-2. The distributions of vegetation communities and cover types are illustrated in Figures 5.6-1, Vegetation Communities and Cover Types in the W-19 Site and BSA and 5.6-2, Vegetation Communities – Disposal Site and BSA.



Source: Dokken 2015; Nordby 2012; SANDAG 2017.

400 200 0 400 Feet

Scale: 1:4,800 1 inch = 400 feet

Figure 5.6-1
Vegetation Communities and Cover Types in the W-19 Site and BSA

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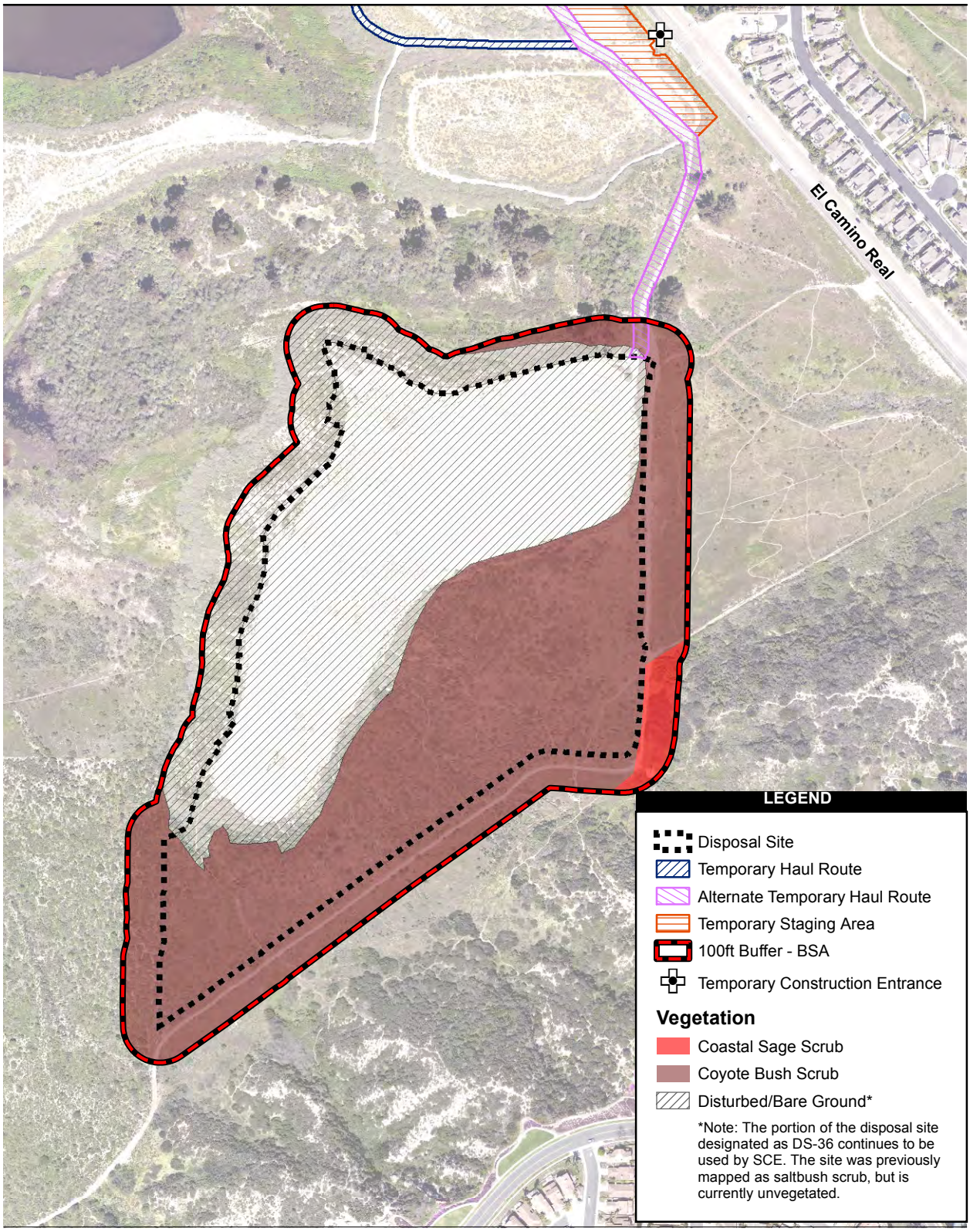
Wetlands and Riparian Vegetation Communities

Nine wetland communities were identified within the BSA (Figures 5.6-1 and 5.6-2). Wetland and riparian vegetation communities are considered sensitive by the City because they provide valuable nesting, breeding, and/or foraging habitat for special-status wildlife species (City of San Diego 2011).

Table 5.6-1
Vegetation Communities and Other Cover Types within the W-19 Site and Buffer (Acres[1])

Vegetation Community/ Cover Type	W-19 Site	100-foot Buffer	Total
Wetlands and Riparian			
Alkali Marsh	2.4	0.0	2.4
Brackish Marsh	0.2	0.1	0.3
Disturbed Wetland	0.3	0.0	0.3
Freshwater Marsh	0.2	1.3	1.5
Salt Marsh[2]	8.8	3.3	12.1
Mudflat	1.2	4.5	5.7
Riparian	5.6	2.2	7.8
Nonnative Riparian	2.6	0.0	2.6
Open Water	0.5	2.3	2.8
Wetlands Subtotal	***21.8***	***13.7***	***35.5***
Uplands			
Coastal Sage Scrub	1.9	0.9	2.8
Coyote Bush Scrub	41.1	1.1	42.2
Nonnative Grassland	11.1	2.9	14.0
Saltbush Scrub	9.5	0.4	9.9
Tree Tobacco	0.4	0.0	0.4
Transitional	4.3	0.0	4.3
Uplands Subtotal	***68.3***	***5.3***	***73.6***
Cover Types			
Least Tern Nesting Area	0.0	2.5	2.5
Bare Ground/Disturbed/Ornamental	51.9	7.0	58.9
Developed	0.2	8.2	8.4
Cover Types Subtotal	***52.1***	***17.7***	***69.8***
Grand Total	**142.2**	**36.7**	**178.9**

[1] Totals may not sum due to rounding.
[2] Includes approximately 2.1 acres of disturbed salt marsh/mulefat scrub.



Source: Dokken 2015; AECOM; SANDAG 2017.

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Scale: 1:4,800 1 inch = 400 feet

Figure 5.6-2
Vegetation Communities
Disposal Site and BSA

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Table 5.6-2
Vegetation Communities and Other Cover Types within the Disposal Site, Haul Routes and Buffers (Acres[1])

Vegetation Community/ Cover Type	Disposal Site	Disposal Site 100-foot Buffer	Temporary Haul Routes	Temporary Staging Area	Temporary Haul Routes and Staging Area 100-foot buffer	Total
Wetlands and Riparian						
Riparian	0.0	0.0	0.0	0.0	0.80.4	0.80.4
Wetlands Subtotal	***0.0***	***0.0***	***0.0***	***0.0***	***0.80.4***	***0.80.4***
Uplands						
Coastal Sage Scrub	0.0	0.7	0.0	0.0	1.10.6	1.81.3
Coyote Bush Scrub	14.4	8.0	1.2 0.3	0.0	2.70.4	26.323.1
Unvegetated/ Saltbush Scrub[2]	17.1	5.0	0.10.3	0.0	7.85.9	30.028.3
Saltbush Scrub	0.0	0.0	0.3	0.3	3.1	3.7
Nonnative Grassland	0.0	0.0	0.0	0.0	0.3	0.3
Uplands Subtotal	***31.5***	***13.7***	***1.60.6***	***0.3***	***15.06.9***	***62.152.7***
Cover Types						
Nesting Area	0.0	0.0	0.0	0.0	1.0	1.0
Bare Ground/Disturbed	0.0	0.0	4.21.8	0.9	14.57.2	19.69.0
Developed	0.0	0.0	0.0	0.0	2.00.7	2.00.7
Cover Types Subtotal	***0.0***	***0.0***	***4.21.8***	***0.9***	***17.58.9***	***22.610.7***
GRAND TOTAL	**31.5**	**13.7**	**5.82.4**	**1.2**	**33.316.2**	**85.563.8**

[1] Totals may not sum due to rounding.
[2] The portion of the disposal site used as DS-36 for the proposed project is currently unvegetated (see Figure 5.6-2).

Alkali Marsh

Alkali marsh habitat is typically dominated by alkali weed (*Cressa truxillensis*), wooly sea-blite (*Suaeda taxifolia*), and other halophytic species. This community occurs in areas with seasonally wet soils with high evaporation and low freshwater inputs. Approximately 2.4 acres of this habitat type occurs in low salty areas within the W-19 restoration site that were not previously disturbed by agriculture, primarily just north of El Camino Real.

Brackish Marsh

Brackish marsh is characterized by halophytic species such as pickleweed (*Sarcocornia pacifica*), saltgrass (*Distichlis spicata*), and alkali heath (*Frankenia salina*), and freshwater species such as cattails (*Typha* spp.) and bulrushes (*Scirpus* spp.). This community is dominated onsite by alkali heath, bulrush, tamarisk (*Tamarix ramosissima*), and pickleweed. Approximately 0.3 acre of coastal brackish marsh is found in the narrow channel that carries water from the San Dieguito River south into the W-19 site, and a small patch is also located within the buffer along the river.

Disturbed Wetland

Disturbed wetlands are communities that exhibit hydrology, hydric soils, and vegetation; however, the species found onsite are a combination of weedy, nonnative, and native species that do not resemble other wetland habitat types. Species prevalent in disturbed wetlands within the

BSA include willow herb (*Epilobium* spp.), curly dock (*Rumex crispus*), and Bermuda grass (*Cynodon dactylon*). Approximately 0.4 acre of disturbed wetland is present within the W-19 restoration site in a low area just west of El Camino Real and at the outlet of the culvert/wildlife crossing under El Camino Real.

Freshwater Marsh

Freshwater marsh is generally dominated by perennial, emergent monocots approximately 4 to 6 feet tall. Uniform stands of bulrushes or cattails often characterize this habitat type. The soil in freshwater marshes is generally saturated year-round and supports a high diversity of native and nonnative plant species. Approximately 1.5 acres of freshwater marsh occurs within the BSA, including a small area at the very edge of the W-19 restoration site. This community is found within the San Dieguito River channel immediately west of and under the El Camino Real Bridge. Disturbed freshwater marsh containing tamarisk occurs in the San Dieguito River west of the El Camino Real Bridge. The freshwater marsh in this area has tamarisk present that is invading the marsh.

Mudflat

Mudflats are unvegetated intertidal coastal wetlands that form when mud is deposited by tides or rivers. Approximately 5.7 acres of mudflats is present along the banks of the San Dieguito River in the eastern portion of the BSA, primarily outside of the W-19 site but within the 100-foot buffer.

Salt Marsh

These areas are more specifically categorized as southern coastal salt marsh, and are typically flooded during high tides or strong winter storms. Most plants in this community are low-growing, salt-tolerant succulents called halophytes. Among the common species are pickleweed, alkali heath, and saltgrass. Coastal salt marsh vegetation is very important for wildlife. Several rare and endangered species of birds (e.g., light-footed Ridgway's rail [*Rallus longirostris levipes*], Belding's savannah sparrow [*Passerculus sandwichensis beldingi*]) and plants are dependent upon it for survival. Southern coastal salt marsh is found along the edges of the San Dieguito River and in the low areas surrounding the least tern nesting site**.**

Disturbed salt marsh is present in the remnant salt marsh west of the utility corridor in a low area that ponds water. Disturbed salt marsh onsite is dominated by alkali heath, pickleweed, rabbitfoot grass (*Polypogon monspeliensis*), marsh mallow (*Malvella leprosa*), and five-hook (*Bassia hyssopifolia*). Within the BSA, approximately 12.1 acres of mid-high salt marsh occurs along the San Dieguito River and just northwest of El Camino Real. Most of the salt marsh associated with the river is located outside of the W-19 site boundary but within the 100-foot buffer, with the exception of a small linear patch extending east into the site south of the nesting site. There is a remnant coastal salt marsh area inside the W-19 site east of the nesting area.

There are also areas of disturbed salt marsh intermixed with mulefat scrub within the W-19 site. This community is a mixture of two other communities and has primarily salt marsh species in

the understory with mulefat scattered throughout. Mulefat and a few arroyo willow (*Salix lasiolepis*) and tamarisk were identified in the overstory and the understory is dominated by pickleweed, alkali heath, rabbitfoot grass, and yellow sweet clover (*Melilotus indica*). Approximately 2.6 acres of this disturbed mixed habitat occurs within the W-19 site adjacent to the remnant salt marsh.

Riparian

Riparian vegetation onsite typically occurs along seasonal and perennial creeks and streams. It is characterized by the dominance of plant species tolerant of the highly variable water flow and shifting soils within these habitats. Approximately 7.9 acres of riparian is present in the W-19 site and buffer, and an additional 0.8~~0.4~~ acre occurs in the haul routes buffer. Within the BSA, riparian is composed of three subtypes:

Arrowweed Scrub. Arrowweed scrub forms in dense thickets along streams and rivers and is dominated by arrowweed (*Pluchea sericea*). This habitat is found within the W-19 site at the northern end of the western transmission line corridor near the edge of the San Dieguito River.

Mulefat Scrub. This vegetation type is completely dominated by mulefat (*Baccharis salicifolia*), a tall (6.5 to 13.1 feet) perennial shrub. Very few other species are associated with this vegetation community. Mulefat scrub is an early successional community following periodic disturbance (Holland 1986). Repeated flooding of water channels allows the survival of this habitat type. Mulefat scrub is found in small patches near the San Dieguito River in the W-19 site buffer.

Disturbed mulefat scrub is found in a patch at the western edge of the coyote brush scrub. This habitat is dominated by mulefat; however, it also has a large component of weedy species such as mustard (*Brassica* spp.), Russian thistle (*Salsola tragus*), and Mexican tea (*Dysphania ambrosioides*).

Southern Willow Scrub. This community consists of dense, broadleaf, winter-deciduous riparian thickets dominated by willows (*Salix* spp.) and mulefat with scattered emergent cottonwood (*Populus fremontii*) and western sycamore (*Platanus racemosa*). Formerly extensive in coastal southern California, southern willow scrub is now estimated as reduced by 95 to 97 percent (Faber et al. 1989). There is some good quality southern willow scrub along the northern bank of the San Dieguito River within the BSA but outside the W-19 restoration site. This area was restored as part of a 22nd District Agricultural Association restoration project. Southern willow scrub within the W-19 site boundary is generally in a disturbed condition due to the presence of invasive species such as tamarisk (*Tamarix ramosissima*), pampas grass (*Cortaderia jubata*), and ice plant (*Carpobrotus edulis*). The dominant native species within the habitat are arroyo willow and mulefat with black willow (*Salix gooddingii*).

Nonnative Riparian

Tamarisk Scrub. Tamarisk scrub is a weedy monoculture of any of several tamarisk species (*Tamarix* spp.). Tamarisk scrub within the W-19 site boundary occurs along the disturbed southern willow scrub that grows on the edge of the San Dieguito River. Tamarisk scrub is

bounded by tree tobacco scrub and disturbed coyote bush scrub where the habitat is drier. Approximately 2.6 acres of nonnative riparian habitat is found between the tamarisk scrub and coyote brush scrub at the northwestern end of the site, primarily within the site boundary.

Open Water

Open water habitat is continuously submerged habitat that may be unvegetated or may have subtidal vegetation such as eelgrass. Open water habitat is considered jurisdictional waters of the U.S. by the Corps and is considered a state wetland by CDFW. Open water habitat provides important foraging and resting areas for many bird species and also provides important fish and invertebrate habitat. Approximately 2.8 acres of open water is found in the San Dieguito River channel, primarily outside the W-19 site boundary, as well as in the small drainage channel that drains from the river southwest of the utility corridor into the W-19 site.

Upland Vegetation Communities

Some upland vegetation communities such as coastal sage scrub are rapidly declining due to development. In addition, many upland vegetation communities are considered sensitive because they provide valuable nesting, breeding, and/or foraging habitat for special-status wildlife species. Unlike riparian corridors, which are linear (in association with riverine systems), upland habitats typically form large matrices and provide a broad variety of species structure and composition. Dense sage scrub vegetation or dense-canopied woodlands may provide useful habitat and movement corridors for some wildlife, especially when large and contiguous.

Coastal Sage Scrub

This vegetation type was once widespread in coastal southern California. It currently occurs in patches from Los Angeles into Baja California. Habitat loss has been estimated as high as 70 to 90 percent (Westman 1981). This plant community is composed of a variety of low, soft aromatic shrubs dominated by drought-deciduous species such as California sagebrush (*Artemisia californica*), flat-top buckwheat (*Eriogonum fasciculatum* var. *fasciculatum*), white sage (*Salvia apiana*), and black sage (*Salvia mellifera*). Typically, there are also scattered evergreen shrubs including lemonadeberry (*Rhus integrifolia*), laurel sumac (*Malosma laurina*), and toyon (*Heteromeles arbutifolia*). The understory is diverse and includes a rich variety of annual forbs, and both annual and perennial grasses.

The disturbed form of this habitat within the project vicinity is composed of the same dominant species listed above with nonnative annual grasses, and nonnative broadleaf species such as Russian thistle, mustard, and horseweed (*Conyza canadensis*). Disturbed coastal sage scrub generally has less overall cover than undisturbed coastal sage scrub. Additional openings in the habitat result from the weedy species in this community. Coastal sage scrub habitat within the W-19 site and buffer totals 2.8 acres, occurs primarily on the slopes along El Camino Real (including disturbed) and is generally dominated by California sagebrush, goldenbush (*Isocoma menziesii*), and California sunflower (*Encelia californica*). An additional 1.8~~1.3~~ acres of coastal sage scrub occurs in the disposal site buffer and haul route/staging area buffers.

Coyote Bush Scrub

Coyote bush scrub is a form of sage scrub dominated by coyote bush (*Baccharis pilularis*). Coyote bush scrub onsite is disturbed and dominated by coyote bush and tree tobacco (*Nicotiana glauca*) with mulefat, black mustard (*Brassica nigra*), Mexican tea, and Russian thistle. Coyote bush scrub is typically found on disturbed sites or those with nutrient-poor soils (Oberbauer et al. 2008). Disturbed coyote bush scrub is the most common vegetation community in the W-19 site, and makes up a large portion (41.1 acres) of the central part of the W-19 site on either side of the utility corridor. Approximately 26.3~~23.1~~ additional acres of coyote bush scrub can be found in the disposal site, ~~and~~haul routes, and buffers.

Nonnative Grassland

Nonnative grassland consists of dense-to-sparse cover of nonnative annual grasses, often associated with species of showy-flowered, native annual forbs, especially in years of high rainfall. This vegetation community is disturbance related and most often found in old fields or openings in native scrub habitats that occur on fine-textured, usually clay soils. Typical grasses found within the nonnative grasslands include wild oat (*Avena* sp.), red brome (*Bromus madritensis* var. *rubens*), and ripgut grass (*Bromus diandrus*). Invasive species such as sweet fennel (*Foeniculum vulgare*) and mustard are often associated with this vegetation community as a lesser component. Approximately 11.1 acres of nonnative grassland occurs within the W-19 restoration site, primarily along the southern edge of the San Dieguito River near the utility corridor. Approximately 0.3 acre of nonnative grassland occurs within the haul route/staging area buffers.

Saltbush Scrub

Saltbush scrub is dominated by big saltbush (*Atriplex lentiformis*) with crystalline ice plant (*Mesembryanthemum crystallinum*), mustard, and wooly sea-blite. Saltbush scrub is found within a part of the W-19 site used for dewatering sediment for the SCE restoration project dredging. The salt from the dewatering process likely results in this habitat growing onsite. Stands of saltbush scrub occur in the western part of the site itself, totaling 9.5 acres. The portion of the disposal site used as DS-36 for the SCE restoration project is currently unvegetated. Approximately 30.0~~28.3~~ acres of unvegetated/saltbush scrub has been mapped in the disposal site and within the haul routes and buffers. Approximately 3.7 acres of saltbush scrub has been mapped in the haul routes, staging area, and haul route/staging area buffers. This includes approximately 17 acres within the disposal site that was planted after implementation of the SCE project and has since been removed.

Tree Tobacco

This habitat is dominated by tree tobacco and forms a nearly monotypic stand with some tamarisk and a few coyote brush scattered within the stand. Approximately 0.4 acre of this habitat is found between the tamarisk scrub and coyote brush scrub in the northwestern portion of the W-19 restoration site.

Transitional

Transitional habitat is a distinct vegetation community found in areas between the salt marsh community and upland vegetation where there is no tidal influence. Plants in this salt marsh transition zone are salt tolerant and consist of a combination of the two communities. Transitional habitat in the W-19 restoration site totals approximately 4.3 acres and is dominated by a combination of species including wooly sea-blite, goldenbush, big saltbush, crystalline ice plant, and rabbitfoot grass. Vegetation in this community is often sparsely distributed with bare areas between plants. Salt marsh transition is found primarily where the SCE settling basin in 2012 was onsite and adjacent to saltbush scrub in the western portion of the W-19 site.

Cover Types

Least Tern Nesting Area

A nesting area is composed of bare ground covered with a sandy layer. These areas provide the appropriate substrate for ground nesting species, including the California least tern (*Sterna antillarum browni*) and western snowy plover (*Charadrius alexandrinus nivosus*). A California least tern nesting area adjacent to the W-19 site was created as part of the SCE restoration project. Approximately 2.5 acres of this nesting area occurs within the W-19 100-foot buffer in the western part of the BSA; the nesting area does not occur within the W-19 site itself.

Bare Ground/Disturbed/Ornamental

Bare ground/disturbed cover type is usually unvegetated but may be sparsely vegetated areas with weedy invasive species and a few native shrubs. The majority of bare ground within the BSA is along dirt roads or paths. Plant species commonly found in these sparse areas include ripgut grass, mustard, wild oat, and horseweed. Disturbed habitat refers to areas where agricultural practices, construction, or other land-clearing activities have substantially altered the native vegetation; species composition and site conditions are not characteristic of the disturbed phase of one of the plant associations within the BSA. Such habitat, which is dominated by nonnative annuals and perennial broadleaf species, is typically found in vacant lots, roadsides, construction staging areas, and abandoned fields. Typical species found in this community include mustard, filaree (*Erodium* spp.), Russian thistle, tumbleweed (*Amaranthus albus*), sweet fennel, horseweed, crown daisy (*Chrysanthemum coronarium*), and often degraded broadleaf ornamental plants such as ice plant (*Carpobrotus edulis*), acacia (*Acacia* spp.), and myoporum (*Myoporum laetum*). Approximately 58.9 acres of this cover type occurs in the W-19 site and buffer. An additional 19.6~~9.0~~ acres of bare ground/disturbed habitat occurs in the haul routes, staging area, and haul route/staging area buffers.

Developed

Developed areas are lands that have been permanently altered by human activities. These areas include roads, buildings, and other areas where the land has been altered to such a state that natural vegetation cannot become reestablished. Approximately 8.4 acres of developed area

includes the El Camino Real roadway alignment, most of which occurs within the buffer for the W-19 restoration site.

Candidate, Sensitive, or Special-Status Species

Both the BSA and the surrounding lagoon are known to have, or have the potential for, occurrences of special-status species. The BSA represents a small portion of the contiguous open space in its vicinity, including 440 acres recently restored by SCE. Existing conditions as described below are compiled from surveys conducted specifically for the proposed project, as well as available survey information collected as part of the SCE restoration and other projects. Additionally, information from a subset of monthly volunteer bird counts is included, when applicable. Surveys conducted by volunteers each month cover a large portion of the lagoon and are broken into five survey areas. Survey areas 2 and 3 encompass the W-19 and disposal sites for the proposed project, as well as additional adjacent habitats; therefore, reference to monthly bird survey information includes information from those two relevant survey areas in the analysis. More detail regarding this methodology is provided in Appendix G.

Flora

Species are considered to have special status if they meet at least one of the following criteria:

- Listed as endangered, threatened, or proposed for listing by the federal Endangered Species Act (ESA) (USFWS 2016a, b, c, d);
- Listed as endangered, threatened, or rare by the California ESA (CDFW 2016a, b, c);
- Considered special vascular plants, bryophytes, or lichens (CDFW 2016d);
- On the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2016);
    - CNPS: California Native Plant Society's California Rare Plant Rank:
        - 1B: Considered rare, threatened, or endangered in California and elsewhere
        - 2: Plants rare, threatened, or endangered in California, but more common elsewhere
        - 3: Plants for which we need more information – review list
        - 4: Plants of limited distribution – watch list
        - Decimal notations: .1 – Seriously endangered in California, .2 – Fairly endangered in California, .3 – Not very endangered in California
- Listed under the City of San Diego's Subarea Plan (City of San Diego 1997)

No federal- or state-listed plant species were detected within the BSA during special-status plant surveys. Three non-listed special-status plant species (southwestern spiny rush [*Juncus acutus* ssp. *Leopoldii*], southern tarplant [*Centromadia parryi* ssp. *Australis*], and Nuttall's scrub oak [*Quercus dumosa*]) were detected within the BSA, as shown in Figure 5.6-3, Special-Status

Plants Detected in the BSA, and are discussed below. Based on the environmental conditions, surveyor accessibility within the site, and species' phenologies during the survey periods, it is expected that federal- or state-listed plant species would have been detected if present.

Southwestern Spiny Rush

Southwestern spiny rush (CNPS list 4.2) ranges from southern California south to Baja California, Mexico. Coastal salt marsh, brackish marsh, and alkaline meadows are all suitable habitat for this species (Reiser 2001). Southwestern spiny rush is scattered throughout the BSA in northern coastal salt marsh and brackish marsh habitats along the San Dieguito River.

Southern Tarplant

Southern tarplant (CNPS List 1B.1) is an annual herb in the Asteraceae family. It is found in valley and foothill grasslands and on the margins of marshes and swamps, which are present in the western portion of the W-19 site. Southern tarplant was detected in the western portion of the W-19 restoration site (Figure 5.6-3).

Nuttall's Scrub Oak

Nuttall's scrub oak (CNPS List 1B.1) occurs along the coast from southern California south to Baja California, Mexico. This species prefers coastal chaparral with a relatively open canopy (Reiser 2001). Nuttall's scrub oak is found within the Diegan coastal sage scrub/chaparral community of the BSA within the disposal site's 100-foot buffer.

Fauna

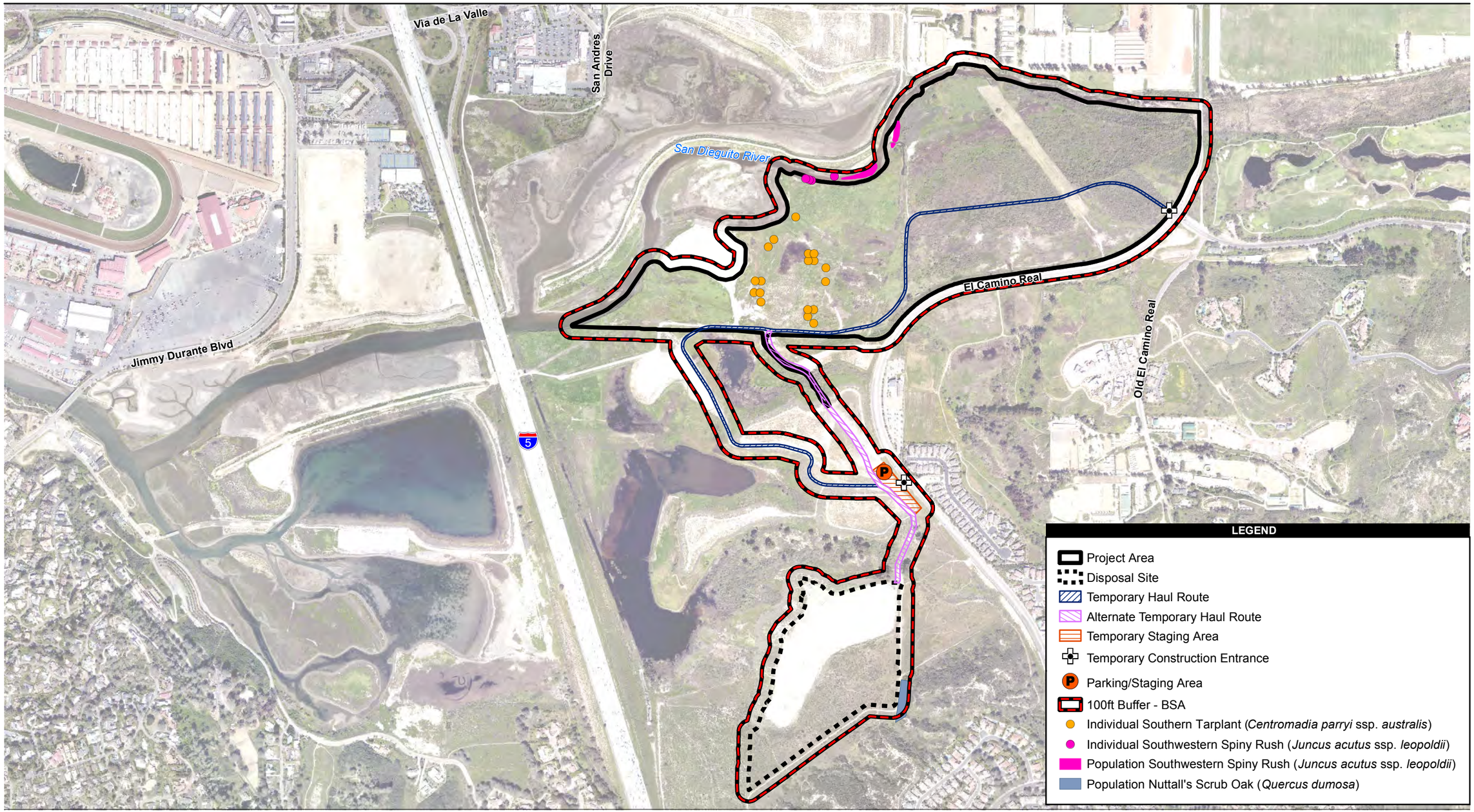
Special-status wildlife species that were detected in the BSA during focused surveys, and those known to occur in the lagoon area from previous project studies, are discussed below (Figure 5.6-4, Special-Status Wildlife Detected in the BSA). Species are considered present within the BSA if they were detected during the focused surveys described in the BSR, and are considered to have potential to occur in the BSA if they are known to occur in the lagoon area from previous project studies and have suitable habitat in the BSA.

Species are considered to have special status if they meet at least one of the following criteria:

- Listed as endangered, threatened, or proposed for listing by the federal ESA (USFWS 2016a, b, c, d);
- Listed as endangered, threatened, or rare by the California ESA (CDFW 2016a, b, c);
- Considered "special animals" (CDFW 2016d); or
- Listed under the City of San Diego's MSCP Subarea Plan.

Of the 10 federal-listed species with potential to occur in the BSA, four were detected or have a high potential to occur in the BSA:

- light-footed Ridgway's rail,
- California least tern,



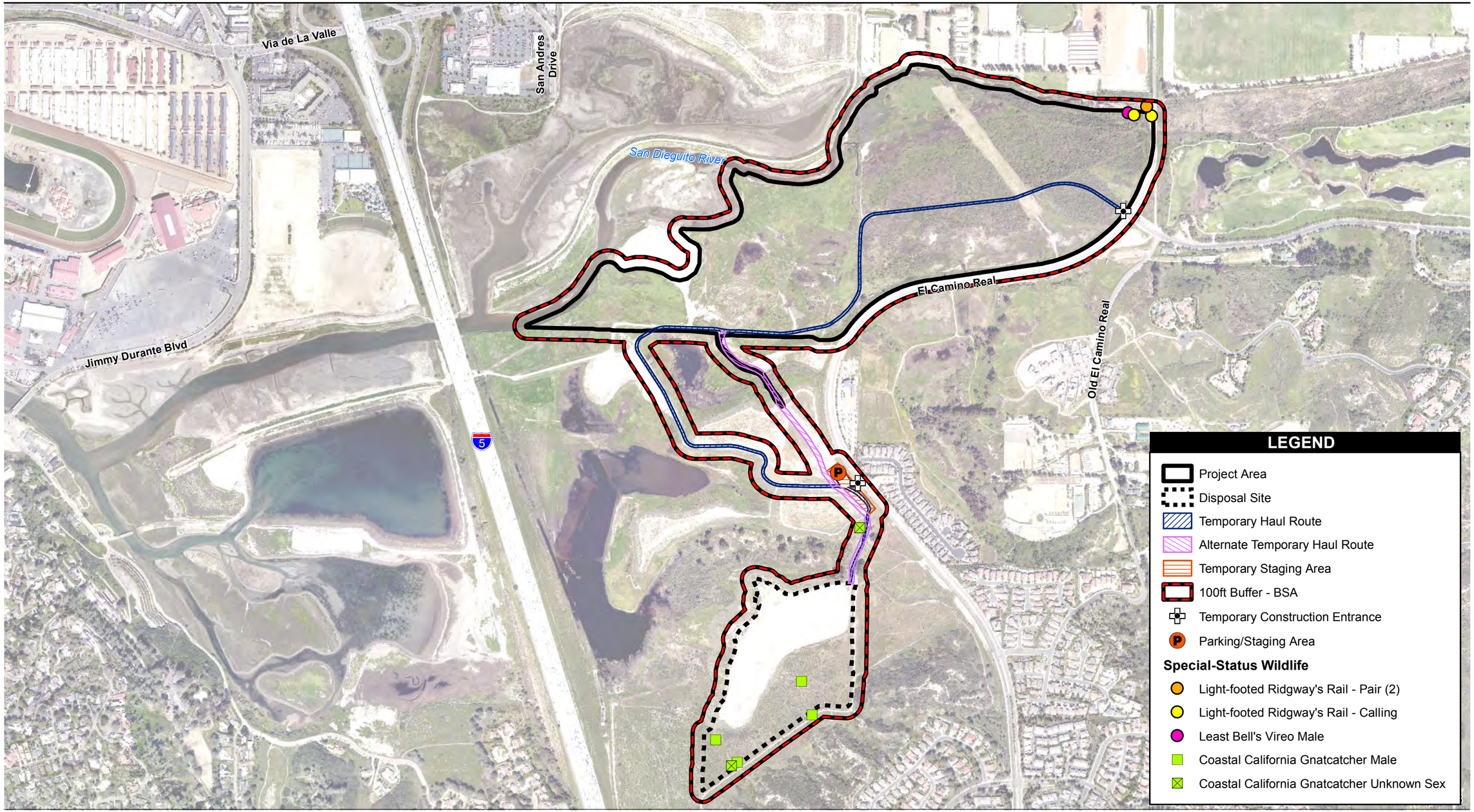
Source: Dokken 2015; AECOM 2013; SANDAG 2014.

850 425 0 850 Feet

Scale: 1:10,200 1 inch = 850 feet

Figure 5.6-3
Special-Status Plants Detected in the BSA

Path: P:\2012\60274999_SD_W19\06GIS\6.3_Layout\Reports\EIR\Sensitive_Plants.mxd, 10/10/2018, paul.moreno



Source: Dokken 2015; AECOM 2013; Konecny 2012; Caltrans 2011; Nordby 2012, 2013; SANDAG 2017.

850 425 0 850 Feet

Scale: 1:10,200 1 inch = 850 feet

Figure 5.6-4
Special-Status Wildlife Detected in the BSA

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- least Bell's vireo (*Vireo bellii pusillus*), and
- coastal California gnatcatcher (*Polioptila californica californica*).

The state-listed Belding's savannah sparrow also has potential to occur in the BSA and is discussed below.

Light-footed Ridgway's Rail

The light-footed Ridgway's rail is federal- and state-listed as endangered, and is fully protected under state law. Light-footed Ridgway's rail is a year-round resident at San Dieguito Lagoon and can be heard calling in the morning and evening, although it is rarely seen. In its present condition, there is very little habitat for the species within the BSA, primarily consisting of cattails and bulrush located along the San Dieguito River. During focused surveys for light-footed Ridgway's rail in 2012 conducted for the project by Konecny Biological Consulting, no light-footed Ridgway's rails were observed within the project site. ~~Two~~One pair~~s~~ of rails wa~~s~~ere heard in the San Dieguito River, immediately downstream of the El Camino Real Bridge and inside the BSA. In addition, two individuals were heard calling during least Bell's vireo focused surveys from the brackish and freshwater marsh areas adjacent to the river in the BSA, as described in the BSR (Appendix G) and illustrated in Figure 5.6-4. Monthly volunteer bird surveys have detected light-footed Ridgway's rails in the lagoon east of I-5 as well. Additionally, previous environmental documentation has identified a rail population upstream of the El Camino Real Bridge (Caltrans 2015). The species therefore has a high potential to occur within the project BSA, although a low potential to occur within the project limits of disturbance.

California Least Tern

The California least tern is a federal- and state-listed endangered species. Within the San Dieguito Lagoon area, the California least tern was recorded during monthly volunteer bird counts between 2010 and 2013 (Appendix G). Adjacent to the BSA, suitable nesting habitat is present in the form of a manufactured, maintained, and fenced nesting site, created by the SCE restoration project for the 22nd District Agricultural Association (who monitors and manages the site). California least terns were observed at San Dieguito Lagoon during surveys conducted of the created nesting sites at various times between 2011 and 2015. Nesting attempts were documented during 2013 surveys west of I-5 in nesting sites 11 and 12. One nest hatched but did not successfully fledge, while the other two documented nests were abandoned or predated prior to hatching (Avian Research Associates 2012 through 2016). No nesting attempts have been documented east of I-5 near the proposed project site. Additionally, least tern were not observed during any focused avian surveys conducted for this project, and the quality of open water foraging habitat onsite is marginal. Therefore, a low potential exists for the species to occur within the W-19 site, but high potential to occur within the BSA due to the adjacency of the nesting site created as part of the SCE restoration project.

Least Bell's Vireo

The least Bell's vireo is a migratory federal- and state-listed endangered species known to occur onsite. Within the BSA, immediately west of the existing El Camino Real Bridge, approximately

10.9 acres of riparian and disturbed tree tobacco habitat provides marginally suitable habitat for the least Bell's vireo. This species was detected in disturbed tree tobacco during focused protocol surveys conducted by Nordby Biological Consulting in 2012 and 2013 (Appendix G). One individual least Bell's vireo was detected in the riparian vegetation of the W-19 site, as shown in Figure 5.6-4. Additionally, volunteer bird surveys have observed nesting least Bell's vireo within the W-19 site for the last 3 or 4 years, specifically within the thickets of tree tobacco on both sides of the utility corridor (Lesley, personal communication, 2016). Therefore, although the habitat quality is low within the site, the species has a high potential to occur.

Coastal California Gnatcatcher

The coastal California gnatcatcher is listed as federally threatened and is a state species of special concern. California gnatcatcher is known to utilize the portion of the San Dieguito Lagoon area encompassing the W-19 and disposal sites, as reported from the monthly volunteer bird counts (Appendix G). The species is known to occur from previous project studies within the coastal sage scrub and coyote bush scrub communities located on the slopes adjacent to the disposal site and the eastern part of the W-19 site, respectively (eBird 2016). The W-19 site contains approximately 42 acres of coyote bush scrub and represents low-quality, but potentially suitable gnatcatcher habitat. The species was not detected by Caltrans in the W-19 site in 2011 during focused surveys conducted for the proposed project (Caltrans 2011a). Though not focused surveys, citizens have documented the California gnatcatcher in the coyote bush scrub in the W-19 area in 2016 (eBird 2016). In addition, at least two individuals were detected within the disposal site and one individual in the haul route buffers during focused surveys conducted ~~of the disposal site~~by AECOM in 2013 (Appendix G) (Figure 5.6-4), which contains moderately suitable coyote bush scrub habitat. Therefore, a moderate potential exists for the species to occur within the W-19 site and a high potential for occurrence within the disposal site.

Belding's Savannah Sparrow

Belding's savannah sparrow is state-listed as endangered. Along the western portion of the San Dieguito River and in the western part of the BSA are 12.1 acres of low-quality saltmarsh suitable for Belding's savannah sparrow, although the species prefers pickleweed in intertidal marsh immediately adjacent to the shoreline and outside the project site (USFWS/San Dieguito River Park JPA 2000). The species has been detected consistently in the lagoon area during monthly volunteer bird counts (Appendix G). Recent focused surveys did not document the species within the BSA (Konecny 2012). Because the habitat onsite is limited and primarily low quality, and there is adjacent habitat preferred by the species, there is a low potential for them to occur onsite.

Non-listed Special-Status Wildlife Species

In addition to the federal- and state-listed species discussed above, several non-listed special-status wildlife have a high potential to occur in the BSA. Those species detected within the BSA that are resident or breeding are discussed below. Additional non-listed special-status species are known from previous project studies to occur in the general lagoon area (e.g., SCE restoration project, monthly volunteer bird counts) for which suitable habitat is present in the BSA, and no

focused surveys were completed for the proposed project. Of these species, those that are resident or breeding and have a high likelihood to occur based on other sources mentioned above are also discussed herein. The species meeting these criteria include:

- yellow warbler (*Setophaga petechia*),
- yellow-breasted chat (*Icteria virens*),
- white-tailed kite (*Elanus leucurus majuscules*),
- northern harrier (*Circus cyaneus*),
- loggerhead shrike (*Lanius ludovicianus*),
- Clark's marsh wren (*Cistothorus palustris clarkae*),
- least bittern (*Ixobrychus exilis*),
- northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), and
- San Diego black-tailed jackrabbit (*Lepus californicus benettii*).

Other species with potential to occur, but not known to occur in the general lagoon area, or not resident or breeding, are discussed in Appendix G only.

Birds

Yellow Warbler

The yellow warbler is a state species of special concern. The yellow warbler breeds from northern Alaska and Canada southward to the middle United States and in the western United States southward into Mexico. This species occurs most commonly in riparian woodlands dominated by willows.

The yellow warbler is primarily associated with southern willow scrub habitat but can be found in other riparian communities. This species, however, can also be found foraging in other habitats within the BSA during migration and post-breeding dispersal. This species is known to utilize the approximately 10.9 acres of suitable riparian habitat in the BSA, and was recorded during the 2011 Caltrans focused coastal California gnatcatcher surveys east of the transmission line corridor near the river in stands of tree tobacco (Scatolini, personal communication, Scatolini 2016). During 2016 monthly volunteer bird counts, the yellow warbler was also observed (Appendix G). Therefore, a high potential exists for the species to occur onsite.

Yellow-breasted Chat

The yellow-breasted chat is a state species of special concern. This species breeds across the central and eastern United States and southern Canada from South Dakota to New Hampshire and southward to eastern Texas and northern Florida. It also occurs in scattered regions across the western United States from southern Canada to very northern Mexico. In San Diego County, the yellow-breasted chat occurs in the coastal lowlands and is heavily concentrated in the northwest portion of the county (i.e., Santa Margarita River and San Luis Rey River) (Unitt 2004).

The yellow-breasted chat is primarily associated with riparian habitat, approximately 10.9 acres of which are found in the northeastern part of the BSA. This species is known to utilize suitable riparian habitat in the BSA, and was recorded during 2011 Caltrans' protocol coastal California gnatcatcher surveys east of the transmission line corridor near the river in stands of tree tobacco (Scatolini, personal communication, 2016). During monthly volunteer bird counts, the yellow-breasted chat has also been observed (Appendix G). Therefore, a high potential exists for the species to occur onsite.

White-tailed Kite

The white-tailed kite is a CDFW fully protected species. White-tailed kites are resident in southern Texas and California; in southern California, kites are widespread except in the Anza-Borrego Desert (Unitt 2004). While this species is commonly observed hunting within savanna, open woodlands, marshes, grasslands, and agricultural fields, they are known to almost exclusively nest in association with watercourses. Nests are typically placed in the crowns of live oaks or other densely foliaged trees.

Suitable foraging habitat occurs in the approximately 10.9 acres of riparian habitat in the BSA, and in the approximately 14 acres of nonnative grasslands. This species is known to utilize suitable habitat in the BSA as one to three juveniles were detected during focused least Bell's vireo surveys by Nordby Biological Consulting in the W-19 site in 2012. AECOM also detected one individual within the northern portion of the disposal site, and one individual outside of the BSA near the disposal site during focused California gnatcatcher surveys in 2013. During monthly volunteer bird counts, white-tailed kite has been consistently observed (Appendix G). Therefore, a high potential exists for the species to forage onsite.

Northern Harrier

The northern harrier is a state species of special concern. San Diego County lies at the southwest edge of the harrier's breeding range in North America (Johnsgard 1988). Northern harrier is an uncommon to fairly common winter visitor and rare and local summer resident in the coastal lowlands of San Diego County (Unitt 2004). Harriers breed in marshes and grasslands and forage in grasslands, agricultural fields, wetlands, and open coastal sage scrub.

Northern harrier is typically found utilizing the marshes, grasslands, and open water habitats, which together total approximately 33 acres in the BSA. Although this species was not detected during focused surveys for listed species within the BSA, it has been detected during monthly volunteer bird counts (Appendix G), and therefore could utilize suitable habitat within the BSA. Due to the presence of suitable habitat onsite and volunteer bird survey observations, there is a high potential for the species to occur onsite.

Loggerhead Shrike

Loggerhead shrike is a CDFW species of special concern. It is an uncommon year-round resident of San Diego County but the species is known to winter in the region (Unitt 2004). Suitable habitats include chaparral, desert, and saltbush scrub, particularly near dense vegetation that it uses for concealing and protecting the nest (Unitt 2004). Suitable habitat is present within the

BSA, although the dense coyote bush scrub onsite is marginal in quality and saltbush scrub previously located within the disposal site has since been removed. Though this species was not detected in the BSA during focused surveys for listed species, it has been detected during monthly volunteer bird surveys (Appendix G). Therefore, a high potential exists for the species to occur onsite.

Clark's Marsh Wren

Clark's marsh wren is a CDFW species of special concern. It is a year-round resident of coastal freshwater and brackish marshes in coastal southern California. This species actively moves about on or near marshes, gleaning insects from plants and just below the water surface. This species was detected in habitat along the San Dieguito River within the BSA in 2009 (Caltrans 2015) and has the potential to breed in the approximately 1.8 acres of freshwater and brackish marsh within the BSA. In addition, it has been detected during monthly volunteer bird counts (Appendix G). The species has a high potential to occur within the BSA, although a low potential to occur within the boundaries of the W-19 site.

Least Bittern

Least bittern is a CDFW species of special concern that inhabits marshes and large emergent wetlands with cattails. It is an inconspicuous tiny heron that feeds on small fish and insects. There is suitable breeding habitat within the approximately 1.5 acres of freshwater marsh in the northern part of the BSA. Although this species was not detected during focused surveys for listed species within the BSA, a few individuals were detected during monthly volunteer bird counts in 2013 and 2015 (Appendix G). The species has a high potential to occur within the BSA, although a low potential to occur within the boundaries of the W-19 site itself.

Mammals

A wide variety of mammals use the San Dieguito Lagoon and river valley for foraging, breeding, and other life activities. In addition to the special-status species described in this section, many common mammals are found in the lagoon setting. Examples of common mammal species include mule deer, coyotes, raccoons, ground squirrels, and cottontail rabbits.

Northwestern San Diego Pocket Mouse

The northwestern San Diego pocket mouse is a common resident of sandy herbaceous areas in southwestern California. In San Diego County, this species occurs mainly in arid coastal and desert border areas. This species forages on seeds of forbs, grasses, and shrubs. Burrows are excavated in gravelly or sandy soil, and used for daytime resting, predator escape, and care of young.

Northwestern San Diego pocket mouse was detected in the San Dieguito Lagoon area during a 1994 small mammal trapping survey (SJM Biological 1994), although not specifically within the BSA. It was found east and west of I-5 in areas supporting elements of sage scrub or nonnative grassland. Because this species has been detected in the lagoon area previously, and suitable nesting and foraging habitat occurs onsite, it has moderate potential to occur in the BSA.

San Diego Black-Tailed Jackrabbit

The San Diego black-tailed jackrabbit has a distribution throughout southern California and is a CDFW species of special concern. This species is a generalist and utilizes open or semi-open habitats, typically in grasslands, agricultural fields, or sparse coastal scrub (this type of habitat can also exist in transitional areas). The black-tailed jackrabbit is an herbivore, feeding on grasses, forbs, and shrubs, and is known to breed year-round.

The San Diego black-tailed jackrabbit is known to occur in the San Dieguito Lagoon area from previous surveys (USFWS and San Dieguito River Park JPA 2000). Its presence in the BSA is unknown, although coastal sage scrub, coyote bush scrub, and nonnative grasslands in the BSA represent suitable habitat for the species. Therefore, a high potential exists for the species to occur.

Jurisdictional Waters and Wetlands

Jurisdictional waters are limited to the W-19 site and buffer, and do not occur along the haul routes or in the disposal site. A Preliminary Jurisdictional Determination has been accepted by the Corps, and is included in Appendix J. A total of 17.04 acres of jurisdictional waters of the U.S. and potential jurisdictional waters of the state occurs within the site; jurisdictional water extent in the 100-foot buffer was not calculated. Of these, 6.4 acres are considered waters of the U.S. and state, and 10.6 acres are considered potential waters of the state only. Jurisdictional waters of the U.S. are presented in Figure 5.6-5, Jurisdictional Waters of the U.S., and potential jurisdictional waters of the state are presented in Figure 5.6-6, Potential Jurisdictional Waters of the State. Waters of the U.S. and potential state waters are also summarized in Table 5.6-3, Potential Waters of the U.S. and State Occurring in the BSA.

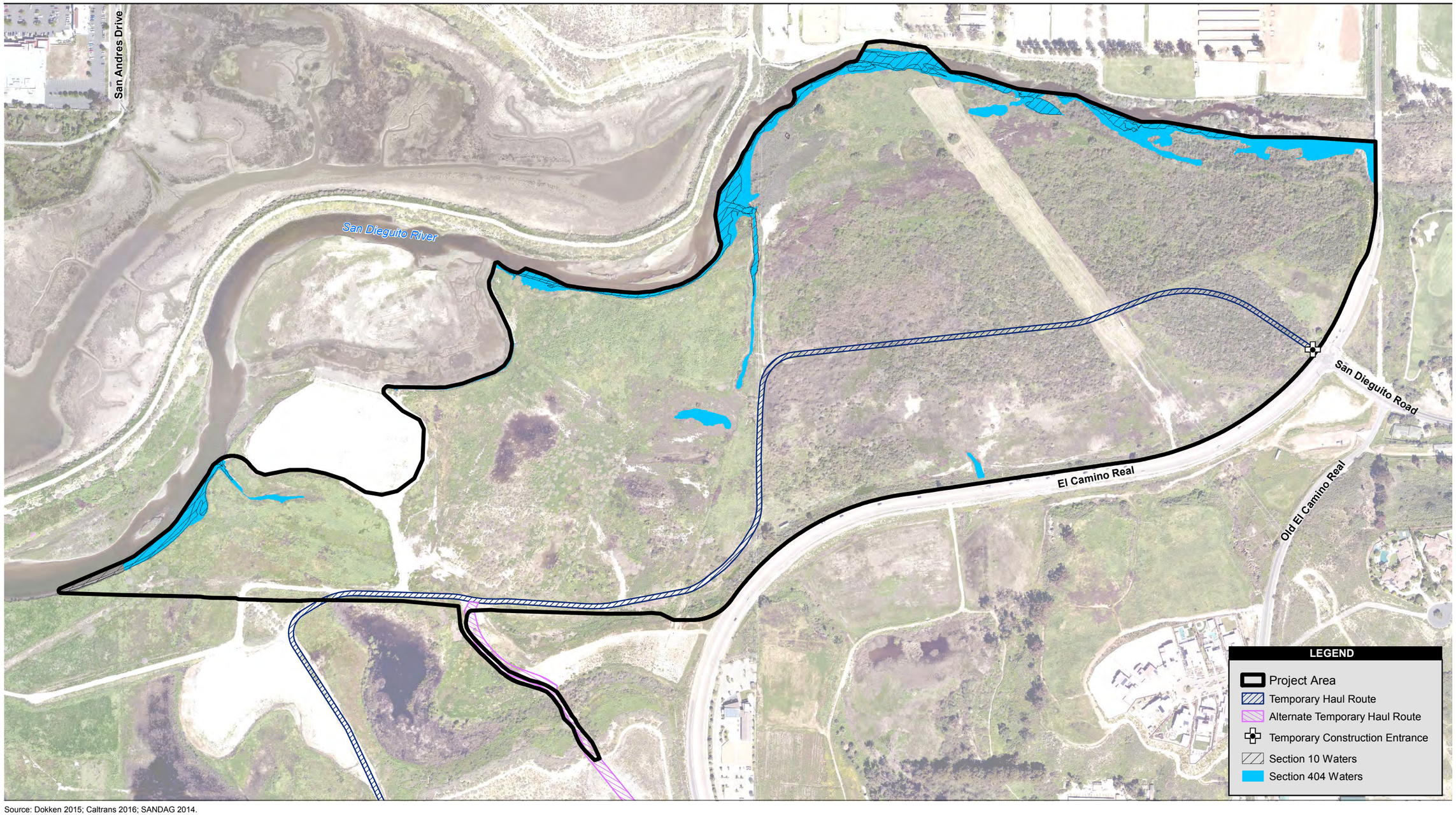
Table 5.6-3
Potential Waters of the U.S. and State Occurring in the BSA

Jurisdiction	Area of Aquatic Resource (acres)
Jurisdictional Waters of the U.S. and State	6.44
Jurisdictional Waters of the State Only	10.6
Total	**17.04**

Source: Caltrans 2016c

Wildlife Corridors/Connectivity

Connectivity, or the ability of organisms to move through a landscape, is essential in heterogeneous landscapes, especially in increasingly urban settings, for the persistence of healthy and genetically diverse animal communities. Corridors can facilitate connectivity on different temporal and spatial scales. Corridors are linear landscape features that allow for species movement over time between two patches of habitat or patches of vital resources that would otherwise be disconnected (Beier and Noss 1998; Lidicker and Peterson 1999; Beier et al. 2008). Because many wildlife species have species-specific habitat requirements for survival and



Source: Dokken 2015; Caltrans 2016; SANDAG 2014.

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Scale: 1:4,800 1 inch = 400 feet

Figure 5.6-5
Jurisdictional Waters of the U.S.

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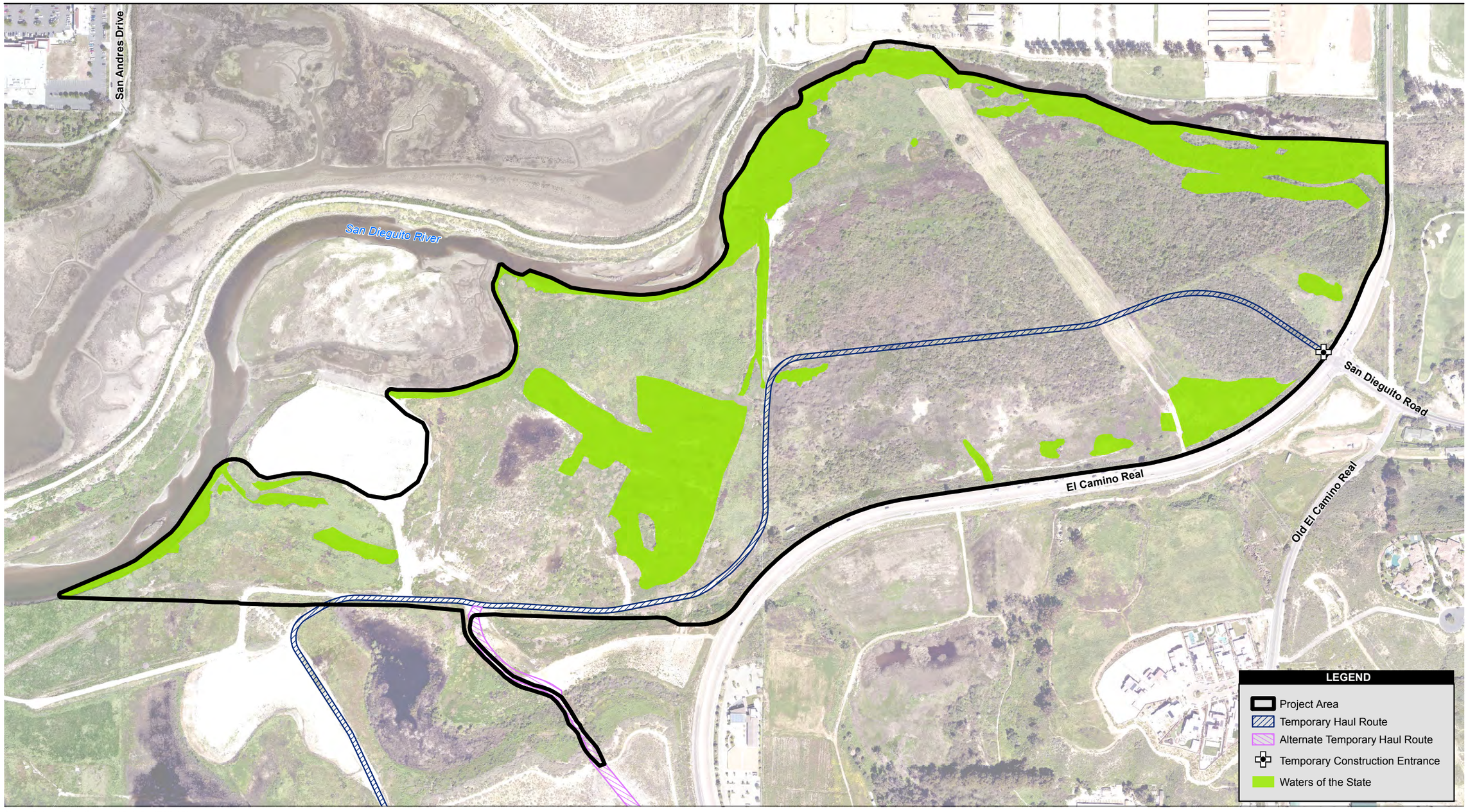

Source:Dokken 2015; Caltrans 2016; SANDAG 2014.

400 200 0 400 Feet

Scale: 1:4,800 1 inch = 400 feet

Figure 5.6-6
Potential Jurisdictional Waters of the State

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dispersal, corridors may also be species specific. At a minimum, corridors promote local colonization or recolonization of distinct habitat patches and potentially increase genetic variability within and between populations. Isolation of populations can have harmful effects on both population genetics and metapopulation dynamics. In addition, increased exposure to an inhospitable urban matrix due to reductions in connectivity can increase general mortality. All of these factors can contribute significantly to local species extinctions. Thus, corridors help species populations, distributed in and among habitat patches, to persist over time.

Local corridors allow resident animals to access critical resources (food, water, and cover) in other areas that might otherwise be isolated. A wildlife movement study was not conducted within the BSA; however, the area is important to local wildlife movement. In general, wildlife species are likely to use habitat in the BSA for movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover).

Regional corridors link two or more large areas of natural open space. San Dieguito Lagoon is identified as a regional corridor in the City's MSCP Subarea Plan and provides a major east/west corridor for wildlife movement along the San Dieguito River. It also serves as a linkage between the San Dieguito river valley and Gonzales Canyon to the south, and San Dieguito river valley and Black Mountain Park to the east. Within the project site, the undercrossing under El Camino Real also provides wildlife movement from Gonzales Canyon to the primary San Dieguito River corridor. San Dieguito Lagoon is important in that it provides a large area of habitat for core populations of special-status wildlife and plant species. This importance is recognized in the San Dieguito River Park's Master Plan for Coastal Areas, as the plan calls for restoration of habitats up and down the river corridor so that wildlife might move between different areas (San Dieguito River Park JPA 2000).

W-19 Maintenance Sand Placement Site

As described in Chapter 3, material generated through wetlands maintenance activities would be placed on nearby beaches, within the same footprint used for maintenance of the SCE restoration project. Beaches adjacent to the San Dieguito River inlet are dynamic but mainly characterized by sandy conditions. Snowy plover have been detected west of I-5 during monthly volunteer bird surveys. The nearest documented nesting plover populations are located within Batiquitos Lagoon, approximately 9 miles north of the site (Avian Research Associates 2012 and 2014). The amount of sand varies by season and annually, but is suitable for grunion, which have been known to use the beach for spawning (Coastal Environments 2011). Beach placement could affect adjacent nearshore sensitive resources. However, based on SANDAG's 2004 surveys, the nearest resources (surfgrass) are located approximately 400 feet from the placement sites.

5.6.2 IMPACT THRESHOLDS

A. Result in a substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in the MSCP or other local or regional plans, policies or regulations, or by CDFW or U.S. Fish and Wildlife Service (USFWS);

B. Result in a substantial adverse impact on any Tier I Habitats, Tier II Habitats, Tier IIIA Habitats, or Tier IIIB Habitats as identified in the Biology Guidelines of the Land Development manual or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS;

C. Result in a substantial adverse impact on wetlands (including, but not limited to, marsh, vernal pool, riparian, etc.) through direct removal, filling, hydrological interruption, or other means;

D. Result in interfering substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, including linkages identified in the MSCP Plan, or impede the use of native wildlife nursery sites;

E. Result in a conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan, either within the MSCP Plan area or in the surrounding region;

F. Result in introducing land use within an area adjacent to the MHPA that would result in adverse edge effects;

G. Result in a conflict with any local policies or ordinances protecting biological resources; or

H. Result in an introduction of invasive species of plants into a natural open space area.

The CEQA impact thresholds for biological resources are those recommended by the City of San Diego Development Services Department (City of San Diego 2011).

5.6.3 IMPACT ANALYSIS

Because lagoon restoration and materials disposal would take place within the same open space area and certain biological resources may overlap the two sites, the restoration site and disposal site are analyzed together in this section. Beach placement sites for maintenance-generated material are separated from the restoration and disposal sites and are analyzed separately below. Biological impacts are analyzed as either direct or indirect impacts, which may be permanent or temporary in nature. In the context of the proposed project, permanent conversion of disturbed or lower quality habitats to higher quality wetland and upland habitats would occur within the limits of disturbance. Some impacts may be both temporary (e.g., graded during construction) as well as permanent (e.g., converted to a different type of habitat in the long term); therefore, impacts cannot necessarily be added together. Impact categories are defined below:

Direct Impacts: A direct impact is a physical change in the environment that is caused by and immediately related to the project. An example of a direct physical change in the environment is the removal of vegetation due to brushing, grubbing, grading, trenching, and excavating.

Indirect Impacts: An indirect impact is a physical change in the environment that is not immediately related to the project, but which is caused indirectly by the project. If a

direct impact in turn causes another physical change in the environment, then the secondary change(s) is an indirect impact.

Permanent Impacts: For the purposes of this restoration project, long-term changes in the environment are those changes that are anticipated to occur or be maintained over the long term (i.e., intentional conversion of habitat or changes that would remain post-construction when resources have become reestablished, usually 5 to 10 years post-restoration).

Temporary Impacts: Any benefits or impacts considered to have reversible impacts on biological resources can be viewed as temporary. Graded areas would be temporarily impacted during construction, for example, even if they would establish as habitat after construction. Newly planted vegetation would take time to establish and become suitable breeding and foraging habitat. These impacts are therefore considered short-term impacts and would occur to habitats/waters/species but be reversible over 5 to 10 years, as vegetation becomes established. In addition, temporary impacts may be construction related, and may include the generation of fugitive dust during construction and construction-related noise.

W-19 Restoration/Materials Disposal

Vegetation Communities

Permanent Direct Impacts

W-19 Site

Within the W-19 site, the proposed project would result in permanent post-restoration gain of approximately 64.2 acres of wetland, and a loss of approximately 16.9 acres of upland vegetation communities, mostly from the replacement of coyote bush scrub with wetland communities (Table 5.6-4). In addition, the gain in wetland habitat would result in a corresponding decrease of bare ground/disturbed habitats.

Table 5.6-4
Proposed Project – Permanent Impacts to Vegetation Communities and Cover Types in the W-19 Site[1]

Vegetation Community or Cover Type	Wetland/Upland Tier Value[2]	Existing in W-19 Site (Acres)	Post Restoration (Acres)	Net Change in Acres
Wetlands and Riparian				
Alkali Marsh	Salt Marsh	2.4	0	-2.4
Brackish Marsh	Salt Marsh/ Freshwater Marsh	0.2	14.9	+14.7
Disturbed Wetland	Disturbed Wetland	0.3	0	-0.3
Freshwater Marsh	Freshwater Marsh	0.2	0	-0.2
Salt Marsh (Mid-High)[3]	Salt Marsh	8.8	27.4	+18.6
Low Salt Marsh	Salt Marsh	0	17.7	+17.7
Mudflat	Salt Panne	1.2	6.1	+4.9

Vegetation Community or Cover Type	Wetland/Upland Tier Value[2]	Existing in W-19 Site (Acres)	Post Restoration (Acres)	Net Change in Acres
Open Water	--	0.5	10.6	+10.1
Riparian		8.2	9.3	+1.1
Native Riparian	*Riparian Forest/ Riparian Scrub*	*5.6*	*9.3*[4]	*+3.7*
Nonnative Riparian	--	*2.6*	*0*	*-2.6*
Wetlands and Riparian Subtotal		***21.8***	***86.0***	***+64.2***
Uplands				
Coastal Sage Scrub	II	1.9	25.6	+23.7
Coyote Bush Scrub	--	41.1	0	-41.1
Nonnative Grassland	IIIB	11.1	0.6	-10.5
Saltbush Scrub	--	9.5	0	-9.5
Tree Tobacco	--	0.4	0	-0.4
Transitional	--	4.3	25.2	+20.9
Uplands Subtotal		***68.3***	***51.4***	***-16.9***
Cover Types				
Bare Ground/Disturbed[5]	IV	51.9	3.3[2]	-48.6
Developed[6]	--	0.2	1.7[3]	+1.5
Cover Types Subtotal		***52.1***	***5.0***	***-47.1***
Grand Total		**142.2**	**142.4**	**+0.2**

[1] Totals may not sum due to rounding.
[2] Wetland/Upland Tier values that are not categorized by the Land Development Code Biology Guidelines (City of San Diego 2012) are blank.
[3] Includes approximately 2.1 acres of disturbed salt marsh/mulefat scrub.
[4] Includes 4.9 acres of riparian enhancement.
[5] Includes 1 acre of proposed trail.
[6] Includes existing plus 1.5 acres of maintenance road proposed at the top of the berm.

Planting, amendment of saline soils, and irrigation would occur to facilitate recovery of graded habitat, but it would take time for habitats to reestablish in the project area. Within 5–10 years following restoration, habitats are expected to have substantially recovered and matured. The primary changes in habitat distributions under the proposed project would be transformation of existing upland and disturbed habitats to sensitive wetland habitats. Specifically, coyote bush scrub, saltbush scrub, and bare ground would be graded and restored to mudflat, brackish marsh, low salt marsh, mid-high salt marsh, and coastal sage scrub.

Existing lagoon habitat has experienced a historical conversion of a range of marsh habitats to upland disturbed communities. The proposed project would increase the overall acreage of high value vegetation communities in the W-19 site, and the resources in the W-19 site would experience the benefits from the restored/improved hydrologic connectivity to the historic lagoon complex.

Disposal Site and Haul Routes

Direct permanent impacts to vegetation communities in the disposal site and haul routes are described in Table 5.6-5 below.

Table 5.6-5
Post-Restoration Vegetation Communities and Cover Types in the Disposal Site and Haul Routes[1]

Vegetation Communities and Cover Types	Existing (Acres)		Proposed (Acres)	
	Disposal Site	Haul Routes[2]	Disposal Site	~~Haul Route~~
Coastal Sage Scrub	0.0	0.0	31.5	~~0.7~~
Coyote Bush Scrub	14.4	1.2~~0.3~~	0.0	~~0.0~~
Unvegetated/ Saltbush Scrub[3~~2~~]	17.1	0.1~~0.3~~	0.0	~~0.0~~
Saltbush Scrub	0.0	0.3	0.0	
Uplands Subtotal	***31.5***	***1.6~~0.6~~***	***31.5***	***~~0.7~~***
Bare Ground/Disturbed	0.0	4.2~~1.8~~	0.0	~~1.8~~
Other Subtotal	***0.0***	***4.2~~1.8~~***	***0.0***	***~~1.8~~***
GRAND TOTAL	**31.5**	**5.8~~2.5~~**	**31.5**	**~~2.5~~**

[1] Totals may not sum due to rounding. Totals include haul route options.
[2] Temporary impact areas along the haul routes would be revegetated post-construction to ensure soil stabilization.
[3~~2~~] The portion of the disposal site used as DS-36 for the proposed project is currently unvegetated (see Figure 5.6-2).

The disposal site and portions along the haul routes connecting to the disposal site are~~is~~ currently partially graded and continues to be used for the SCE restoration project. As a result, previous saltbush scrub areas are currently unvegetated (Nordby, personal communication, 2016a). Post restoration, the entire disposal site would be revegetated with coastal sage scrub, a Tier II habitat, to provide functional habitat for the support of upland avian and mammal species. While the current disposal site has inconsistent habitat value and does not provide suitable foraging or nesting habitat for sensitive species, a number of measures have been incorporated into the proposed project to facilitate establishment of coastal sage scrub, such as the removal and stockpiling of high-quality topsoil for use as a cap after grading is completed (PDF-21); the incorporation of soil amendments in saline soils prior to capping and/or planting, as needed (PDF-22); and irrigation of planted areas with fresh water, as required (PDF-23). Monitoring and adaptive management identified in Section 3.5, including monitoring for invasives and weed abatement, would then ensure successful revegetation of the site with coastal sage scrub.

As seen in Tables 5.6-4 and 5.6-5, the higher value (as defined by the City's Biology Guidelines) wetlands and coastal sage scrub habitats would generally increase in acreage, while the lower value (or no assigned value) upland and bare ground habitats would generally decrease in acreage. Although nonnative grassland (Tier IIIB) would be reduced from 11.1 acres under existing conditions to 0.6 acre post-restoration (Table 5.6-4), it would be converted to higher value wetlands such as brackish marsh and salt marsh. The existing 8.2 acres of nonnative riparian and riparian would be increased to 9.3 acres of riparian. This represents an overall increase of 1.1 acres of riparian habitat, and enhancement of nonnative riparian areas (primarily by removing nonnative invasive species such as tamarisk) would further increase quality and riparian acreage dominated by native species. The project proposes a permanent post-restoration increase in and enhancement of sensitive habitat, and would not result in a substantial adverse impact on any Tier I, Tier II, Tier IIIA, or Tier IIIB habitats. **Permanent direct adverse impacts to sensitive vegetation communities would be less than significant (Criterion B).**

Temporary Direct Impacts

W-19 Site

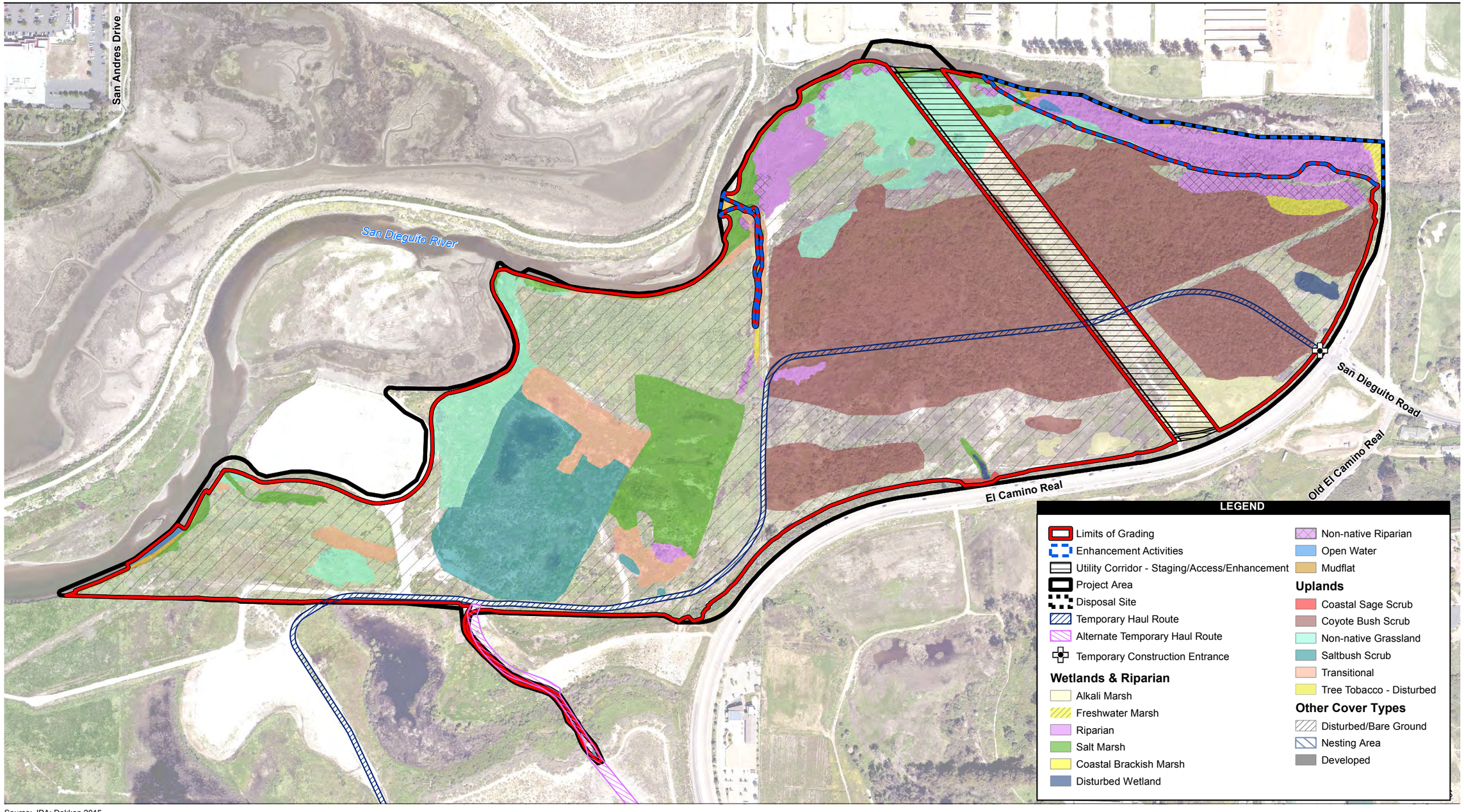
Construction of the proposed project would result in temporary impacts to sensitive habitats associated with soil removal/movement during grading operations, focused vegetation removal during riparian enhancement, invasives removal during open water enhancement, and other project construction activities (Figure 5.6-7, Limits of Disturbance – Proposed Project). Table 5.6-6 below describes direct temporary impacts to existing vegetation communities within the W-19 site. Wetland and riparian vegetation communities are designated as sensitive biological resources in several applicable plans and policies, including the City of San Diego's Land Development Code Biology Guidelines (City of San Diego 2012), but are not assigned upland tier values.

Table 5.6-6
Proposed Project – Temporary Impacts to Vegetation Communities and Cover Types within the W-19 Site[1]

Vegetation Community or Cover Type	Wetland/Upland Tier Value[2]	Temporary Impacts (Acres)
Wetlands and Riparian		
Alkali Marsh	Salt Marsh	2.3
Brackish Marsh	Salt Marsh/Freshwater Marsh	0.2
Disturbed Wetland	Disturbed Wetland	0.3
Freshwater Marsh	Freshwater Marsh	0.2
Salt Marsh	Salt Marsh	8.1
Mudflat	Salt Panne	0.5
Open Water	--	0.2
Riparian	Riparian Forest/Riparian Scrub	5.5
Nonnative Riparian	Riparian Forest/Riparian Scrub	2.6
Wetlands and Riparian Subtotal		***19.9***
Uplands		
Coastal Sage Scrub	II	0.2
Coyote Bush Scrub	--	41.1
Nonnative Grassland	IIIB	10.5
Saltbush Scrub	--	9.4
Transitional	--	4.2
Tree Tobacco	--	0.4
Uplands Subtotal		***65.8***
Cover Types		
Bare Ground/Disturbed	IV	49.6
Developed	--	0
Cover Types Subtotal		***49.6***
Grand Total[2]		**135.3**

[1] Totals may not sum due to rounding.
[2] Wetland/Upland Tier values that are not categorized by the Land Development Code Biology Guidelines (City of San Diego 2012) are blank.

The proposed project would result in temporary impacts to the majority of the W-19 area, as seen in Figure 5.6-7. (Note: the BSA does not include adjacent lagoon areas, including the 440 acres of recently restored area). Temporary impacts include impacts from grading, riparian creation and enhancement, and open water enhancement. Habitat enhancement would involve the focused removal of invasive species by hand from existing habitat areas without the destruction of the



Source: JPA: Dokken 2015

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Scale: 1:4,800 1 inch = 400 feet

Figure 5.6-7
Limits of Disturbance
Proposed Project

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habitat itself. Therefore, habitat impacts would not occur in areas identified for enhancement. Grading would remove vegetation, some of which is identified under sensitive tier categories by the City, and would result in a temporary impact to 27.4 acres of wetlands and upland habitats identified as sensitive under the Land Development Code Biology Guidelines (City of San Diego 2012). **Direct temporary impacts to sensitive vegetation communities would result in a substantial adverse impact to sensitive communities and would be considered significant (Criterion B).**

Disposal Site and Haul Routes

The haul routes are~~is a~~ previously disturbed road used by vehicles in the past. Portions of the route would be temporarily widened to accommodate construction trucks. ~~It~~The routes consist~~s~~ of 1.2~~0.3~~ acres of coyote bush scrub, 0.1~~0.3~~ acre of unvegetated/saltbush scrub habitat, 0.3 acre of saltbush scrub habitat, and 4.2~~1.8~~ acres of bare ground/disturbed/ornamental. An optional haul route alignment and staging area, located east of the existing haul route segment and utilizing portions of the proposed trail, has been identified as an alternative route. This haul route segment could potentially shorten distances to the disposal site. Temporary direct impacts to vegetation communities along the haul routes would be limited, as the haul routes are~~is~~ an existing dirt road, and would be returned to pre-construction conditions. Table 5.6-7 describes the temporary impacts to both the disposal site and haul routes.

Table 5.6-7
Proposed Project – Temporary Impacts to Vegetation Communities and Cover Types in the Disposal Site and Haul Routes[1]

Vegetation Communities and Cover Types	Temporary Impacts (Acres)	
	Disposal Site	Haul Routes
Coyote Bush Scrub	14.4	1.2~~0.3~~
Nonnative Grassland	0.0	0.0
Unvegetated/ Saltbush Scrub[2]	17.1	0.1~~0.3~~
Saltbush Scrub	0.0	0.3
Uplands Subtotal	***31.5***	***1.6~~0.6~~***
Bare Ground/Disturbed/Ornamental	0.0	4.2~~1.8~~[3]
Other Subtotal	***0.0***	***4.2~~1.8~~***
GRAND TOTAL	**31.5**	**5.8~~2.4~~**

[1] Totals may not sum due to rounding. Totals include haul route options.
[2] The portion of the proposed project disposal site used as DS-36 is currently unvegetated.
[3] This area represents an existing dirt access road that would continue to be used throughout construction; it is included because it has an assigned tier value by the City of San Diego.

The disposal site includes 14.4 acres of coyote bush scrub outside of the DS-36 boundary and approximately 17.1 acres of unvegetated ~~soil~~ area within the northwestern portion of the site, designated as DS-36 for the SCE restoration project. Unvegetated areas have been previously mapped as saltbush scrub after soil stabilization efforts by SCE, but are currently unvegetated and the site ~~within the DS-36 boundary that~~ continues to be used for the SCE restoration project. Temporary impacts include the removal of vegetation on the disposal site, stockpiling good quality

topsoil, and grading of the site. Of the vegetation communities in the disposal site and haul routes, only bare ground/disturbed is identified in the Land Development Code Biology Guidelines (City of San Diego 2012) tier structure (Tier IV), and it is not included in the identification of significant impacts (which address only Tier I to Tier IIIB habitats).**The project would not cause direct temporary impacts to Tier I, II, IIIA, or IIIB habitats in the disposal site and haul routes, and adverse impacts would be less than significant (Criterion B).**

Indirect Impacts

Permanent and temporary indirect impacts would occur as a result of the proposed project. The extent of indirect impacts varies by species and biological resource. Potential indirect impacts that may result to sensitive vegetation communities from the proposed project include the following.

- *Changes in hydrology:* Changes in hydrology, runoff, and sedimentation could indirectly impact wetland and riparian plant species. Increased runoff into habitat could result in increased erosion and scouring, which could result in downstream habitat loss. Runoff, sedimentation, and erosion could adversely impact plant populations by damaging individuals or by altering site conditions sufficiently to bury habitat or cause type conversion. Changes in hydrology could also affect habitat in adjacent wetland areas by changing tidal ranges and elevations.
- *Exotic and predator species:* Nonnative plant species have few natural predators or other ecological controls on their population sizes, and they often thrive in disturbed habitats. Nonnative species may aggressively outcompete native species or otherwise harm sensitive species.
- *Fugitive dust:* Construction fugitive dust could adversely impact plants by reducing the rates of metabolic processes such as photosynthesis and respiration.

The implementation of water quality BMPs as described in Table 5.4-1 would greatly reduce construction-generated dust, sedimentation, and runoff into areas outside of the limits of construction. Additionally, educational elements such as signage at trailheads and along trail alignments and frequent placement of trash receptacles would limit debris/littering in habitat areas. **Permanent indirect impacts to sensitive vegetation communities, including the potential for invasive species introduction, would be less than significant Criteria B and H).**

Implementation of the proposed project would increase the tidal prism within the lagoon as a whole by 30 percent, but would result in minor tidal muting in existing wetlands due to the increased extent of total wetland area within the lagoon. The overall tidal range would be decreased by approximately 0.18 feet in the existing SCE restoration project wetland areas identified as W4/W16 and 0.05 feet in the W1 wetland area, as described in Appendix D. These decreases would result in relatively small decreases in overall wetland acreage, affecting lower-functioning and higher elevation perimeter areas along the edge of establishing wetlands. Higher-functioning established wetlands would not be affected and fragmentation would not occur. Even with the small loss of wetlands due to tidal muting, the proposed project would result in a net gain of 64 acres of wetland and riparian habitat, as shown in Table 5.6-4. ~~and would not be considered a substantial adverse impact to wetlands.~~ Since wetlands would increase as a result of the project, no significant adverse impact to wetlands would occur. **Permanent adverse indirect impacts to wetlands would be less than significant (Criterion C).**

Flora

Federal- or state-listed species were not detected during special-status plant surveys of the BSA. Two special-status plants were documented in the W-19 site and associated buffer: southern tarplant (CNPS Rare Plant Rank 1B.1), and southwestern spiny rush (CNPS Rare Plant Rank 4.2). In addition, one special-status plant species, Nuttall's scrub oak, was documented within the 100-foot disposal site buffer. The locations of special-status plant species found in the BSA are illustrated in Figure 5.6-3.

Permanent Direct Impacts

Nuttall's scrub oak occurs within the 100-foot buffer of the disposal site and is outside of the grading limits. Therefore, permanent impacts are not expected to this species.

Southwestern spiny rush and southern tarplant occur within the grading limits in the W-19 site. Prior to grading, seed would be collected from southwestern spiny rush and southern tarplant, which would be incorporated into restoration planting. The proposed project would reestablish populations of these special-status plants, and populations would be the same size post-restoration. **The proposed project would result in less than significant adverse impacts to special-status plant species (Criterion A).**

Temporary Direct Impacts

As described above, Nuttall's scrub oak occurs within the 100-foot buffer of the disposal site and is outside of the grading limits. Therefore, temporary direct impacts are not expected to this species. Areas including southwestern spiny rush and southern tarplant would be graded and vegetation removed. Although impacts would occur to candidate, sensitive, or special-status plant species, these plants would be included in post-restoration planting palettes. **Temporary impacts would not be substantial; adverse impacts would be considered less than significant (Criterion A).**

Indirect Impacts

Indirect permanent and temporary impacts to special-status plant species would be similar to those described above for vegetation communities. With the implementation of BMPs, sedimentation and runoff would be avoided and/or minimized, and the use of signage and placement of trash receptacles would minimize debris/littering in areas with sensitive plant species. **Therefore, adverse indirect impacts to special-status plant species would be less than significant (Criterion A).**

Fauna

Wildlife species would be temporarily affected to varying degrees by the proposed project construction dependent upon their preferred habitat type and nesting/foraging needs. In the long term, the biological habitat improvements, specifically to wetland and riparian areas, would be beneficial to certain wildlife species once revegetation has established.

Permanent Direct Impacts

The sections below describe proposed project permanent impacts for each federal- and state-listed wildlife species occurring or with potential to occur in the BSA. Direct permanent impacts to suitable habitat for special-status species are summarized in Tables 5.6-8 and 5.6-9.

Table 5.6-8
Existing and Post-Restoration Habitats for Listed Wildlife Species Habitat in the W-19 Site[1]

Species	Habitat Suitability[2]	Habitat Type	Existing Habitat (Acres)	Post-Restoration Habitat Acres
Light-footed Ridgway's rail	Nesting/Foraging	Brackish Marsh	0.2	14.9
		Salt Marsh (Mid-High)	8.8	27.4
		Low Salt Marsh	0	17.7
		Freshwater Marsh	0.2	0
		Total Nesting/ Foraging	**9.2**	**60.0**
	Foraging	Mudflat	1.2	6.1
		Total Foraging	**1.2**	**6.1**
California least tern[3]	Foraging	Open Water	0.5	10.6
		Total Foraging	**0.5**	**10.6**
Least Bell's vireo	Nesting/Foraging	Riparian	5.6	9.2
		Nonnative Riparian	2.6	0
		Total Nesting/ Foraging	**8.2**	**9.2**
Coastal California gnatcatcher[4]	Nesting/Foraging	Coastal Sage Scrub	1.9	25.6
		Coyote Bush Scrub	41.1	0
		Total Nesting/ Foraging	**43.0**	**25.6**
Belding's savannah sparrow[3]	Nesting	Salt Marsh (Mid-High)	8.8	27.4
		Total Nesting	**8.8**	**27.4**
	Foraging	Salt Marsh (Mid-High)	8.8	27.4
		Low Salt Marsh	0	17.7
		Mudflat	1.2	6.1
		Total Foraging	**10.0**	**51.2**

[1] Totals may not sum due to rounding.
[2] Nesting habitat is considered suitable for both breeding and foraging activities, while habitat identified as "Foraging" is not expected to support breeding activities.
[3] Not detected in the W-19 site and/or disposal site during focused surveys.
[4] Detected only in disposal site during focused surveys.

Table 5.6-9
Proposed Project – Permanent Impacts to Listed Wildlife Species Habitat in the Disposal Site ~~and Haul Route~~[1]

Species	Habitat Suitability[2]	Habitat Type	Existing Habitat (Acres)	Post-Restoration Habitat (Acres)
Coastal California gnatcatcher[3]	Nesting/Foraging	Coastal Sage Scrub	0	31.5
		Coyote Bush Scrub	14.4	0
		Total Nesting/ Foraging	**14.4**	**31.5**

[1] Totals may not sum due to rounding.
[2] Nesting habitat is considered suitable for both breeding and foraging activities, while habitat identified as "Foraging" is not expected to support breeding activities.
[3] Detected only in disposal site during focused surveys.

Light-Footed Ridgway's Rail

Light-footed Ridgway's rail nesting and foraging habitat would increase with implementation of the proposed project. Post-restoration, there would be a net gain of nesting/foraging habitat acreage for light-footed Ridgway's rail of 60.0 acres from an existing 9.2 acres (much of which is marginal mid-high salt marsh), and an increase of 6.1 acres of foraging habitat. In addition, the project would establish 17.7 acres of low salt marsh, which does not currently exist in the BSA. These increases in brackish marsh, low salt marsh, mid-high salt marsh, and mudflat would be associated with the creation of secondary and tertiary channels both east and west of the utility corridor. The proposed project would restore light-footed Ridgway's rail habitat through active conversion of disturbed habitat, coyote bush scrub, and saltbush scrub to nesting and/or foraging habitat. **Permanent significant adverse impacts to light-footed Ridgway's rail with implementation of the proposed project would not occur (Criterion A).**

California Least Tern

California least tern are documented annually foraging and roosting at San Dieguito Lagoon, but were not detected within the W-19 site during focused wildlife surveys. Surveys conducted of the created nesting sites within the lagoon, including NS13 directly adjacent to the W-19 site and within the BSA, have not been documented nesting east of I-5 (Avian Research Associates 2012 through 2016). In addition, the most recent CDFW survey of California least tern nesting suggests that nesting is not occurring at San Dieguito Lagoon (Frost 2013). An increase in available suitable foraging habitat would occur in the W-19 site. This includes an increase from 0.5 acre of open water to 10.6 acres. Associated with the increase of available suitable foraging habitats is an improvement of the condition of foraging habitat. The proposed project would directly benefit California least tern by increasing foraging habitat in both quantity and quality by creating approximately 10 additional acres of suitable foraging habitat, and by enhancing the open water (foraging habitat) that exists onsite. **Permanent significant adverse impacts to California least tern from implementation of the proposed project would not occur (Criterion A).**

Least Bell's Vireo

Least Bell's vireo utilizes riparian habitat onsite for foraging habitat. Riparian habitat in the northern part of the W-19 site, along the San Dieguito River and in the middle of the W-19 site, would be graded down in elevation and restored to mid-high salt marsh. The proposed project would result in a gain of 1 acre of riparian habitat (Table 5.6-6). Post-restoration, a total of 9.2 acres of riparian habitat would exist within the W-19 site, including 4.9 acres of enhanced riparian areas currently dominated by nonnative riparian species and tobacco tree. As a result, the overall quality of suitable habitat for least Bell's vireo would increase. **Permanent adverse impacts to ~~California least tern~~ least Bell's vireo from implementation of the proposed project would be less than significant (Criterion A).**

Coastal California Gnatcatcher

Suitable habitat for coastal California gnatcatcher occurs in the W-19 site (Figure 5.6-1), and gnatcatchers were observed during focused surveys in the coyote bush scrub habitat in the disposal site (Figure 5.6-4). Permanent impacts associated with the proposed project include an overall decrease of 41.1 acres of coyote bush scrub habitat in the W-19 site. However, post-restoration, a total of 25.6 acres of coastal sage scrub would be restored in the W-19 site, which is considered preferable and higher quality habitat for the coastal California gnatcatcher (Table 5.6-8. Depending on the final planting palette used in proposed transitional areas, up to 25.2 additional acres could be suitable habitat for the coastal California gnatcatcher, which would reduce or eliminate the 17.4-acre long-term decrease in suitable habitat.

Direct permanent impacts to this species in the disposal site are characterized by a decrease of 14.4 acres of coyote bush scrub habitat in the disposal site. However, a total of 31.5 acres of coastal sage scrub would be established in the disposal site post-restoration (Table 5.6-9). As with the W-19 site, the change from coyote bush scrub to coastal sage scrub represents a benefit to the species, as coastal sage scrub is a higher quality and preferable habitat for this species.

Although there is a decrease of suitable breeding and foraging habitat for coastal California gnatcatcher in the W-19 site, the proposed project would increase suitable breeding and foraging habitat for the gnatcatcher in the disposal site (Table 5.6-9). Additionally, once the disposal site is established with coastal sage scrub, it would be contiguous with existing coastal sage scrub habitat south of the disposal site, thereby increasing the quantity, quality, and continuity of breeding and foraging habitat for this species. Transitional areas could also potentially be planted using a palette to provide habitat of moderate suitability, further enhancing the ability of the site to support the species. **Therefore, permanent adverse significant impacts to coastal California gnatcatcher from implementation of the proposed project would not occur (Criterion A).**

Belding's Savannah Sparrow

Belding's savannah sparrow nesting and foraging habitat would be modified as part of the proposed project. As depicted in Table 5.6-8, post-restoration there would be a net gain of nesting habitat acreage for Belding's savannah sparrow to 27.4 acres. Foraging habitat would increase from 10.0 acres to 51.2 acres as a result of the project. Included in this increase in foraging habitat, the project would establish 17.7 acres of low salt marsh, which is not currently found in the BSA, and is suitable foraging habitat for Belding's savannah sparrow. These increases would be associated with the creation of secondary and tertiary channels both east and west of the utility corridor, which would benefit the species by increasing available suitable nesting and foraging habitat, as described above. **Therefore, permanent adverse significant impacts to Belding's savannah sparrow with implementation of the proposed project would not occur (Criterion A).**

Non-listed Special-Status Species

Non-federal or state-listed special-status wildlife species occurring or with the potential to occur in the BSA include seven avian species (yellow warbler, yellow-breasted chat, white-tailed kite, northern harrier, loggerhead shrike, Clark's marsh wren, and least bittern), and two mammal species (northwestern San Diego pocket mouse and San Diego black-tailed jackrabbit). Permanent impacts to these species are discussed below.

Avian Species

The proposed project would result in direct permanent changes to non-listed avian species' available suitable habitat, which collectively includes riparian, freshwater, and brackish marsh; saltbush scrub; and nonnative grasslands. Permanent removal of habitat would result from the conversion of one habitat type to another, as depicted in Table 5.6-8. Species that would benefit from the enhancement of riparian habitat and increase in marsh habitat include yellow warbler, yellow-breasted chat, northern harrier, Clark's marsh wren, white-tailed kite, loggerhead shrike, and least bittern. **Because of this enhancement, permanent significant adverse impacts to yellow warbler, yellow-breasted chat, northern harrier, Clark's marsh wren, white-tailed kite, loggerhead shrike, and least bittern from implementation of the proposed project would not occur (Criterion A).**

Mammal Species

Implementation of the proposed project would directly permanently impact suitable habitat for the northwestern San Diego pocket mouse and San Diego black-tailed jackrabbit (both known to occur in the San Dieguito Lagoon area, but their presence is unknown in the BSA) from the permanent conversion of nonnative grassland, coyote bush scrub, and saltbush scrub (61.1 acres of existing upland habitat) into coastal sage scrub (a total of 25.6 acres). However, coastal sage scrub is a preferred habitat for these mammal species. San Diego black-tailed jackrabbit also utilizes transitional habitat, of which 25.2 additional acres would be established. For both species, adjacent contiguous habitat would continue to exist in the remainder of the San Dieguito Lagoon complex, and an additional 17 acres of suitable habitat would be established in the disposal site as part of the proposed project. **Permanent adverse impacts to northwestern San Diego pocket mouse and black-tailed jackrabbit from implementation of the proposed project would be less than significant (Criterion A).**

Temporary Direct Impacts

Temporary impacts to wildlife species present in the BSA, and/or those with a high potential to be present, are characterized by impacts to their habitat. The primary concern for temporary loss of habitat is reduced availability of food and shelter for resident and migratory species that rely on the W-19 and/or disposal sites.

Foraging and nesting habitat for federal- and state-listed species that would be temporarily impacted in the W-19 site are described in Table 5.6-10. Impacts to foraging and nesting habitat for federal- and state-listed species in the limits of the haul routes and disposal site are described

in Table 5.6-5. Temporary impacts to listed species' habitat described in Tables 5.6-10 and 5.6-11 would result from W-19 site access, staging, grading, and hauling.

Table 5.6-10
Proposed Project – Direct Temporary Impacts to Listed Species' Habitat in the W-19 Site[1]

Species	Habitat Suitability[2]	Habitat Type	Existing Habitat (Acres)	Habitat Temporary Impacts (Acres)
Light-footed Ridgway's rail	Nesting/Foraging	Brackish Marsh	0.2	0.2
		Salt Marsh (Mid-High)	8.8	8.1
		Freshwater Marsh	0.2	0.0
		Total Nesting/Foraging	**9.2**	**8.3**
	Foraging	Mudflat	1.2	0.2
		Total Foraging	**1.2**	**0.2**
California least tern	Foraging	Open Water	0.5	0.1
		Total Foraging	**0.5**	**0.1**
Least Bell's vireo	Nesting/Foraging	Riparian	5.6	5.5
		Nonnative Riparian	2.6	2.6
		Total Nesting/Foraging	**8.2**	**8.1**
Coastal California gnatcatcher	Nesting/Foraging	Coastal Sage Scrub	1.9	0.2
		Coyote Bush Scrub	41.1	40.4
		Total Nesting/Foraging	**43.0**	**40.6**
Belding's savannah sparrow	Nesting	Salt Marsh (Mid-High)	8.8	8.1
		Total Nesting	**8.8**	**8.1**
	Foraging	Salt Marsh (Mid-High)	8.8	8.1
		Mudflat	1.2	0.2
		Total Foraging	**10.0**	**8.3**

[1] Totals may not sum due to rounding; existing habitat areas represent habitat within the BSA only, and do not take into account adjacent habitat that exists throughout the lagoon and San Dieguito River Park.
[2] Nesting habitat is considered suitable for both breeding and foraging activities, while habitat identified as "Foraging" is not expected to support breeding activities.

Table 5.6-11
Proposed Project – Direct Temporary Impacts to Listed Habitat in Disposal Site and Haul Routes[1]

Species	Habitat Suitability[2]	Habitat Type	Existing Habitat (Acres)[3]	Habitat Impacted by Grading (Acres)
Coastal California gnatcatcher	Nesting/Foraging	Coyote Bush Scrub	15.6~~14.4~~	15.6~~14.4~~
		Total Nesting/Foraging[3]	**15.6~~14.4~~**	**15.6~~14.4~~**

[1] Total may not sum due to rounding; existing habitat areas represent habitat within the BSA only, and do not take into account adjacent habitat that exists throughout the lagoon and San Dieguito River Park.
[2] Nesting habitat is considered suitable for both breeding and foraging activities, while habitat identified as "Foraging" is not expected to support breeding activities.
[3] Existing habitat is the sum of existing habitat in the haul routes and the disposal site.

Light-footed Ridgway's Rail

Temporary impacts would occur during vegetation removal, grading, and disposal to suitable light-footed Ridgway's rail breeding and foraging habitat in the W-19 site, as described in Tables 5.6-10 and 5.6-11. There is a low potential for presence within the W-19 site since their primary habitat is brackish and freshwater marsh areas outside the W-19 site but within the BSA. The species is not known to utilize isolated salt marsh areas within W-19 due to the distance from the river and brackish and freshwater marsh. In addition, the proposed project is designed to avoid and/or minimize impacts to light-footed Ridgway's rail that would be associated with construction. These include the removal of vegetation outside of the bird breeding season to avoid direct impacts to species and to allow birds time needed to establish new breeding territories in adjacent habitat in the lagoon (PDF-19), as well as flushing of birds from the area by a qualified biologist before construction (PDF-20). Adjacent suitable habitat near the W-19 site includes approximately 90 acres of recently restored low, mid, and high salt marsh, restored as part of the SCE restoration project (Page et al. 2016), and marsh habitats are expanding in the area. In addition, suitable habitat occurs upstream of the W-19 site, and previous environmental documents indicated that numerous individuals have been documented upstream of the El Camino Real Bridge (Caltrans 2015). **Because of the low potential for the species to be located within the W-19 site and the availability of adjacent suitable habitat, direct temporary impacts to the federal-listed light-footed Ridgway's rail would not result in a substantial adverse impact on a listed species and impacts would be less than significant (Criterion A).**

California Least Tern

California least tern were not detected in the BSA and nesting east of I-5 has not been documented, as described under existing conditions. Nearby available foraging habitat includes the large (44 acres) subtidal basin restored as part of the SCE restoration project, in addition to the existing San Dieguito River channels, and the nearshore foraging habitat downstream of the W-19 site. As described earlier in this section, the least tern is not expected to use the foraging habitat in the BSA because it is low quality and adjacent habitat is available that is preferable for use. Therefore, the temporary displacement of California least tern that may use the W-19 site for foraging into nearby foraging habitat is not likely. **Impacts to the federal-listed California least tern would not result in a substantial adverse impact on a listed species, and impacts would be less than significant (Criterion A).**

Least Bell's Vireo

Construction of the proposed project would directly temporarily impact 2.1 acres of riparian and 1.9 acres of nonnative riparian habitat from grading. An additional 3.3 acres of riparian and 0.7 acre of nonnative riparian habitat are outside of the grading limits but would be temporarily impacted by riparian enhancement activities. Riparian enhancement to these areas would involve the removal of nonnative species without the use of heavy machinery or earth-moving equipment. In total, approximately 8.1 acres of the least Bell's vireo habitat in the W-19 site would be temporarily impacted. Measures incorporated into the project include the removal of vegetation outside of the bird breeding season (PDF-19). **Because least Bell's vireo is migratory in nature and the quality of suitable habitat onsite is marginal**, **the proposed**

project would not result in an adverse impact to the federal-listed least Bell's vireo, and impacts would be less than significant (Criterion A).

Coastal California Gnatcatcher

Temporary impacts would occur during vegetation removal, grading, and disposal to suitable coastal California gnatcatcher breeding and foraging habitat in the W-19 and disposal sites, as described in Tables 5.6-10 and 5.6-11. As described for other species, PDFs including the removal of vegetation outside of the bird breeding season and flushing of birds from the area by a qualified biologist before construction would be implemented. Additionally, suitable gnatcatcher habitat exists adjacent to the project sites. While there is a moderate potential for California gnatcatcher to occur within the W-19 site, there is a high potential for them to occur within the disposal site, and individuals would be temporarily displaced into adjacent habitat. **Adjacent coastal sage scrub habitat is higher quality and displacement would not result in a substantial adverse impact on a listed species; impacts would be less than significant (Criterion A).**

Belding's Savannah Sparrow

Temporary impacts would occur during vegetation removal, grading, and disposal to suitable Belding's savannah sparrow breeding and foraging habitat in the W-19 site, as described in Tables 5.6-10 and 5.6-11. As described for other species, PDFs including the removal of vegetation outside of the bird breeding season and flushing of birds from the area by a qualified biologist before construction would be implemented. **Because Belding's savannah sparrow were not detected within the W-19 site during focused surveys and have a low potential to occur onsite, substantial adverse impacts to the state-listed Belding's savannah sparrow from the proposed project would not occur, and impacts would be less than significant (Criterion A).**

Non-listed Special-Status Species

Non-federal- or state-listed special-status wildlife species occurring or with the potential to occur in the BSA are described in the Biological Survey Report. These include seven avian species (yellow warbler, yellow-breasted chat, white-tailed kite, northern harrier, loggerhead shrike, Clark's marsh wren, and least bittern), and two mammal species (northwestern San Diego pocket mouse and San Diego black-tailed jackrabbit).

Avian Species

The proposed project would result in direct temporary impacts to non-listed avian species' available suitable habitat as follows: riparian/nonnative riparian (8.1 acres), freshwater (0.2 acre), and brackish marsh (0.2 acre); saltbush scrub (9.4 acres); and nonnative grasslands (10.5 acres). While these habitats may be restored to a better condition (e.g., riparian), or greater acreage (e.g., brackish marsh), resident special-status species that currently utilize them would be temporarily displaced during construction. Vegetation removal would be limited to outside the breeding season (PDF-19), and birds would be flushed from areas prior to grading (PDF-20).

Available adjacent habitat also exists within the remainder of the San Dieguito Lagoon complex for each of these species. **The temporary displacement of non-listed avian species would result in less than significant impacts to special-status species (Criterion A).**

Mammal Species

Implementation of the proposed project would directly temporarily impact northwestern San Diego pocket mouse and San Diego black-tailed jackrabbit by the temporary grading of upland habitat, such as nonnative grassland (10.5 acres), coyote bush scrub (41.1 acres), and saltbush scrub (9.4 acres). **Temporary adverse impacts to non-listed special-status mammal species from implementation of the proposed project would be significant (Criterion B).**

Indirect Permanent Impacts

Indirect permanent impacts include the passive transition of restored suitable nesting and/or foraging habitat for a given species to a different, unsuitable habitat type, and increased potential for invasive species.

Habitat above the high tide line within the transitional area may passively change to wetland habitat over a long period of time due to sea level rise. Transitional areas provide opportunity for refugia to estuarine-dependent wildlife during extreme high tides and periods of extensive inundation. The transitional area would include man-made areas north of the berm west of the utility corridor, and the utility corridor itself. Passive transition of habitat is relatively unpredictable due to unforeseen events and climate patterns, but generally wetland and subtidal/open water areas would increase over time at the expense of transitional habitat (Appendix G). Given the long period of time over which the transition would occur and upland habitats anticipated to remain available for species use in the adjacent lagoon area, sufficient area would remain within the site for sensitive species.

As native habitats become established 5–10 years post-restoration, nonnative invasive species have the potential to exclude native plant recruits and ultimately shape the vegetation community to something less than suitable for estuarine wildlife. As part of the post-construction monitoring and maintenance program for this project, the occurrence of these invasive species would be closely monitored (described further in Section 3.5). Future maintenance would regularly treat invasive species to limit the possibility of invasion. **Indirect permanent adverse impacts to special-status species from passive transition of nesting and/or foraging habitat and invasive species would be less than significant (Criteria A through H).**

Indirect Temporary Impacts

Indirect temporary impacts to special-status species may include increases in exposure to predators, degraded water quality, ~~lighting, ~~and noise from construction activities. During construction, special-status species may be more concentrated in the remaining unimpacted habitat, much of which is located along the perimeter of the BSA. This increases their vulnerability to predators, as they may become more densely populated and therefore detectable to predators. The W-19 and disposal sites are contiguous with over 440 acres of wetland and

upland areas recently restored as part of the SCE restoration project, as well as the San Dieguito River corridor, which would remain available for use during construction of the proposed project.

During construction, special-status birds using the site may be exposed to degraded water quality resulting from grading and other sediment-disturbing activities. These activities may increase turbidity and the presence of unconsolidated sediments, lowering visibility and making foraging more difficult. The increase in turbidity and unconsolidated sediments, resulting in lowered visibility, would occur relatively close to the construction activities and would dissipate with distance. However, most of the construction would be done with land-based equipment, with minimal grading along the river. Additionally, BMPs would be required as part of project implementation and would minimize turbidity and water quality impacts to adjacent water bodies.

Temporary Noise Impacts

There is potential for temporary indirect noise impacts to wildlife species as a result of construction activities. An increase in ambient noise levels could disrupt behaviors that play an important role in the reproduction of listed and non-listed species.

Ambient noise levels were measured at sensitive habitat in proximity to project construction activities. As discussed in the Noise Technical Report (Appendix I), the short-term measurements in wildlife habitat ranged from 50.7 to 59.0 dBA L_{eq}, with highest noise levels in proximity to roadways (I-5 and El Camino Real). At wildlife habitat in proximity to W-19, the short-term measurements ranged from 50.8 to 51.7 dBA L_{eq} with highest noise levels in proximity to roadways (El Camino Real).

Maximum noise levels of typical construction equipment ranges from 70 to 95 (A-weighted decibels) dBA maximum noise level (L_{max}) at 50 feet (FTA 2006). For typical construction projects, earth moving and impact activities typically generate the highest noise levels ranging from 80 to 95 dBA L_{max} at 50 feet. Earth moving would be used for the proposed project and typically involves bulldozers, excavators, dump trucks, front-end loaders, and graders. Maximum noise levels may occur during grading and excavation, when there may be a combination of noise from several pieces of equipment in proximity, including the noise of backup alarms, and these activities would be near the construction site periphery (i.e., closest to noise-sensitive receptors). Noise generated by project construction would be temporary and vary dependent on the work phase. Removal of vegetation outside of the breeding season, as described in PDF-19, would limit nesting and species occurrences within the site during noise-generating construction activities. Additionally, if vegetation is removed outside of breeding season, when species seek out their habitat for breeding, the adjacent habitat would be available and more suitable for nesting conditions, while being at a greater distance from noise-generating activities. During excavation and construction, noise generated by earth-moving equipment is mobile and would continually move throughout the site. The dynamic nature of the noise-generating construction equipment throughout the project site would limit the length of time any certain area is exposed to increased noise levels. Additionally, construction noise levels are typically not constant as the

typical duty cycle of the equipment is varied due to times when it is not functioning at full engine power, such as worker breaks, change in construction activities, and maintenance.

The large size of the proposed project area and continual movement of noise-generating equipment make minimizing the impacts of noise with attenuating devices, such as noise walls or barriers infeasible, as described in Section 5.10.5. As such, adverse noise impacts on special-status wildlife species would occur. **Indirect adverse impacts due to noise to special-status wildlife species during construction would be significant (Criterion A).**

Jurisdictional Waters and Wetlands

Permanent Direct Impacts

The proposed project would result in permanent impacts to both federal and state jurisdictional resources in the W-19 site, including an overall permanent increase in waters of the U.S. and waters of the state due to the creation of secondary and tertiary channels to the San Dieguito River, and associated wetlands. These channels and the associated hydrological connections would facilitate the development of mudflat, low marsh, and mid-high marsh habitats in the western part of the W-19 site, and brackish marsh in the eastern part of the W-19 site. These increases in open water, mudflat, and marsh habitats represent an increase in jurisdictional resources under both federal and state definitions. The project proposes to establish approximately 6050 acres of tidal salt marsh west of the existing utility corridor, and 15 acres of brackish marsh east of the utility corridor, as well as create and enhance upland and riparian habitat within the W-19 site. These impacts represent an increase from a total of approximately 17.04 acres of total existing jurisdictional resources to approximately 75 acres post-restoration. In addition, the project proposes 4.9 acres of riparian enhancement, which would improve the condition of existing state jurisdictional riparian habitat.

Permanent impacts would also occur to 4.6 acres of alkali marsh in the southern part of the W-19 site, east of and adjacent to the utility corridor. This area is considered waters of the state (Figure 5.6-6), as it is remnant salt marsh from before much of the wetlands was converted into agricultural fields. These acres of alkali marsh are outside of the grading limits, so no active filling of state waters would occur. However, the area is within the temporary access road and utility corridor, which would be replanted with transitional species post-construction, and maintained by SDG&E.

The proposed project would result in a substantial permanent increase in both federal and state jurisdictional resources, and would enhance the quality of riparian habitat along the San Dieguito River. **Therefore, the proposed project would not result in permanent adverse impacts to jurisdictional resources (Criterion C).**

Temporary Direct Impacts

Construction of the proposed project would result in direct temporary impacts to both federal and potential state jurisdictional waters and wetlands due to grading. Of the approximately 17.04 total acres of jurisdictional area present in the W-19 site itself, 15.14 acres would be directly

temporarily impacted by grading and construction. These impacts would include the short-term vegetation removal, grading, and riparian enhancement. Due to the temporary disturbance of wetlands in the W-19 site, direct temporary impacts to both federal and state jurisdictional resources would result in a substantial adverse impact to wetlands through direct removal, filling, hydrological interruption, or other means. **Therefore, direct temporary adverse impacts to jurisdictional resources would be significant (Criterion C).**

Indirect Impacts

Indirect permanent and temporary impacts to jurisdictional resources would be similar to those described above for vegetation communities. With the implementation of water quality BMPs as described in Section 5.4, permanent and temporary indirect impacts to jurisdictional resources, such as changes in hydrology or the introduction of exotic species, would be minimized. Educational elements and frequent placement of trash receptacles would limit any potential impacts to vegetation from debris/littering. **Therefore, indirect adverse impacts would be less than significant (Criterion C).**

Wildlife Corridors

No permanent impacts to wildlife corridors are anticipated. Post-restoration, the project area would continue to function as a large area of natural open space that would allow for wildlife movement similar to existing conditions. Drainage improvements would include RSP at the outlet of the existing El Camino Real storm drain/wildlife crossing. RSP can create an uneven surface that is difficult for wildlife to cross. However, as specified in the Project Description the RSP would be covered with 1 to 2 feet of soil and planted with native vegetation, which would create a natural and even ground surface that would not preclude wildlife from using the crossing. Therefore, the proposed project would not permanently result in interfering substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, including linkages identified in the MSCP Plan, or impede the use of native wildlife nursery sites. **Permanent adverse impacts to wildlife corridors would not occur (Criterion D).**

The proposed project would result in temporary impacts to local wildlife movement throughout the river valley during grading and project construction. For the temporary construction period, the majority of the W-19 site, disposal site, and haul routes would be impacted by direct and indirect impacts described in the sections above. The river itself would not be impacted during the majority of construction operations and migratory fish are not known to use the river or occur in the river in the project area. However, construction activities within the wildlife corridor would temporarily interfere with the movement of wildlife species and with established native resident or migratory wildlife corridors, including linkages identified in the MSCP Plan. While construction activities would be limited to daytime, and many species are most active at night, habitat removal and the presence of construction fencing and equipment within the site would potentially reduce the ability of wildlife movement even at night. **As such, temporary adverse impacts to wildlife corridors would be significant (Criterion D).**

Conflicts with Policies and Ordinances

There are many laws, regulations, policies, and other guidelines as listed at the start of this section that govern and direct the biological requirements of the proposed project. The proposed project has been designed to meet the requirements of broad-reaching laws, such as federal ESA and state ESA, as well as site-specific guidelines in documents such as the Park Master Plan.

The City of San Diego developed the MHPA with wildlife agencies, property owners, developers, and environmental groups to delineate core biological areas and corridors targeted for conservation. Discussion of development areas and ratios within the MHPA is included in the City's MSCP Subarea Plan.

The W-19 site is partially within the City of San Diego MHPA and is regulated by the MSCP Subarea Plan. The ultimate goal of the MSCP is to create a regional habitat preserve system within the MHPA, while allowing development projects to occur with a streamlined development review system that avoids the traditional project-by-project review by regulatory agencies. Because the W-19 site is located partially within the MHPA, the MSCP and MHPA serve as a primary local regulatory land use planning framework for the project's biological resources.

The Park Master Plan provides specifications for habitat restoration design, including specific locations and acreages for various habitat types. Major components of restoration design detailed in the Park Master Plan include excavation to restore tidal habitat, maintaining an open tidal inlet, providing appropriate habitat types, enhancing sensitive habitat areas, and tailoring the elevation of design of habitat areas to accommodate threatened and endangered species. The proposed project has been designed to achieve or work towards the biological goals of the Park Master Plan. Any slight modifications from the recommendations of the Park Master Plan are addressed in the Park Master Plan amendment (Section 3.4.1).

As the project is a restoration project and would restore wetlands and other sensitive natural communities and habitat for wildlife, and trails for passive recreation, the project is in keeping with the goals and objectives of the MHPA, and does not conflict with the provisions of the MSCP or other local resource protection policies**, and impacts would not occur (Criteria E and G).** Furthermore, the project is a restoration project and not a development project. **Therefore, the project would not introduce a land use adjacent to the MHPA that would result in adverse edge effects, and no impacts would occur (Criterion F).**

W-19 Wetlands Maintenance

Vegetation Communities

Large storm events have the potential to alter restored habitats through the closure of the W-19 inlets and/or the deposition of large amounts of sediment. Wetlands maintenance activities would facilitate the recovery of these wetlands to their designed habitat types. Wetlands maintenance activities may require the use of heavy machinery and temporary disturbance of some areas within the W-19 site that might not have been impacted by the storm. These areas could contain sensitive habitats as described under Lagoon Restoration. **Therefore, wetlands maintenance**

activities have the potential to result in substantial adverse impacts on any Tier I, Tier II, Tier IIIA, or Tier IIIB habitats, and impacts would be significant (Criterion B).

Beach maintenance placement sites proposed for the project are located at least partially within waters of the U.S., but activities would consist of placement of additional sand on existing beaches, and would not substantially affect beach conditions. The beach is not identified as a Tier I, II, IIIa, or IIIb vegetation community. Temporary impacts from material placement during maintenance activities would not cause adverse impacts to any Tier I, II, IIIa, and IIIb vegetation communities. Water quality BMPs would continue to be implemented as described under Lagoon Restoration above. **Therefore, neither permanent nor indirect adverse impacts to sensitive habitat types would occur from maintenance activities (Criterion B).**

As described in Chapter 3, material placement as a part of wetlands maintenance activities would occur in the same beach sites currently utilized for SCE maintenance. The SCE restoration project identified that temporary impacts related to increased turbidity could occur following material placement. However, studies conducted on the area indicate the nearshore environment in the vicinity of these placement sites does not contain sensitive nearshore resources (as described under existing conditions), and placement of sand on the beaches as part of the SCE restoration project does not result in long-term impacts to habitat and/or organisms in the area (Coastal Environments 2010). The EIR/EIS for the SCE restoration project also identified that maintenance activities could result in temporary localized impacts, including burial of invertebrate communities, but it has since been documented that these species have historically recovered quickly following burial events (USFWS and San Dieguito River Park JPA 2000). The beach is known to be used by grunion, as discussed under existing conditions; therefore, sand placement could potentially affect spawning activities, depending on beach conditions and timing. If beach placement were to occur between February and August, CDFW would be consulted with to determine expected spawning and hatching period of the California grunion and monitors would be provided on suitable beach areas during the time of the predicted run. If grunion are observed, beach placement would be delayed until after the predicted run or coordination with CDFW would be conducted to identify alternative strategies (PDF 28).

Flora

Following a large storm event, vegetation within the site could be buried by deposited sediment, the majority of which would then be removed during maintenance. Maintenance to remove this sediment could also result in the removal of underlying vegetation by construction equipment, although the likelihood of mortality due to the sedimentation and burial prior to maintenance is high. PDF-26 includes surveying the restoration site for intact special-status plant species prior to conducting wetlands maintenance, as well as active replanting of any special-status plant species that would be temporarily impacted by either sedimentation or wetlands maintenance activities. **Temporary and permanent adverse impacts to special-status plant species from the proposed project would be less than significant (Criterion A).**

Similar to the discussion of invasive species under W-19 Restoration/Materials Disposal, as part of the post-construction monitoring and maintenance program for this project, the occurrence of the invasive species would be closely monitored (described further in Section 3.5). Maintenance

would regularly treat invasive species to limit the possibility of invasion. Maintenance activities would not promote invasive species and would help to maintain the native habitats created by the proposed project. Thus, **adverse impacts related to invasive species would not result (Criterion H).**

Fauna

Post-storm maintenance of wetlands in the W-19 site is expected to benefit many special-status species. A 25-, 50-, or 100-year storm event could deposit sediment, burying habitat areas within the W-19 site and affecting their ability to support special-status species. However, future maintenance activities would be infrequent and would occur only in isolated areas where sedimentation has impacted the habitat and rendered it unsuitable. Habitat areas that may require future maintenance include the inlet located at the west end of the saltwater marsh and the inlet located at the northern end, in the brackish marsh (as shown in Figure 3-9). Since these habitat areas would be adversely affected from sedimentation associated with larger storm events, it is unlikely that sensitive species would be able to use this habitat. Removal of this sediment is therefore expected to benefit special-status species by maintaining the habitat condition and diversity. Temporary maintenance activities could result in an impact to special-status wildlife species due to the use of heavy machinery in the restoration site, trucking of material removed from the restoration site, and placement of that material on the nearby beaches. However, higher value habitat not affected by sedimentation would be available for use during maintenance activities within the larger San Dieguito Lagoon complex. AdditionallyHowever, as described under Lagoon Restoration, PDFs would be implemented to minimize impacts to special-status wildlife species, including flushing birds from the area by a qualified biologist before construction (PDF-20). While removal would occur outside the breeding season to the extent feasible, there may be scenarios that require maintenance within the nesting season (e.g., to maintain water quality or reestablish circulation). In these scenarios, maintenance would occur within areas of substantial sedimentation that would not be supporting habitat or special-status species. Following sediment removal, placement of removed material on the beach would occur. If beach placement were to occur between February and August, CDFW would be consulted with to determine expected spawning and hatching period of the California grunion and monitors would be provided on the beach during the time of the predicted run (PDF 28). Wetlands maintenance activities would therefore not result in a substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in the MSCP or other local or regional plans, policies, or regulations, or by CDFW or USFWS. **Therefore, temporary and permanent adverse impacts to special-status wildlife species from maintenance activities would be less than significant (Criterion A).**

Wetlands maintenance activities are expected to use heavy machinery similar to that described above for the proposed project, and similar noise impacts would occur. **Therefore, indirect adverse impacts to special-status animal species from noise generated by wetlands maintenance are expected to be the same as those described for initial construction, and would be significant (Criterion A).**

Jurisdictional Waters and Wetlands

Areas requiring wetlands maintenance are anticipated to be waters/wetlands of the U.S. and/or state. Beach maintenance placement sites proposed for the project are located at least partially within waters of the U.S., but impacts would consist of placement of additional sand on existing beaches, and would not substantially affect beach conditions. Because of the temporary disturbance of wetlands, however, impacts to both federal and state jurisdictional resources would occur as described for project implementation above. **Direct temporary adverse impacts to jurisdictional resources would be significant (Criterion C).**

Wetlands maintenance activities would improve the quality of federal and state jurisdictional waters and wetlands within the site by removing deposited sediment and facilitating habitat recovery. **Therefore, no permanent adverse impacts to jurisdictional resources would occur (Criterion C). BMPs would be implemented as described under Lagoon Restoration, and indirect adverse impacts would be less than significant (Criterion C).**

Wildlife Corridors

During infrequent maintenance events following large storms, temporary direct and indirect impacts to wildlife corridors would occur. Maintenance activities would be restricted to daytime hours, however, and would occur only in focused areas within the W-19 site. Activity would last for relatively short durations and would not remove established habitat. Wildlife would continue to be able to move through the site during more active nighttime hours, and **temporary adverse impacts would be less than significant (Criterion D).** Following wetlands maintenance activities, the site would continue to function as a large area of natural open space similar to under existing conditions. **Therefore, permanent impacts to wildlife corridors would not occur (Criterion D).**

Conflicts with Policies and Ordinances

Intermittent wetlands maintenance activities would be in keeping with the goals and objectives of the MHPA, and would not conflict with the MSCP or other local resource protection policies, as described under W-19 Restoration/Materials Disposal above. **Impacts would not occur (Criteria E and G).** Also, as described above, wetlands maintenance would not introduce a land use adjacent to the MHPA that would result in adverse edge effects, and **impacts would not occur (Criterion F).**

5.6.4 SIGNIFICANCE OF IMPACTS

Table 5.6-12 summarizes the impact conclusions identified in the Impact Analysis for each threshold of significance.

Table 5.6-12
Summary of Biological Resources Impact Conclusions

Threshold	Impact Type	W-19 Restoration/ Materials Disposal[1]	W-19 Maintenance
A. Result in a substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in the Multiple Species Conservation Program (MSCP) or other local or regional plans, policies or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS).	Permanent	Less than Significant	Less than Significant
	Temporary	Significant (direct impacts to northwestern San Diego pocket mouse and San Diego black-tailed jackrabbit)	Less than Significant
	Indirect	Significant (temporary noise impacts to special-status species)	Significant (temporary noise impacts to special-status species)
B. Result in a substantial adverse impact on any Tier I Habitats, Tier II Habitats, Tier IIIA Habitats, or Tier IIIB Habitats as identified in the Biology Guidelines of the Land Development manual or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS.	Permanent	Less than Significant	No Impact
	Temporary	Significant (wetlands and Tier II and IIIB habitats)	Significant
	Indirect	Less than Significant	No Impact
C. Result in a substantial adverse impact on wetlands (including, but not limited to, marsh, vernal pool, riparian, etc.) through direct removal, filling, hydrological interruption, or other means.	Permanent	No Impact	No Impact
	Temporary	Significant (disturbance of wetlands and jurisdictional resources)	Significant
	Indirect	Less than Significant	Less than Significant
D. Result in interfering substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, including linkages identified in the MSCP Plan, or impede the use of native wildlife nursery sites.	Permanent	No Impact	No Impact
	Temporary	Significant	Less than Significant
E. Result in a conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan, either within the MSCP Plan area or in the surrounding region.	Temporary/ Permanent	No Impact	No Impact
F. Result in introducing land use within an area adjacent to the MHPA that would result in adverse edge effects.	Temporary/ Permanent	No Impact	No Impact
G. Result in a conflict with any local policies or ordinances protecting biological resources.	Temporary/ Permanent	No Impact	No Impact
H. Result in an introduction of invasive species of plants into a natural open space area.	Temporary/ Permanent	Less than Significant	No Impact

5.6.5 MITIGATION MEASURES

The proposed project is designed to enhance the W-19 site and contribute to the ecological function of the San Dieguito Lagoon system as a whole. Although impacts would occur as identified in the Impact Analysis, they would occur in order to increase the overall habitat value of the site and to increase wetlands within San Dieguito Lagoon as a whole. Some permanent impacts associated with habitat conversion would be intentional, to increase higher value/functioning habitat at the expense of lower quality habitat currently existing onsite. Many of the impacts would also be temporary as a result of construction or less than significant, and due to the nature of the project, an effort has been made to proactively incorporate PDFs to limit impacts to resources whenever possible (Table 3-4). Mitigation measures to reduce temporary adverse significant impacts to biological resources were considered and found infeasible as described below. Temporary adverse impacts would remain significant and unavoidable.

As summarized in Table 5.6-12, all of the significant adverse biological impacts identified for the proposed project are temporary and are a result of the disturbance that must occur to alter elevations to achieve appropriate wetland conditions and enhance the overall habitat value of the site. The temporary disturbance of habitat within the project site is unavoidable for implementation of the proposed project; however, the temporary impacts would cease either at the end of construction activities or as the new wetland and upland habitats establish.

Mitigation measures, including noise walls and restriction of construction activities to outside the breeding season, were considered to further reduce adverse indirect noise impacts, which would occur during initial project construction and maintenance activities. In a typical construction project, temporary noise walls are often required as mitigation, and are constructed between the construction site and adjacent habitat. These walls are typically 6 feet high and constructed of plywood with strong footings to support the wall over the life of construction. This physical buffer can lower noise levels to below a level of significance.

Because equipment would be moving through the BSA throughout construction, and the habitat of concern includes adjacent marsh, an intervening noise wall would have to be continually mobile or constructed in unstable soil conditions along the river edge. Construction of walls with either sufficient mobility or footings in a wet environment and strength to persist for the duration of the project would result in direct impacts to adjacent habitat. Similarly, equipment used during material placement at the beach would move throughout the placement site, and a noise wall would have to be either mobile or very long to encompass the entirety of both placement sites. The impacts associated with construction of the noise walls and the introduced barrier would reduce or eliminate the value of this mitigation measure. Noise walls are considered an infeasible mitigation measure, and indirect noise impacts remain significant and unmitigable.

To minimize the duration of all temporary impacts, project construction has been designed to occur as quickly as is feasible. A project schedule requiring work to be conducted outside of the bird nesting season was considered. This would completely halt construction between February 15 and September 1. The stop and start schedule would extend the overall construction duration

substantially and the longer construction period would result in additional time of disruption to birds. A longer duration would potentially result in greater impacts than temporary construction noise during the breeding season, in part because the construction equipment would be mobile and only a portion of nesting habitat would be within the range of the construction noise at any given time. A mitigation measure requiring work outside of the nesting season was determined to be biologically undesirable and therefore infeasible. Initial vegetation removal would be restricted outside of the breeding season to limit effects to breeding bird populations as described in PDF-19.

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5.7 VISUAL RESOURCES

This section describes the existing visual environment and aesthetic character of the project area and disposal site, plus changes associated with implementation of the project. Pertinent policies and regulations related to visual resources are summarized as well.

5.7.1 EXISTING CONDITIONS

Regulatory Setting

A full description of the regulatory setting for this document can be found in Appendix E. The following documents contain laws, regulations, policies, and plans that are applicable to this resource area.

- San Dieguito River Park Concept Plan
- San Dieguito River Park, Master Plan for the Coastal Area
- City of San Diego General Plan
- NCFUA Framework Plan
- Carmel Valley Community Plan
- Land Development Code, Steep Hillside Guidelines
- California Scenic Highway Program
- California Street and Highways Code

Study Area

The unique setting of the open water and marsh habitats of the lagoon, steep vegetated hillsides rising to the north and south of the flat floodplain, and the distant ocean combine in sweeping views that create a high-quality scenic value of the San Dieguito river valley in the vicinity of the proposed project. Within the overall developed context of the area, the lagoon, floodplain valley, and hillsides provide a balance of natural open space with the man-made elements.

The study area for visual impacts includes the San Dieguito river valley and adjacent hillsides (about 1 mile distant) where there are public and private views of the lagoon and proposed restoration site. San Dieguito Lagoon itself is located in north coastal San Diego County and appears as a large, low-lying natural feature, generally bounded to the south by the developed suburban hillsides of the Carmel Valley community east of I-5 and the Torrey Pines community and the City of Del Mar west of I-5. To the north are the hillsides of the Via de la Valle community and the City of Solana Beach. The elevational differences between the lagoon and river valley and the nearby suburban areas of the Fairbanks Ranch community to the east are modest, but to the south and north, developed suburban areas are located on elevated slopes with broader views of the lagoon and toward the Pacific Ocean. Because the restoration project and disposal site are located in the eastern portion of the lagoon and river valley system, east of I-5, that portion of the river valley is the focus of the visual analysis.

San Dieguito River Valley

Views of the overall river valley area and the proposed restoration site vary largely by viewer location, but it generally appears as an open natural area surrounded by suburban commercial, residential, and transportation infrastructure. The lagoon is a typical coastal wetland of San Diego, with a western connection to the Pacific Ocean and an eastern freshwater source (San Dieguito River). The river valley is traversed by north-south infrastructure improvements, including El Camino Real, the SDG&E utility corridor, I-5, Jimmy Durante Boulevard, the North County Transit District railroad, and Coast Highway 101, that constrain water flow and affect vegetation type. These infrastructure facilities present linear, built elements to viewers such as drivers on roads, bicyclists/pedestrians on adjacent roadways, trail users and recreationalists, and residences to the north and south where there are elevated views. The mostly flat terrain across the river valley allows for expansive views across the area. East of I-5, the river valley is characterized by open water generally confined to localized areas such as the San Dieguito River channel, other defined waterway channels, and a few deeper water basins along the north side of the river that were created as part of the SCE restoration project. The banks along the San Dieguito River have areas of dense, larger shrub vegetation with some trees interspersed. Throughout the area, there is a mosaic of low-growing vegetation in various hues of green interspersed with areas of less vegetation and more brown earth tones. There are certain areas, most noticeably north of the San Dieguito River in the areas of previous restoration efforts, where revegetation has not fully established, or where mudflat areas present a much more brown and exposed soil aesthetic.

While the majority of the river valley east of I-5 has a natural and open aesthetic, there are features that indicate human intrusion. The surrounding urban development includes large heavily traveled roadways, including I-5. Residential and commercial developments encroach into the surrounding valley and hillsides.

Other large developments north and east of the site include the Horse Park, Polo Fields, and Fairbanks Ranch Golf Course. These man-made elements are a visual contrast in comparison to the natural setting of the river valley and lagoon due to their vibrant green vegetation as compared to the muted colors within the lagoon.

Other less apparent and less contrasting human elements traverse the area, such as numerous dirt trails throughout the river valley and lagoon. Trails such as the Dust Devil Nature Trail appear as brown linear features crisscrossing the greens of the vegetation, but they are relatively narrow and modest in size. The CTC Trail located along the northern boundary of the river valley provides a more developed trail experience with wider widths and fencing. Along the CTC Trail is the Birdwing Open Air Classroom. Also crisscrossing the river valley is a series of dirt or gravel maintenance roads. Another man-made feature prominent in the eastern river valley is the SDG&E utility corridor, which includes multiple utility poles and associated transmission lines bisecting the area. However, these areas of altered or disturbed lands within the river valley setting do not diminish the overall aesthetic character of the large open space.

W-19 Restoration Site

Views of the restoration site are afforded from various locations, with the most prominent and direct foreground views from El Camino Real. More distant views of the restoration site occur from elevated positions on surrounding hillsides and locations along public trails, Via de la Valle, and I-5.

The W-19 site contains a similar variety of visible colors, vegetation, and features as described above for the overall natural river valley system. Along portions of the northern boundary of the site, the San Dieguito River banks are densely vegetated with riparian and scrub habitats, including some large trees. Nonnative grasslands also provide additional green vegetated cover in locations along the river channel. A large portion of the interior of the site is covered with fairly dense upland scrub vegetation of dark green hues. Vegetated areas are also interspersed with disturbed lands and areas of bare ground that provide more brown and dull earth tones.

The natural and open aesthetic of the restoration site is visually interrupted in locations due to man-made features. Most apparent in the aesthetic setting are the aboveground utility poles and lines that pass through the site in the utility corridor. Other man-made features within the restoration site include the various unpaved roads that traverse the area; however, these roads are not highly visible.

Disposal Site

The disposal site is located at the southern end of the river valley east of I-5. The area has a wide variety of low green vegetation mixed in with large areas of exposed soils or disturbed areas that have been used in association with previous material disposal operations. In this area, the vegetation is characterized by upland scrub vegetation that continues up the adjacent hillsides. A large portion of the disposal site is elevated terraces sculpted across the site as part of previous material disposal operations by SCE that show recent revegetation efforts and appear as bare ground.

Beach

Areas of material placement would occur on beach areas to the north and south of the San Dieguito River inlet as part of W-19 wetlands maintenance. North of the inlet is North Beach area, commonly known as Dog Beach. There is an expanse of flat sandy beach along the river inlet as it passes under the Camino Del Mar Bridge and opens into the ocean. Thin white poles used for volleyball nets are located across the beach area. From beach areas near the inlet, both north and south, views east include the Camino Del Mar Bridge structure, traffic traveling along the road, cars parked along the roadside, and development up the hillsides in the distance. West-facing views are unobstructed panoramic views of the Pacific Ocean. Farther north, coastal bluffs rise up above the rocky and sandy beaches below. The bluffs are almost exclusively earth tones with minimal vegetation and show signs of water erosion from the top and undercutting of the parent material from wave action at the base. The amount of visible cobbly rocky beach or width of sandy beach views varies dependent on the tide and time of year. At the top of the bluffs is the

Scripps Bluff Preserve, which provides 360-degree views of the coastline and inland locations accessed by a wooden staircase from North Beach.

Sandy beach areas continue south of the inlet. The amount of sandy beach available and visible is dependent on the tide and time of year. Immediately adjacent to the back (east) of the beach area are visible residential properties elevated above the beach that are typically protected from wave action with riprap slopes rising from the beach to the pad elevations.

Surrounding Areas

Surrounding land uses north of the W-19 restoration site include the Del Mar Horse Park (an equestrian boarding and training operation), which includes some large structures and buildings. Via de la Valle generally parallels the northern river valley boundary. To the north is also commercial development along Via de la Valle and single-family residential developments along the varied and steep hillsides north of the roadway. Viewers in these northern locations generally include residents looking down from the hillsides that see the river valley and, depending on their orientation, the Pacific Ocean to the west or developed hillsides in Carmel Valley to the distant south. The Birdwing Outdoor Classroom has purposeful open and expansive views of the lagoon and river valley; thus, recreationalists and persons using the classroom or attending events hosted at the classroom have quality views of the open space to the south. Trail users along the CTC Trail bordering the river valley to the north also have views across the open space. Persons using the equestrian facility may have wide open views across the river valley to the south depending on their location within the Horse Park area. Drivers and bicyclists along Via de la Valle generally have expansive views of the river valley to the south, but the viewing quality depends on the viewers' elevation and their speed as they travel the roadway.

El Camino Real serves as the eastern border of the W-19 site. Areas immediately east of El Camino Real include the Fairbanks Ranch Golf Course, undeveloped parcels, and some residential and religious facility uses. Residential uses become more dense and prominent along the eastern side of the roadway as it rises into the hillsides south of the restoration site. Motorists, bicyclists, and pedestrians traveling along El Camino Real have expansive views across the river valley to the west in the middle ground with features such as I-5, hillside developments, and the Fairgrounds and Pacific Ocean in the background. These views are most panoramic from the northbound lanes where El Camino Real descends into the river valley with broad views to the river and coastline beyond. Residents located along the eastern side of El Camino Real may also have similar expansive views encompassing the river valley and features to the west.

South of the restoration and disposal sites are steep hillsides leading up to the residential developments of Carmel Valley. The dark green vegetated hillsides are interspersed with areas of bare soil formed by previous disposal activities, erosion, or informal trails. At the top of the slopes are single-family residential developments. There is a small grassy area known as Overlook Park connected with sidewalks and some formal dirt trails along the ridgetop that have views across the disposal site and river valley to the north in the middle ground and background to the developed hillsides of Solana Beach as well as toward the Pacific Ocean to the west. The area is designated as a Public View Overlook by the Development Unit Three Precise Plan (City of San Diego 1992) of the Carmel Valley Community Plan, which states that the overlook

encourages public viewing of the ocean to the northwest and the San Dieguito river valley to the north from pedestrian paths. It also states that it is imperative that the views across the overlook area be maintained.

West of the restoration and disposal sites, the river valley extends west and is bisected by I-5. The interstate provides a distinct linear barrier, both physically and visually, between the lagoon to the east and the lagoon and eventually the Pacific Ocean to the west. I-5 is elevated through the project vicinity and affords motorists views across the site. Because I-5 is elevated above the river valley, many low elevation views from the east side of the river valley toward the west are obstructed by the vegetated berm of I-5. Views of the ocean are only afforded when a viewer is at a location higher in elevation than I-5, such as locations along El Camino Real or the surrounding hillsides.

Light and Glare

There are no sources of light or glare directly associated with the W-19 or disposal sites. The river valley is generally dark at night but is rimmed with light that overspills from the surrounding development. The adjacent commercial, residential, and transportation uses contribute ambient lighting and brightness levels in the project area. Nighttime lighting associated with commercial developments in the area generally includes parking lot and security lighting, interior lighting, lit signage, and landscape lighting. Residential developments typically have landscape lighting, exterior home lighting, motion lights, and other small light sources. Roadways in the area, especially large transportation facilities such as I-5, Villa de la Valle, and El Camino Real, add to nighttime light through roadway lights and vehicle headlights.

Scenic Quality

The visually interesting setting that encompasses both riparian and vegetated upland habitats of the low-lying river valley, steep vegetated hillsides north and south of the floodplain, and the Pacific Ocean to the west contribute to the high-quality scenic value of the area.

The Concept Plan (San Dieguito River Park JPA 2002) describes the high scenic quality of San Dieguito Lagoon and the surrounding area:

> The Del Mar Coastal Lagoon landscape represents the western gateway to the river valley. This landscape is characterized by its broad floodplain, scenic coastal views, and valuable wetland/habitat. This open space creates an entry to the northern end of the city of San Diego and also to the coastal cities of Solana Beach and Del Mar. It contributes to the identity of these areas. The open character of the floodplain, as well as that of the adjoining upland slopes, is critical to the ecological and scenic value of this area.

Additionally, the NCFUA Framework Plan designates the San Dieguito river valley area west of El Camino Real as Areas of High Scenic Value (City of San Diego 2014a).

No state scenic highways have been established in the project area. I-5 in the project area is listed as an eligible state scenic highway but is not an officially designated scenic highway (Caltrans 2016d). The NCFUA Framework Plan does not designate scenic roadways. Camino Del Mar in the area near the beach placement sites is designated as a scenic corridor within the Del Mar General Plan (City of Del Mar 1976). The plan notes that, from the roadway, both north and southbound travelers have opportunity to view the ocean and coastline.

5.7.2 IMPACT THRESHOLDS

A significant impact would occur if implementation of the proposed project would:

A. Result in a substantial obstruction of any vista or scenic view from a public viewing area as identified in the community plan;

B. Result in the creation of a negative aesthetic site or project;

C. Result in project bulk, scale, materials, or style which would be incompatible with surrounding development;

D. Result in substantial alteration to the existing or planned character of the area,

E. Result in the loss of any distinctive or landmark tree(s), or stand of mature trees as identified in the community plan. (Normally, the removal of trees within a wetland as part of a restoration project would not be considered significant);

F. Result in substantial change in the existing landform; or

G. Result in substantial light or glare which would adversely affect daytime or nighttime view in the area.

The CEQA impact thresholds for visual resources are those recommended by the City of San Diego Development Services Department (City of San Diego 2011).

5.7.3 IMPACT ANALYSIS

Overview of Methodology

Restoration would temporarily affect the visual environment during the construction period by introducing construction equipment and associated activities to the natural river valley setting. Permanent visual changes would result from the altered vegetation types and cover and waterways. There would also be permanent changes in infrastructure related to utility relocation. Restoration activities would generate material for disposal at a site visible to the public from a variety of vantage points. The significance of these visual changes depends on a variety of factors, including the degree to which the project would be seen by potentially sensitive viewers, viewer attitudes and activities, the distance from which the project would be observed, and the extent the project would be consistent with established visual quality goals of the applicable land planning documents.

The anticipated visual impact of the proposed project was assessed in the field and based on computer-generated visual simulations. Field and office evaluation was undertaken to document the visual contrast of the project based on the degree of change in line, form, color, and texture. Three levels of contrast were considered: weak, moderate, and strong. Weak contrast means minor or low visual contrast with the surrounding landscape, while strong contrast means the facilities would be highly evident or dominate a setting. Moderate contrast would be noticeable but not dominant. The proposed project was also considered in terms of conformance with applicable goals and policies in the applicable local planning documents.

Sensitive Viewers

Visual sensitivity is dependent upon viewer attitudes, the types of activities in which people are engaged when viewing the project, and the distance from which the project would be seen. Overall, higher degrees of visual sensitivity are correlated where people are engaged in outdoor recreational pursuits or participate in scenic or pleasure driving. Views discussed in this analysis are public views as views from private property are not protected by the City or CEQA (City of San Diego 2011). Conversely, visual sensitivity is considered low to moderate in industrial areas where the scenic quality of the environment does not affect the value of the activity. Commercial areas, such as shopping centers and retail developments, are typically considered to have moderate sensitivity as viewers at these land uses generally do not have a high expectation of scenic views and are generally only in the area for a short time as they shop or run errands.

For this visual analysis, sensitive viewers are identified as users of the recreation opportunities associated with San Dieguito Lagoon (trails, Birdwing Outdoor Classroom) and immediately adjacent areas (nearby equestrian trails and other local trails). Sensitive viewers would also include those viewing the area from Overlook Park located along High Bluff Drive in Carmel Valley at the top of the slopes south of the project area. Drivers, bicyclists, or pedestrians along local roadways, including I-5, Villa de la Valle, and El Camino Real, are also considered sensitive viewers. While no roads in the immediate project area are designated as scenic roadways or highways, these highly traveled roads offer a large number of high-quality and expansive views of the river valley and disposal site area. Public views from designated open space areas, roads, or parks or to substantial visual landmarks or scenic vistas are the focus of this analysis.

A total of eight key observation points (KOPs) were identified for this analysis, representative of the major public views of the project area. Table 5.7-1 lists the KOPs and Figure 5.7-1 shows the location and viewing direction of each KOP. The table also lists the notable aesthetic changes that would result with implementation of the proposed project as visible from each KOP.

Computer-generated visual simulations are provided for each KOP to illustrate the changes to the site post-restoration (Figures 5.7-2 through 5.7-10~~9~~). The simulations are not necessarily representative of exact project final design but provide a useful illustrative example. Figure 5.7-10 has been provided to show the cross section view from KOP 8 (simulation represented in Figure 5.7-9) to represent disposal site heights and ocean views from El Camino Real/Disposal Site.

Table 5.7-1
List of Key Observation Points

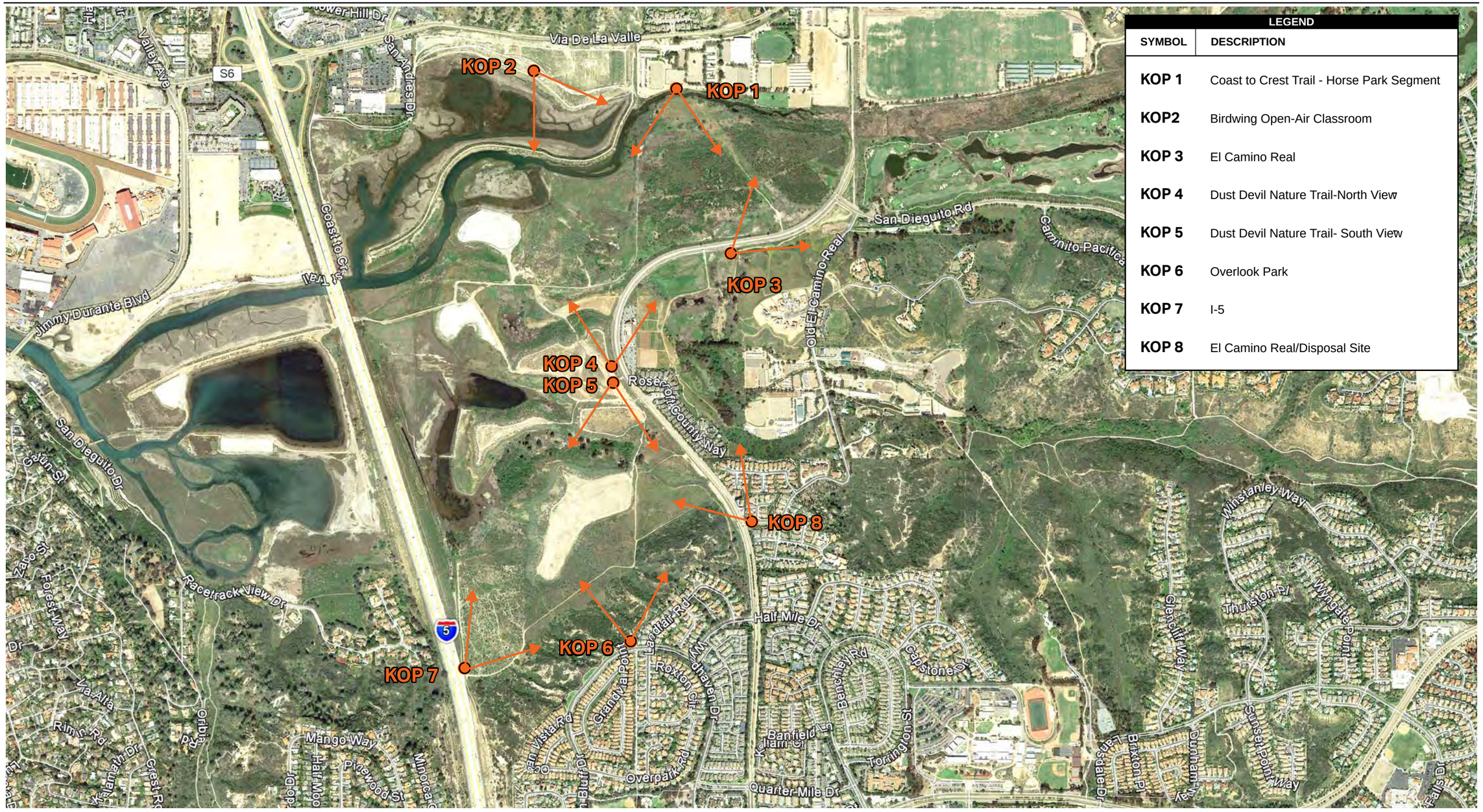
KOP Number	Location	Representative Views	Sensitivity	Visible Changes due to Project
KOP 1	Coast to Crest Trail – Horse Park Segment	Trail recreationalists Equestrian Facility users	High to moderate	Utility relocation; altered habitats
KOP 2	Birdwing Open Air Classroom	Trail recreationalists Education programming participants	High	Proposed trail; altered habitats; distant disposal site
KOP 3	El Camino Real	Motorists, pedestrians/bicyclists	Moderate	Proposed trail; utility relocation
KOP 4	Dust Devil Nature Trail North View	Trail recreationalists	High	Proposed trail; altered habitats
KOP 5	Dust Devil Nature Trail South View	Trail recreationalists	High	Disposal site
KOP 6	Overlook Park	Recreationalists, public access Residential viewers; public view overlook as designated in Carmel Valley Community Plan	High	Altered habitats; proposed trail; utility relocation; disposal site
KOP 7	I-5, northbound	Motorists	Moderate	Altered habitats; proposed trail; disposal site
KOP 8	El Camino Real/Disposal Site	Motorists, pedestrians/bicyclists	Moderate	Altered habitats; disposal site

W-19 Restoration

Construction

Restoration activities at the W-19 site and creation of coastal wetlands would generally consist of earth moving and grading within the W-19 site to lower existing elevations, disposal of the resulting material, relocation of a single set of utility poles that are outside the utility corridor, construction of a new trail, and planting habitat at the new grades. The construction phase of the proposed project would be temporary and would require approximately 30 months~~2 years~~. To the extent practicable, temporary impact areas, (e.g., staging areas) would be located within disturbed areas such as access/maintenance roads and parking lots. Construction would occur only during daytime hours and would not require nighttime lighting.

During the construction phase, the visual character of the W-19 site would change substantially from existing conditions. Vegetation would be removed from a large portion of the restoration site and landform alteration would occur. Such activities would be temporary but highly visible because of the contrast in color and texture with the vegetation being replaced by exposed soil. Additionally, visual changes within the river valley during the construction phase would include the presence of construction equipment, such as bulldozers, heavy trucks, and other standard equipment; equipment and materials stored in staging and laydown areas; and other typical construction activity. Heavy trucks would be moving throughout the river valley hauling material between the restoration site and the disposal site. The construction activities and equipment would appear out of context and in high contrast with the natural setting of the river valley.



LEGEND	
SYMBOL	**DESCRIPTION**
KOP 1	Coast to Crest Trail - Horse Park Segment
KOP2	Birdwing Open-Air Classroom
KOP 3	El Camino Real
KOP 4	Dust Devil Nature Trail-North View
KOP 5	Dust Devil Nature Trail- South View
KOP 6	Overlook Park
KOP 7	I-5
KOP 8	El Camino Real/Disposal Site

Source: GoogleEarth2016

1000 500 0 1000 Feet

Figure 5.7-1
Key Observation Points
Location Map

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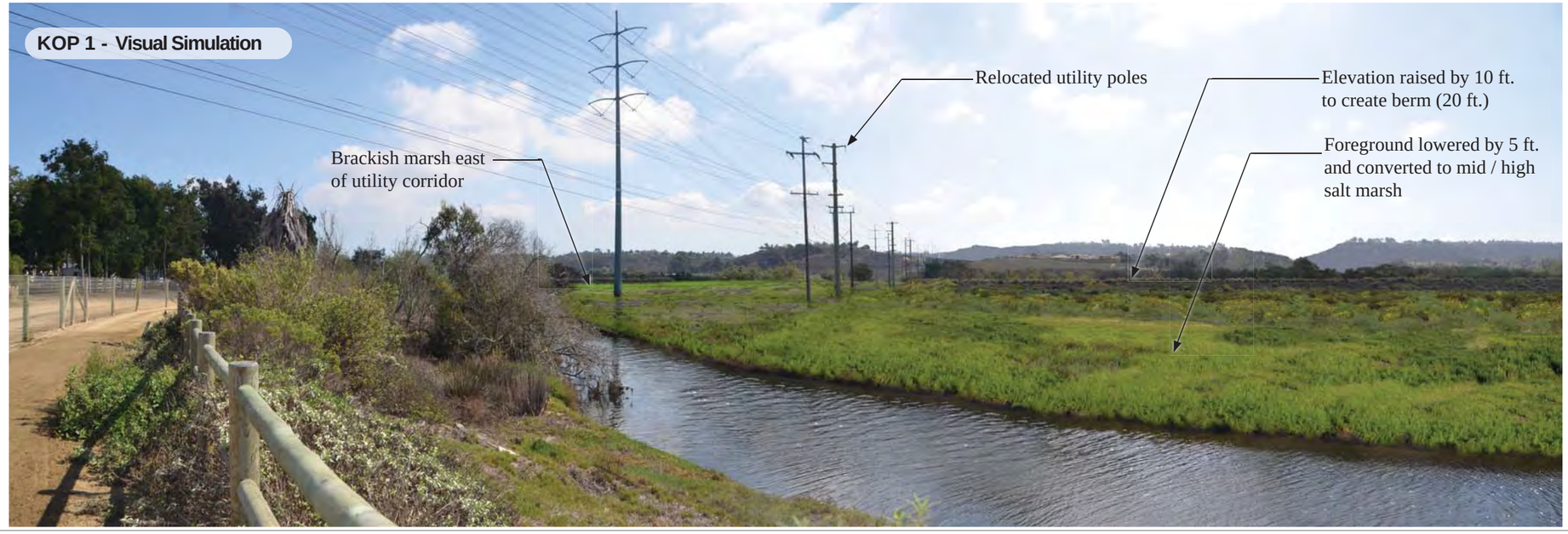
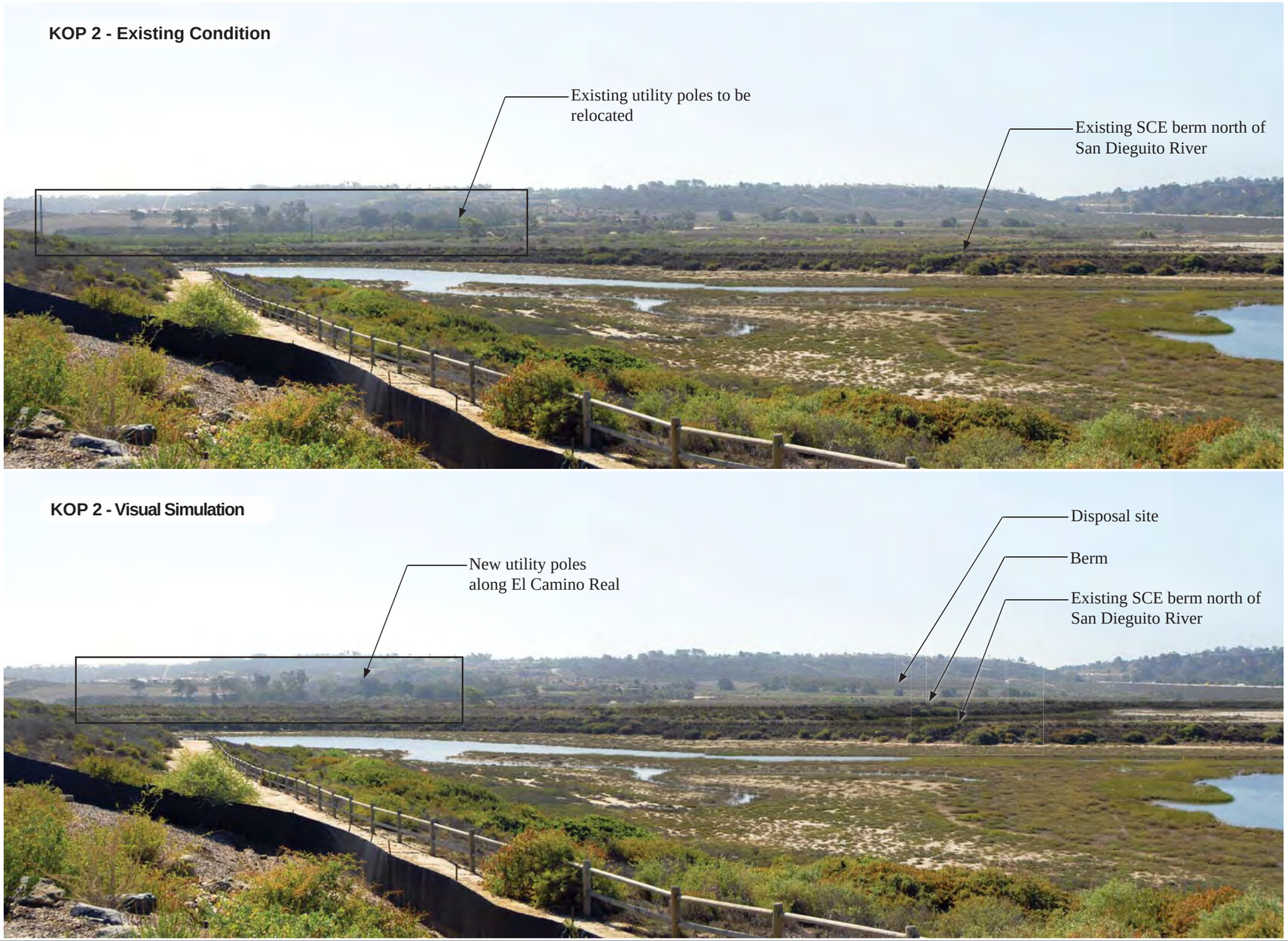


Note: It may be possible to relocate 2 electrical lines (12dV; 69Kv) onto other existing structures in the current corridor instead of constructing relocated poles. This represents worst -case, relocatedd pole configuration.

Figure 5.7-2
KOP 1 – View from Coast to Crest Trail - Horse Park Segment

P:\2012\60274999_SD_W19\05Graphics\5.4_Proj_Graphics\Figures\Visual\5_8_2KOP1.ai 2/3/16 dbrady



Note: The new (temporary) poles along El Camino Real are required if undergrounding does not occur prior to this project.

Figure 5.7-3
KOP 2 – View from Birdwing Open-Air Classroom

Note: The new (temporary) poles along El Camino Real are required if undergrounding does not occur prior to this project. It may be possible to relocate 2 existing electrical lines (12Kv : 69Kv) on existing structures within current utility corridor instead of relocating existing poles. This represents worst-case pole configuration.

Figure 5.7-4
KOP 3 – View from El Camino Real

P:\2012\60274999_SD_W19\05Graphics\5.4_Proj_Graphics\Figures\Visual\5_8_4KOP3.ai 2/3/16 dbrady

Note: The new (temporary) poles along El Camino Real are required if undergrounding does not occur prior to this project. It may be possible to relocate 2 existing electrical lines (12Kv : 69Kv) on existing structures within current utility corridor instead of relocating existing poles. This represents worst-case pole configuration.

Figure 5.7-5
KOP 4 – View from Dust Devil Nature Trail - North View

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Figure 5.7-6
KOP 5 – View from Dust Devil Nature Trail - South View

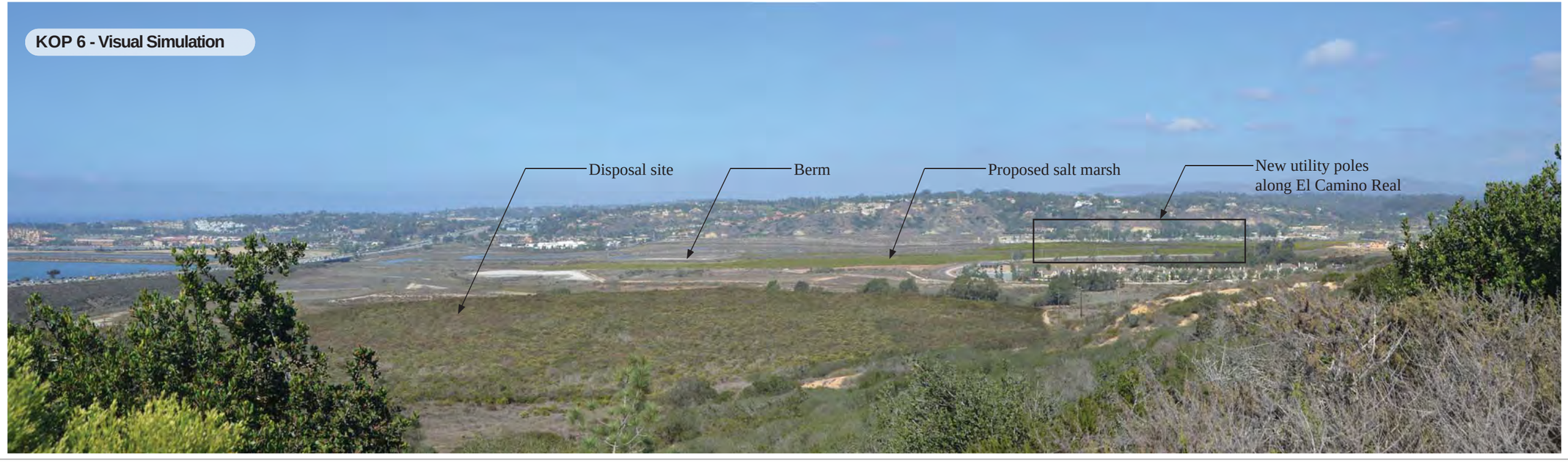

Figure 5.7-7
KOP 6 – Overlook Park

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Figure 5.7-8
KOP 7 – I-5 Northbound

P:\2012\60274999_SD_W19\05Graphics\5.4_Proj_Graphics\Figures\Visual\5_8_8KOP7.ai 2/3/16 dbrady

Figure 5.7-9
KOP 8 – El Camino Real/Disposal Site

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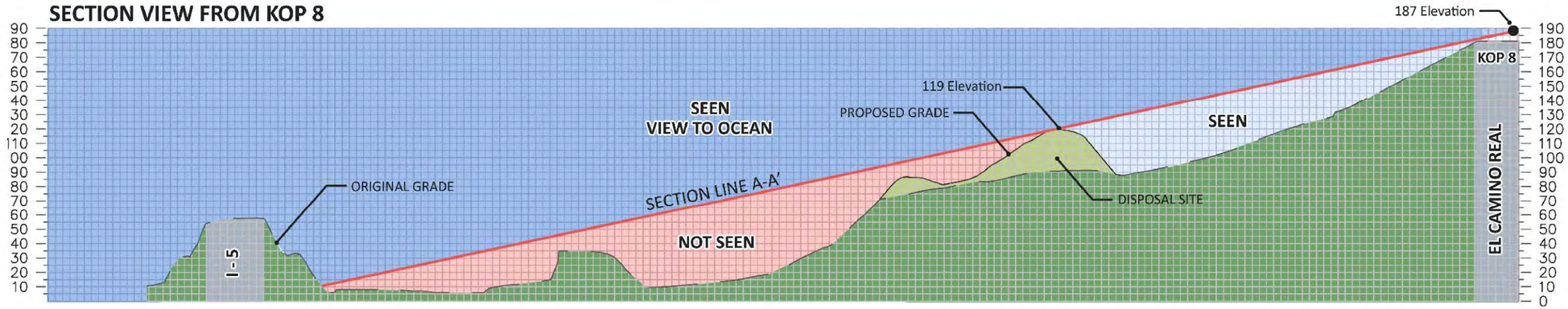
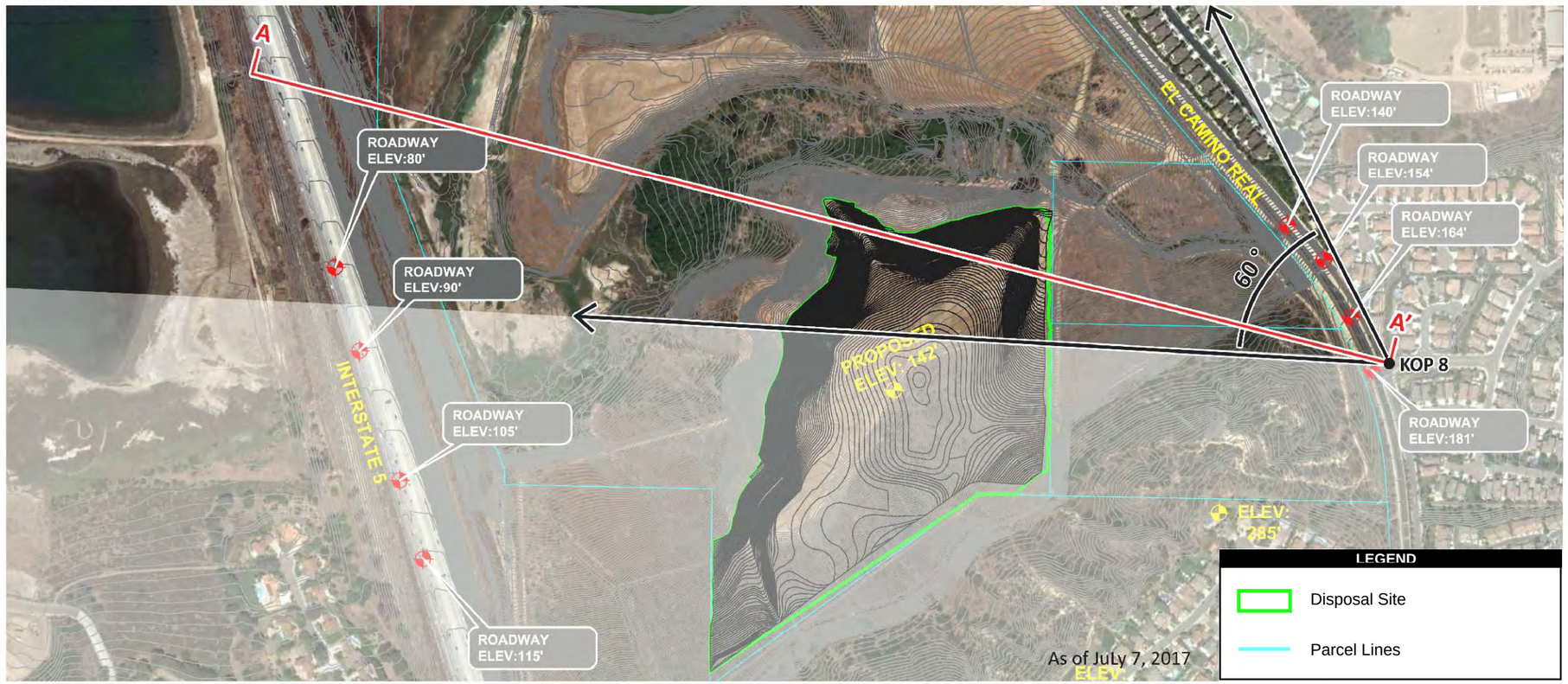
SECTION VIEW FROM KOP 8



PLAN VIEW FROM KOP 8



Source: JPA: Dokken 2015

300 150 0 300 Feet

Figure 5.7-10
KOP 8 – Cross Section View

Path: P:\2012\60274999_SD_W19\06GIS\6.3_Layout\Reports\EIR\KOP8_Keyview.ai, 10/11/2018, dbrady

Almost all of the viewers identified in the KOPs would have views of the construction activities taking place in the restoration site as can be seen in the KOP photos (Figures 5.7-2 through 5.7-9). Some of the viewers, such as trail users (KOP 1, KOP 2, KOP 4, and KOP 5, would have close foreground and middle ground views of the construction and are considered highly sensitive. Other viewers, such as motorists (KOP 3, KOP 7, and KOP 8), would have varying views of the construction activities dependent upon their location, direction, and speed. Sensitive viewers at Overlook Park, represented by KOP 6, would have very distant views of the restoration activities in the northern portion of the river valley.

Trail users would experience a strong contrast because of the overall change and likely perceived degradation in visual character, but also because these users have higher scenic expectations. Thus, the contrast would be strong as a result of construction activities. Overall, the construction phase would represent a temporary, but substantial, change in the visual quality and character of the river valley for key viewers. Though a substantial change in the visual environment for nearby trail users, the visual change would only last through the duration of construction with the W-19 site, approximately 30 months. The construction operations would be limited to the W-19 site, which composes only a relatively small portion of the overall river valley and lagoon setting and visual environment. Once construction operations were complete, the scenic quality of the river valley and W-19 site would return to conditions similar to the current visual environment. Additionally, trail users in this area are accustomed to the presence of construction equipment within the river valley area. Similar equipment and construction activities were present during the recent SCE restoration project and continue to be present at times for ongoing maintenance associated with that project. To further reduce the effect of the visual change effect on trail users, and on other visitors to the river valley, signage would be posted prior to the start of construction to ensure people are notified of the presence of construction equipment and schedule, and are aware of the purpose of the activities as required by PDF-12. **Thus, because of the temporary nature of the visual disruption, the short-term visual impact for trail users is considered less than significant (Criterion B).**

A portion of a driver's view on I-5 or El Camino Real would be altered by the presence of the construction equipment in a portion of the river valley and the remaining visual aesthetic across the rest of the river valley; the expansive views of the distant ocean and surrounding hillsides would remain for the driver's scenic viewing. However, this altered portion of the view is a relatively small area of construction equipment located in the overall context of the large lagoon area and expansive river valley views. Additionally, it is not uncommon for construction activities to be visible within and around the river valley due to the past restoration project and ongoing maintenance activities. While the expectation for an undisturbed scenic experience may not be met at all times during construction, the overall experience by scenic drivers would be extremely short term (a few minutes as they drive by) and other scenic elements would remain intact, specifically the Pacific Ocean and surrounding hillsides. **Therefore, temporary impacts to scenic drivers would be less than significant (Criterion B).**

Sensitive viewers at the overlook represented in KOP 6 would likely not have distinct views of the restoration activities due to distance, but would likely notice the overall change in land cover as the area would be cleared and the green vegetation tones changed to more brown earth tones of the exposed soils, which is a common visual element already within the W-19 site and

surrounding open space areas. However, this altered portion of the view is a relatively small and distant area located within the overall context of the large lagoon area and expansive river valley views. All other scenic elements would remain, including the distant hillsides to the north and the Pacific Ocean to the west. **Therefore, temporary impacts to scenic viewers would be less than significant (Criterion B).**

Because construction activities are scheduled for daytime hours only, from 7 a.m. to 7 p.m. there would be no need for nighttime lighting. Construction activities would cease prior to evening or nighttime hours and no source of light or glare would result from construction. **Thus, there would be no impact related to light or glare due to construction activities (Criterion G).**

Long-Term Restoration

The restoration activities on the W-19 site would generally lower elevations to create wetland habitats. No buildings would be constructed as part of the proposed project and the visual change would generally be related to a different mosaic of vegetation types. Over 5 to 10 years post-restoration, as vegetation in the restoration site becomes reestablished at the new elevations/grade, the visual character of the river valley would become similar to the existing pre-construction conditions but would host a wider variety of native vegetation and wetland habitats of visual interest. Conditions would return due to active restoration (planting plants) as well as natural recruitment.

In general, the removal and replacement of vegetation would not create substantial visual changes. In some locations where larger stands of vegetation or trees would be removed, the visual change would be more pronounced. An example of this is clearly shown in KOP 1 where the larger nonnative shrubs and trees that currently exist along the San Dieguito River channel would be removed and replaced with lower, more uniform native marsh habitat, including native trees as appropriate. However, in most cases, as shown through the various KOP simulations (Figures 5.7-2 through 5.7-10~~9~~), the change in habitat type and elevations is generally a minor aesthetic difference in the overall view of the area. The difference in vegetation and elevations does not create a noticeable aesthetic change in the open natural character of the river valley and would create a habitat that is visually appropriate and compatible with the open space setting. Dependent on the time of year and rainfall, the established areas of the W-19 site may at times appear more lush and green. At other times, vegetation would be sparser with a higher amount of brown earthy tones and areas of open water and mudflats. This is a natural and expected visual scene associated with lagoon/river mouth open space areas.

The restoration and conversion of the W-19 site to more wetland-based habitats would not involve the construction of any structures or other visual elements that would create an obstruction within or across the river valley and impede scenic views. Nor would any elements of the project result in a visual element that would have bulk, scale, or style incompatible with the river valley or surrounding development. The reestablished vegetation would create a similar aesthetic to the existing open and natural setting that currently exists throughout the restoration site and overall river valley basin and would not result in the creation of a negative aesthetic or substantial change to the character of the area. While the restoration activities would require the removal of existing mature trees, the vegetation in the river valley is not designated as landmark

trees by local planning documents and the stands of trees would be replaced with appropriate native vegetation. The character of the river valley would remain consistent and intact. **The long-term visual impact associated with the restored W-19 site would be less than significant (Criteria A, B, C, D, and E).**

The landform of the restoration site would be altered through the lowering of grades to create the required elevations for tidal inundations necessary for the creation and long-term success of wetland habitats. Additionally, two berms planted with a mix of transitional and upland habitat would be constructed between established salt marsh and the San Dieguito River channel. The elevation of the top of the salt marsh berm would be 20 feet NGVD and the elevation of the top of the brackish marsh berm would be 22 feet NGVD. The elevation of the existing surface currently ranges from 8 to 12 feet NGVD. From the salt water wetlands side, the top of the berm would be approximately 16 feet above the edge of the wetlands. On the river side, the top of the saltwater marsh berm would be approximately 10 feet above the adjoining uplands. The brackish marsh berm would appear to be approximately 16 feet above the surrounding ground. The vegetated berms would be visually apparent from certain locations, such as shown in KOPs 1, 2, 4, 6, 7, and 8. While these are substantial elevation differences above the existing terrain, the vegetated slopes would allow the berm to blend in with the surrounding habitats and it would not appear as an out-of-scale or visually conflicting element within the river valley viewscape. The visual form, character, and lines of the berm would be slightly contrasting with the low elevations of the surrounding basin; however, the matching vegetation and texture of the berm slopes would mute the contrast. Also, the slope sides would be designed to vary in steepness and undulation to better mimic natural landforms. During the previous SCE restoration project adjacent to the west of the W-19 site, similar type berms were installed (ranging in height to elevations of +20 feet NGVD [USFWS and San Dieguito River Park JPA 2000]) and have been revegetated and landscaped, and now blend well with the terrain and habitat. It is anticipated that a similar visual result would occur with the proposed berms. Additionally, elevational difference of the berm in the overall river valley setting would not be highly noticeable with increased distance, such as from KOP 8 along El Camino Real, KOP 7 along I-5, or KOP 6 from the elevated hillsides to the south. **Thus, the restoration activities would not result in a substantial change in the existing landform and the impact would be less than significant (Criterion F).**

The restoration of the W-19 site and associated elements would not include any new source of light. Additionally, the new habitat and other elements would not create a new source of glare or include reflective materials. **Thus, the restoration would not adversely affect daytime or nighttime views in the area due to light or glare and there would be no impact (Criterion G).**

Trail

The proposed new trail alignment located parallel to El Camino Real would introduce a new connecting trail to the river valley setting where multiple trail networks currently exist. At the southern end of the new trail where it connects with the Dust Devil Nature Trail, the trail would be approximately 6 feet wide and surfaced with DG with 1-foot-wide dirt shoulders and designed for pedestrian use only. The trail would widen between the San Dieguito Road intersection with

El Camino Real and its terminus south of the El Camino Real Bridge. The widened trail section would be multi-use with a 6-foot-wide DG surfaced section for hikers and bicycles, a 4-foot-wide soft dirt section for equestrian users, and 1-foot-wide dirt shoulders. Split-rail fencing would be located at appropriate locations along the trail to maintain a rustic character consistent with other River Park trails. The trail would be below the elevation of El Camino Real. While this would be a new trail within the river valley, it would appear visually consistent with the rest of the trail network located throughout the lagoon and river valley system. It would connect to the Dust Devil Nature Trail, which has similar characteristics (e.g., width, surface, fencing) associated with its alignment. Additionally, the new trail would be located on the exterior fringe of the river valley and restoration site adjacent to the El Camino Real roadway. Thus, it would not cut through or create a visually distinct linear element through the site. No structures of mass or height would be constructed in association with the new trail. While a slight change in the existing aesthetic environment would result, the new trail would not create an adverse change to the visual character of the site or be considered a substantial change to the character of the area. The trail would also not create a new obstruction in the ability to view the area. **Thus, visual change from the new trail would result in less than significant impacts (Criteria A, B, C, and D).**

Utility Relocation

Relocation of a single set of utility poles carrying a 69-kV transmission line and a 12-kV distribution line is anticipated. The relocated electrical lines would be incorporated onto the existing utility corridor electrical facilities that have capacity or on new poles within a 20-foot-wide expansion of the existing utility corridor, running parallel to the corridor on the westerly side. The relocated lines would connect to existing electrical infrastructure north of the project by connecting to an existing utility pole west of the utility corridor and south of Via de la Valle. At the southern end of the corridor, the relocated lines would extend west along El Camino Real, approximately 10 feet from the north side of the roadway, before connecting to the existing electrical alignment. New poles along El Camino Real would be 60 to 70 feet high to maintain required clearances for pedestrian, bicycle, and vehicular traffic safety along the road and proposed trail. It is assumed poles would be steel, although wood poles may be used. The City of San Diego has plans identifying relocation of the electrical lines as part of an undergrounding program that would move the lines into existing and proposed street segments, although specific timing for implementation of that program has not been set.

KOP 1 from the CTC Trail provides a close view of the existing utility poles and utility corridor. The view of the utility corridor from this location extends from the immediate foreground to distant background views. The utility corridor and associated utility poles are also prominent in KOP 3 from El Camino Real. The utility infrastructure is also visible when looking north from the Dust Devil Nature Trail, as shown in KOP 4. Other KOPs have distant views or partially obstructed views of the utility corridor. At a distance, such as from the Overlook Park location or I-5 (KOPs 6 and 7, respectively), the infrastructure, while visible, is small and visually irrelevant in the context of the wide expansive views of the area.

While sensitive viewers in locations close to the utility corridor would notice the change in location of the utility poles and lines, this relocation would not appear out of context or in

contrast with the existing setting as that infrastructure already exists as part of the visual environment. The relocation of the existing poles to the utility corridor would aid in visually consolidating man-made infrastructure to within the utility corridor and out of the middle of the river valley as described in Section 5.13, Public Services and Utilities, and as shown in Figure 3-7. Also, while the rerouted transmission line along El Camino Real, and adjacent to the new trail, would place new utility poles in this alignment where there were previously no poles, the rerouted alignment would be alongside a developed roadway and no longer bisecting the middle of the open river valley. The presence of the relocated transmission line along the roadway would be a slight visual change, but would not be out of character as transmission infrastructure already exists in the area and would be more visually compatible than the infrastructure currently traversing through the middle of the river valley. The height and build of the poles would be similar to what currently exists and would not create a new structure or mass that is out of character with the surrounding area. While a slight change in the existing aesthetic environment, the relocation of the utility poles would not create an adverse change to the visual character of the site or be considered a substantial change to the character of the area. The relocated poles would also not create a new obstruction in the ability to view the area. **Thus, visual impacts resulting from the relocation of the existing utility corridor would result in less than significant impacts (Criteria A, B, C, and D).**

Materials Disposal

Construction

During construction, large trucks would haul material from the W-19 site south along the designated internal haul routes (see Figure 3-8) to the disposal site. At the disposal site, construction equipment would be working to place the material and shape it into the engineered terraces and contours. The elevation of the site would rise as material was placed across it. Any areas of vegetation within the disposal site would be replaced with exposed soil as the material is placed. The brown earth tones of the exposed soils would remain visible until the vegetation reestablishes across the site. Though partially disturbed, the visual expectation for the disposal site, which is situated within an open space area that rises from the river valley floor to the adjacent hillsides, would be in contrast with the activity of construction equipment and the visibility of exposed manufactured slopes and contours prior to the revegetation establishing. Thus, overall, the construction phase would represent a temporary, but substantial, change in the visual quality and character of the disposal site for key viewers. Though a noticeable change in the visual environment, the visual change from active construction operations would only last through the duration of material disposal, approximately 70 weeks. Once material disposal was complete, the scenic quality of the river valley and disposal site would return to conditions similar to the current visual environment as vegetation establishes. Additionally, trail users in this area are accustomed to the presence of construction equipment within the disposal site area as similar equipment and construction activities were present during the recent SCE restoration project that used a portion of the disposal site. To further reduce the effect of the visual change on trail users and other visitors to the river valley, signage would be posted prior to the start of construction to ensure people are notified of the presence of construction equipment and schedule, and are aware of the purpose of the activities, as required by PDF-12. **Thus, because**

of the temporary nature of the visual disruption, the short-term visual impact for trail users is considered less than significant (Criterion B).

Long-Term Restoration

The disposal site for the proposed project would be partially located on an area used for materials disposal by SCE, but would extend beyond the boundaries previously used and would terminate at a finished elevation higher (taller) than the existing grade. The finished disposal site has been designed with natural contours to mimic and blend with surrounding natural landforms, and material placement height would not exceed a maximum elevation of 145 feet, as described in Section 5.5 This disposal site has been designed specifically to ensure that the newly placed material avoids blocking westerly ocean views from El Camino Real, as shown in Figure 5.7-10. After construction is complete, the disposal site would be revegetated as coastal sage scrub, which can grow to approximately 6 feet high. Topsoil from the disposal site would be salvaged prior to placement of the disposal material and reused on top to facilitate successful revegetation.

The disposal site is visible from a number of KOPs. KOP 2 affords a distant view of the disposal site. As shown in the visual simulation (Figure 5.7-3), while it is possible to distinguish the elevated form of the disposal site, the vegetated site would ultimately blend in with the vegetated hillsides abutting the site to the south. The revegetation of the disposal site with coastal sage scrub would create a well-blended match with the existing coastal sages scrub vegetation on the adjacent slopes. This allows the form of the disposal site to almost disappear into the viewshed from a distance. This would be in accordance with planning policies designed to maintain views and retain the aesthetic character of the open space and slopes. KOP 5 offers a much closer view of the disposal site. Similar to KOP 2, the outline of the revegetated disposal site can be seen in the middle ground; however, against the vegetated hillsides and with the intervening vegetation it would not be visually intrusive and would not create an element of conflict or contrast with the surrounding aesthetic. The high ridgeline of Carmel Valley would continue to be visible and a prominent feature of this view rising above the disposal site.

KOP 6 has a view of the disposal site from the opposite side than the previously discussed KOPs. The north-facing view of the disposal site from the Overlook Park area as represented by KOP 6 includes the disposal site in the near to middle ground. The prior disposal site is visible because of exposed soils. As shown in the simulation (Figure 5.7-7), the completed disposal site with revegetation would provide a more uniform and consistent aesthetic than with the current sporadic areas of vegetation intermixed with unvegetated and exposed soil. While the disposal site would be expanded in width and height compared to the previous disposal site, the contouring and revegetation of the site with coastal sage scrub would allow the entire site to visually blend with the existing vegetated hillsides and surrounding areas. This would result in a more natural appearance and minimize some of the disturbed aesthetic of the view currently available at this location. A more consistent and uniform appearance from KOP 5 (Figure 5.7-6) would result for drivers that pass by the western portion of the disposal site. While the increased elevation would be noticeable from the highway, it is negligible in the overall view and the very distant hillsides would remain visible.

KOP 8 represents a location that would experience a substantial alteration in the visual environment due to the elevated disposal site. This view represents motorists driving north on El Camino Real at a high elevation before dropping down in to the river valley. The foreground view for motorists includes the sparsely vegetated slopes adjacent to the roadway. The background view afforded from this location encompasses the river valley and surrounding hillsides, and extends to the Pacific Ocean. The elevated disposal site in the foreground would be visible west of the road as drivers pass by. As shown in the KOP 8 simulation (Figure 5.7-9), the views that would be blocked by the presence of the disposal site generally include the southernmost portion of the river valley west of the disposal site and the vegetated berm that elevates I-5. The prominent distant feature of the high ridgeline west of I-5 would remain unobstructed and intact over the disposal site and mature vegetation. The disposal site and vegetation would not obscure the distant background ocean views; however, the disposal site itself would abut and blend into the existing vegetated hillsides to the south. In comparison to the existing view of the disposal site, the new revegetated disposal site would appear more like ~~uniform and consistent with~~ the surrounding habitat and hillsides (more undulating, less flat). Thus, the elevated site would not create an element of visual contrast or appear out of scale or out of context with the surrounding area. As motorists pass through the KOP 8 vicinity, the disposal site would appear as a vegetated slope adjacent to the western edge of El Camino Real; however, t~~T~~he elevation of the disposal site would not extend above the sight line from El Camino Real and would avoid the potential to block panoramic ocean views (as shown in Figure 5.7-10). Viewers from this KOP are considered moderately sensitive as they pass through the area quickly and the view is off to the western side of their line of sight. For these reasons, while the disposal site would alter the existing landform and western views from KOP 8, the change to the visual environment would not obstruct scenic views, create a negative aesthetic, create bulk or scale that is incompatible with the surrounding development, or result in a substantial alteration to the character of the area. **The visual impact would be noticeable but would be less than significant (Criteria A, B, C, D, and F).**

There would be no source of light or glare associated with the disposal site, and no stands of mature trees or distinctive trees as designed in a community plan would be removed. **Thus, there would be no visual impact (Criteria E and G).**

W-19 Wetlands Maintenance

W-19 Site

Similar to the lagoon restoration, maintenance activities would introduce construction equipment to the W-19 site, but to a much lesser extent and timeframe. The construction activities and equipment would appear out of context and in high contrast with the natural setting of the river valley. Maintenance would not involve the construction of any structures or other visual elements that would create an obstruction within or across the river valley and impede scenic views. Though a substantial change in the visual environment for nearby viewers, the visual change would only last through the duration of maintenance activities, anticipated to last between 2 and 7 weeks, depending on the severity of the storm. The maintenance would be limited to the W-19 site, which composes only a relatively small portion of the overall river valley and lagoon setting, and visual environment and the scenic quality would return at completion of the

maintenance activities. **Thus, because of the temporary nature of the visual disruption, the short-term visual impact is considered less than significant (Criterion B).**

Maintenance would clear deposited sediment and would aid in the success of post-storm vegetation reestablishment to maintain a similar aesthetic to the existing open and natural setting that currently exists throughout the restoration site and overall river valley basin and would not result in the creation of a negative aesthetic or substantial change to the character of the area. **There would be no long-term visual impact associated with the maintenance activities (Criteria A, B, C, D, E, F, and G).**

Beach

Viewers of the beach locations proposed for material reuse from maintenance activities considered in this analysis would include beach users, viewers from vista points on the bluffs above, and motorists or recreationalists from certain vantage points on Camino Del Mar. The visual changes associated with the material placement on the beach, including construction equipment on the beach, would only occur during construction activities, resulting in temporary visual impacts. Once material placement is completed, the placement material would be similar to the existing beach. Potential discoloration of the sediment would be short term (typically 1 to 4 years) and would not be a substantial degradation of the overall beach appearance. The placement material would be washed by waves, exposed to the sun, and eventually mixed with the existing sand to minimize potential contrast. No nighttime work or lighting would be required for the placement of material from maintenance activities. The temporary visual change associated with construction activities and presence of construction equipment on the beach would be similar to the visual condition during SCE restoration project maintenance and beach placement. The placement of the nourishment material is considered a beneficial enhancement of the beach because sand is preferable to cobble, both visually and recreationally. **Thus, because of the temporary nature of the visual disruption, the short-term visual impact is considered less than significant (Criterion B). There would be no long-term visual impact associated with the sand placement as part of maintenance activities (Criteria A, B, C, D, E, F, and G).**

5.7.4 SIGNIFICANCE OF IMPACTS

No significant impacts to visual resources or neighborhood character have been identified for the proposed project. Table 5.7-2 summarizes the impact conclusions identified in the Impact Analysis for each threshold of significance.

Table 5.7-2
Summary of Visual Resources Impact Conclusions

Threshold	W-19 Restoration	Materials Disposal	W-19 Inlet Maintenance
A. Result in a substantial obstruction of any vista or scenic view from a public viewing area as identified in the community plan.	Less than Significant	Less than Significant	No Impact
B. Result in the creation of a negative aesthetic site or project.	Less than Significant	Less than Significant	Less than Significant
C. Result in project bulk, scale, materials, or style which would be incompatible with surrounding development.	Less than Significant	Less than Significant	No Impact
D. Result in substantial alteration to the existing or planned character of the area.	Less than Significant	Less than Significant	No Impact
E. Result in the loss of any distinctive or landmark tree(s), or stand of mature trees as identified in the community plan. (Normally, the removal of nonnative trees within a wetland as part of a restoration project would not be considered significant).	Less than Significant	No Impact	No Impact
F. Result in substantial change in the existing landform.	Less than Significant	Less than Significant	No Impact
G. Result in substantial light or glare which would adversely affect daytime or nighttime view in the area.	No Impact	No Impact	No Impact

5.7.5 MITIGATION MEASURES

No significant visual impacts would result and no mitigation is required.

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5.8 TRAFFIC, ACCESS, AND CIRCULATION

This section describes existing traffic conditions in the project area; summarizes applicable regulations; and analyzes the potential traffic, access, and circulation impacts of the proposed project. Information is this section is summarized from the Traffic Study (Appendix L).

The proposed project would require the use of highways and local roadways in the study area vicinity for transportation of materials/equipment into and out of the project site and to accommodate worker trips during construction. Excavated material and excess sediment removed from the W-19 site would be transported to the disposal location using off-road haul routes. Upon completion of the project, generation of additional traffic on roadways within the study area would be limited to intermittent maintenance activities and recreational trail access. Because the proposed project is a restoration project and would not result in substantial operational impacts, this analysis focuses on construction and maintenance traffic impacts associated with restoration and material disposal activities.

5.8.1 EXISTING CONDITIONS

Effective evaluation of the traffic impacts associated with the project requires an understanding of the existing transportation system within the project study area. The existing traffic conditions for arterials and freeways within the study area are shown in Table 5.8-1 and Table 5.8-2, respectively, and are described further in the Traffic Study. Potential impacts to bicyclists were evaluated along El Camino Real between San Dieguito Road and Del Mar Heights Road, which is a four-lane roadway with dedicated bicycle lanes along both sides of the roadway.

Table 5.8-1
Existing Traffic Conditions for Arterial Segments along Construction Access Route

Roadway	Segment	Approximate Distance (miles)	Daily Volume	Peak Hour Volume	Peak Hour Two-way Capacity[1]	Existing Peak Hour V/C	Designated Existing LOS
Northern Route to I-5							
El Camino Real	San Dieguito Road to Via de la Valle	0.5	14,524	1,615	1,600	1.01	F
Via de la Valle[2]	El Camino Real to I-5	1.4	20,666	1,737	1,600/3,200	1.08/0.54	F/A
Southern Route to I-5							
El Camino Real	San Dieguito Road to Del Mar Heights Road	2.0	15,326	1,756	3,200	0.55	A
Del Mar Heights Road	El Camino Read to I-5	0.6	39,188	3,202	4,800	0.67	B

LOS = level of service; V/C = volume to capacity ratio

[1] Assumed capacity per lane per hour for arterial roadways = 800 (to account for traffic signal and associated red time).

[2] Via de la Valle is a two-lane roadway between El Camino Real and the signalized intersection at San Andres Drive. Between San Andres Drive and I-5, Via de la Valle is a four-lane roadway. XX/YY values shown in the table correspond to two-lane/ four-lane conditions along Via de la Valle.

Table 5.8-2
Existing Traffic Conditions for Freeway Segments within Study Area

Freeway	Segment	Approximate Distance (miles)	Daily Volume	Peak Hour Volume	Peak Hour Two-way Capacity	Existing Peak Hour V/C	Designated Existing LOS
I-5 (South of Project Site)	Via de la Valle to Del Mar Heights Road	5.8	243,000	15,900	15,120	1.05	F
	Del Mar Heights Road to SR-56		245,000	16,200	18,000	0.90	D
	SR-56 to I-805		204,000	15,600	18,000	0.87	C
	I-5 South of I-5/ I-805 Merge (Sorrento Valley Road)		165,000	11,800	11,520	1.02	F
	I-805 South of I-5/I-805 Merge (Miramar Road)		184,000	13,700	12,240	1.12	F
I-5 (North of Project Site)	Del Mar Heights Road to Via de la Valle	3.3	243,000	15,900	15,120	1.05	F
	Via de la Valle to Loma Santa Fe Drive		247,000	18,100	15,120	1.20	F

Source: Appendix L
LOS = level of service; V/C = volume to capacity ratio
Assumed capacity per lane per hour for freeway = 1,800.
Assumed capacity per lane per hour for HOV lane = 450 (0.25 of freeway lane capacity).
Capacity adjustment on the freeway to account for directional bias = 0.80.
Existing LOS reported in the table is based on peak direction on the freeway.

Level of service (LOS) is the term used to denote the different operating conditions that occur on a given roadway segment under various traffic volume loads. It is a qualitative measure with designations ranging from A through F. In traffic engineering methodology, roadway operations are rated in terms of LOS that range from LOS A (light traffic, minimal delays) to LOS F (traffic congestion, substantial delays). LOS D is the typical standard for urban and suburban design. The results shown in Table 5.8-1 and Table 5.8-2 indicate that, under existing conditions, two arterial segments and several of the freeway segments operate near or at capacity (designated LOS F) during the peak hours.

5.8.2 IMPACT THRESHOLDS

A significant impact related to traffic, access, and circulation would occur if implementation of the proposed project would:

A. Result in traffic generation in excess of specific community plan allocation;

B. Result in an increase in projected traffic which is substantial in relation to the existing traffic load and capacity of the street system;

C. Result in addition of a substantial amount of traffic to a congested freeway segment, interchange, or ramp as shown in Table 5.8-3;

D. Result in an increased demand for offsite parking;

E. Result in effects on existing parking;

F. Result in substantial impact upon existing or planned transportation systems;

G. Result in substantial alterations to present circulation movements including effects on existing public access to beaches, parks, or other open space areas;

H. Increase traffic hazards for motor vehicles, bicyclists, or pedestrians due to a proposed, non-standard design feature (e.g., poor sight distance or driveway onto an access-restricted roadway); or

I. Conflict with adopted policies, plans, or programs supporting alternative transportation models (e.g., bus turnouts, bicycle racks).

The CEQA impact thresholds for traffic are those recommended by the City of San Diego Development Services Department, including the LOS thresholds provided in Table 5.8-3.

Table 5.8-3
Traffic Impact Significance Thresholds

	Allowable Change due to Project Impact[2]					
	Freeways		Roadway Segments		Intersections	Ramp Metering
Level of Service with Project[1]	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec.)	Delay (min.)
E (or ramp meter delays above 15 min.)	0.010	1.0	0.02	1.0	2.0	2.0
F (or ramp meter delays above 15 min.)	0.005	0.5	0.01	0.5	1.0	1.0

min. = minutes; mph = miles per hour; sec. = seconds; V/C = volume to capacity ratio
Delay = Average stopped delay per vehicle measured in seconds for intersections, or minutes for ramp meters
[1] All LOS measurements are based on Highway Capacity Manual procedures for peak hour conditions. However, V/C ratios for roadway segments may be estimated on an average daily traffic/24-hour traffic volume basis (using this table or a similar LOS chart for each jurisdiction). The acceptable LOS for freeways, roadways, and intersections is generally "D" ("C" for undeveloped or not densely developed locations per jurisdiction definitions). For metered freeway ramps, LOS does not apply. However, ramp meter delays above 15 minutes are considered excessive.
[2] If a proposed project's traffic causes the values shown in the table to be exceeded, the impacts are deemed significant. These impact changes may be measured from appropriate computer programs or expanded manual spreadsheets.
Source: California Environmental Quality Act Significance Determination Thresholds, City of San Diego Development Services Department, January 2011

5.8.3 IMPACT ANALYSIS

Traffic generated during the construction of the proposed project would consist of employee/worker trips; trips associated with shipment of equipment/support supplies for grading, drainage improvements, rock slope protection, trail extension; and trips associated with disposal of materials excavated during lagoon restoration and maintenance. Permanent impacts would not occur because there would not be continued operational traffic needs, and are not discussed in this section.

W-19 Restoration/Materials Disposal

The habitat restoration activities of the proposed project would include excavation and disposal of approximately 1.3 mcy of material using 25-cy capacity articulated trucks. Excavated

vegetation and excess sediment removed from the project site would be transported via internal roads (i.e., offroad) to the disposal site south of the W-19 site. The haul routes between W-19 and the disposal site would avoid the need for trucks to travel through existing neighborhoods; therefore, disposal of excavated material would not create truck trips on the public road network. As a result, traffic generation during construction on the public road network would be limited to employee/worker trips and trips associated with transport of equipment/support supplies. As described in Table 3-2, Standard Construction Practices, a Traffic Management Plan would be prepared prior to the initiation of construction. This plan would avoid and minimize traffic impacts, including approaches such as scaling back construction activities during peak travel periods.

Whenever truck traffic is a substantial portion of project traffic, it is common transportation engineering practice to use passenger car equivalents (PCEs) to estimate the impacts of combined auto and truck traffic. Calculations in the traffic study assumed that each truck was considered the equivalent of 2.725 passenger cars.

Table 5.8-4 summarizes two sets of trip generation estimates: baseline trip generation, which would occur throughout the 2-year construction period, and additional trips that would occur during an intensive 3-month phase. During the majority of project construction, peak hour trip generation would be approximately 41 one-way trips (PCEs) during both the morning and afternoon peak hour periods. Total trip generation per 10-hour construction day would be approximately 269 PCEs. During the intensive 3-month period, which would include drainage improvements, trail construction, and slope protection, construction would result in an additional 55 PCEs for a total potential trip generation of 85 PCEs during the peak hours. During this phase, delivery of materials to the site would result in approximately 440 PCEs over the course of the day, increasing the total daily trip generation to approximately 705.

Table 5.8-4
Proposed Project – Peak Hour Trip Generation Characteristics in PCEs

Throughout Construction (30 months~~2 years~~)	
Employee/Worker Trips	20
Material Disposal Hauling Trips[1]	0
Additional Vehicle Trips	10
Additional Truck Trips	11
Subtotal - Throughout Construction	**41**
During Drainage Improvements, Trail Construction, and Slope Protection (3 months)	
Additional Truck Trips (drainage improvements, trail construction and slope protection construction)	44
Subtotal - Drainage Improvements, Trail Construction, and Slope Protection	**44**
Maximum Total Peak Hour Trips (PCEs)	**85**

PCE = passenger car equivalent

[1] Disposal location would be accessed using non-public roadways. As a result, material disposal activity would not generate trips on public road network.

The haul routes to the disposal site would not include public roadways and so removal of the excavated material would not generate trips on the public road network. As described in Table 5.8-4, the project's traffic impacts are dependent on the phase of construction occurring, but would not exceed a worst-case scenario of 85 peak hour trips during the most intensive phase of

construction. **Traffic generated is temporary and would not exceed community plan allocations, and impacts would be less than significant (Criterion A).**

Between the peak commute hours of 7 a.m. to 9 a.m. and 4 p.m. and 6 p.m., approximately 41 PCEs would be added by the proposed project during the majority of the 2-year construction period. For 3 months of the construction period, the added traffic would increase to 85 PCEs during the peak commute hours. This projected traffic increase is substantial in relation to the existing traffic load and capacity of the street system as the volume to capacity (V/C) ratios would increase by 0.05 as shown in Table 5.8-5, which exceeds the impact threshold. **Traffic routed over the two-lane section of Via de la Valle and El Camino Real north of the site would exceed the existing roadway capacity during the 3-month intensive construction period and impacts would be significant (Criterion B).**

Freeway segments within the study area currently operate at poor levels in peak directions during peak hours. This analysis assumed that all construction trips use the poor LOS sections of I-5 or Interstate 805 (I-805) south of the merge within the same time period. In the interest of a conservative analysis, traffic impacts to these freeway segments were analyzed using the maximum trip generation value of 85 PCEs. Impacts of this level of trip generation along the haul routes are shown in Tables 5.8-5 and 5.8-6. Addition of the 85 PCEs would increase the V/C ratios by 0.005 or 0.007 on many of the freeway segments currently operating at LOS F. **Therefore, impacts would be significant during the 3-month intensive construction period (Criterion C).**

There are two parking lots available to serve the San Dieguito River Park in the lagoon area. The Dust Devil Nature Trail parking lot can accommodate approximately 25 vehicles and the parking lot off San Andres Drive can accommodate approximately 60 vehicles. Parking utilization at the Dust Devil Nature Trail lot on a typical day is much lower than its current capacity (generally fewer than four vehicles). Construction parking would be accommodated on a temporary site adjacent to the Dust Devil Nature Trail parking lot, to house a construction trailer and approximately 32 vehicles (Figure 3-8). The project site would have ample space to accommodate parking and truck staging for material hauling and no increase in demand for offsite parking would occur. Following the completion of construction, the proposed trail extension would likely increase parking demand. However, the existing parking lots are anticipated to be sufficient to accommodate the typical daily parking demand. **The project would result in no changes to existing parking and an impact would not occur (Criteria D and E).**

Traffic generated during construction at the restoration site would be temporary and therefore would not result in a substantial impact on existing or planned transportation systems, and would not require substantial alterations to present public circulation, including routes to the beach or other open spaces. **An impact would not occur (Criteria F and G).**

The project would not create a non-standard design feature nor involve any roadway improvements. **Therefore, an impact related to traffic hazards for motor vehicles, bicyclists, or pedestrians would not occur (Criterion H).**

Table 5.8-5
Traffic Impacts from 85 PCEs: Arterial Segments

Roadway	Segment	Approximate Distance (miles)	Daily Volume	Peak Hour Volume	Peak Hour Two-way Capacity	Existing Peak Hour V/C	Designated Existing LOS	Change in V/C due to Project Impact	Exceed Threshold for Roadway Segments?
Northern Route to I-5									
El Camino Real	San Dieguito Road to Via de la Valle	0.5	14,524	1,615	1,600	1.01	F	.05	**Yes**
Via de la Valle	El Camino Real to I-5	1.4	20,666	1,737	1,600/3,200	1.08/0.54	F/A	.05/.03	**Yes**
Southern Route to I-5									
El Camino Real	San Dieguito Road to Del Mar Heights Road	2.0	15,326	1,756	3,200	0.55	A	.03	**No**
Del Mar Heights Road	El Camino Read to I-5	0.6	39,188	3,202	4,800	0.67	B	.03	**No**

LOS = level of service; V/C = volume to capacity ratio

Table 5.8-6
Traffic Impacts from 85 PCEs: Freeway Segments

Freeway	Segment	Approximate Distance (miles)	Daily Volume	Peak Hour Volume	Peak Hour Two-way Capacity	Existing Peak Hour V/C	Designated Existing LOS	Change in V/C due to Project Impact	Exceed Threshold for Freeways
I-5 (South of Project Site)	Via de la Valle to Del Mar Heights Road	5.8	243,000	15,900	15,120	1.05	F	0.006	**Yes**
	Del Mar Heights Road to SR-56		245,000	16,200	18,000	0.90	D	0.005	N/A
	SR-56 to I-805		204,000	15,600	18,000	0.87	C	0.005	N/A
	I-5 South of I-5/I-805 Merge (Sorrento Valley Road)		165,000	11,800	11,520	1.02	F	0.007	**Yes**
	I-805 South of I-5/I-805 Merge (Miramar Road)		184,000	13,700	12,240	1.12	F	0.007	**Yes**
I-5 (North of Project Site)	Del Mar Heights Road to Via de la Valle	3.3	243,000	15,900	15,120	1.05	F	0.006	**Yes**
	Via de la Valle to Loma Santa Fe Drive		247,000	18,100	15,120	1.20	F	0.006	**Yes**

LOS = level of service; N/A = not applicable; V/C = volume to capacity ratio

The restoration project would not involve any roadway improvements. **Temporary construction traffic would not conflict with adopted policies, plans, or programs supporting alternative transportation modes such as bicycle or pedestrian facilities, and an impact would not occur (Criterion I).**

W-19 Wetlands Maintenance

As described in Chapter 3, the proposed project would involve maintenance at both the lagoon inlets and portions of the lagoon interior following large storms. Information regarding truck trips anticipated for each storm event is consolidated in Table 5.8-7.

Table 5.8-7
Inlet Maintenance Trip Generation

Storm Frequency	Maintenance Volume (cy)	Truck Round Trips (8 cy/trip)	Duration (working days)
Inlet Maintenance			
25-year	5,000	625	13
50-year	20,000	2,500	43
100-year	15,000	1,875	33
Adaptive Maintenance in Wetland Interior			
50-year	10,000	1,250	23
100-year	45,000	5,625	93

cy = cubic yards, cy/trip = cubic yards per trip

As shown in this table, traffic generated by maintenance activities following major storm events would be substantial. As shown in Figure 3-10, trucks would travel along El Camino Real north to Via de la Valle, west on Via de la Valle to Camino Del Mar, and then south along Camino Del Mar to beach access points either north of the river for access to Dog Beach or south of the river at the ends of 20th and/or 18th Streets. Therefore, traffic impacts associated with these activities would be limited to surface streets. Additionally, these impacts would only be anticipated to occur a few times over the 50-year life of the project, as they would require a 25-year storm or greater to occur. Table 5.8-8 shows the peak hour trip generation that would occur as a result of sediment maintenance activities.

Table 5.8-8
Maintenance Peak Hour Trip Generation (in PCEs)

Employee/Worker Trips	10
Sediment Disposal Hauling Trips*	33
Additional Vehicle Trips	5
Total Peak Hour Trips	**48**

PCE = passenger car equivalent
*Six truck round-trips per hour x 2.725 (conversion factor for trucks) = 33 PCEs (one-way)

Because transportation of removed sediment along the route described above requires utilizing the congested two-lane segments of El Camino Real and Via de la Valle, wetlands maintenance would result in a significant impact related to local roadways (Criterion B).

The addition of six truck round-trips per hour would not result in traffic in excess of community plan allocation, and impacts would be less than significant (Criterion A).

Beach placement would also temporarily restrict access to certain portions of the beach actively experiencing sediment placement. Adjacent portions of the beach would be available for recreational use, and lateral access would be maintained as described in Section 5.1. **Therefore, impacts related to circulation movement and public access would be less than significant (Criterion G). Maintenance activities would not impact freeways, parking, transportation systems, traffic hazards, or alternative transportation models (Criteria C, D, E, F, H, and I).**

5.8.4 SIGNIFICANCE OF IMPACTS

Table 5.8-9 summarizes impact conclusions on traffic, access, and circulation impacts associated with the proposed project, for both construction and intermittent maintenance.

Table 5.8-9
Summary of Traffic, Access, and Circulation Impact Conclusions

Threshold	Impact Type	W-19 Restoration/ Materials Disposal[1]	W-19 Maintenance
A. Result in traffic generation in excess of specific community plan allocation.	Temporary	Less than Significant	Less than Significant
B. Result in an increase in projected traffic which is substantial in relation to the existing traffic load and capacity of the street system.	Temporary	Significant	Significant
C. Result in addition of a substantial amount of traffic to a congested freeway segment, interchange, or ramp as shown in Table 5.8-3.	Temporary	Significant	No Impact
D. Result in an increased demand for offsite parking.	Temporary	No Impact	No Impact
E. Result in effects on existing parking.	Temporary	No Impact	No Impact
F. Result in substantial impact upon existing or planned transportation systems.	Temporary	No Impact	No Impact
G. Result in substantial alterations to present circulation movements including effects on existing public access to beaches, parks, or other open space areas.	Temporary	No Impact	Less than Significant
H. Increase traffic hazards for motor vehicles, bicyclists, or pedestrians due to a proposed, non-standard design feature (e.g., poor sight distance or driveway onto an access-restricted roadway).	Temporary	No Impact	No Impact
I. Conflict with adopted policies, plans, or programs supporting alternative transportation models (e.g., bus turnouts, bicycle racks).	Temporary	No Impact	No Impact

5.8.5 MITIGATION MEASURES

Mitigation Measure Traffic-1 would be required to address significant impacts associated with additional truck trips traversing impacted roadway segments during initial project construction. The implementation of Traffic-1 would not reduce the traffic impact to below a level of significance, and the impact would remain significant and unavoidable.

Traffic-1

Provide advanced notification to motorists that delays and traffic congestion will occur at (a) freeway segments on I-5 and I-805, south of the merge; ~~and~~ (b) arterial roadway sections of Via de la Valle and El Camino Real during the construction period and encourage roadway users to consider other transportation modes or alternative routes during peak hours. This notification may be accomplished through various measures such as information and detour routes included on the project website; traffic details included in notifications sent to local residents; traffic and alternative route information published in local media; and physical traffic control measures, such as temporary signage located at various distances from the impacted areas~~.~~; and (c) coordinate with the El Camino Real Bridge/Road Widening Project operations or other local projects that also affect traffic to reduce projected traffic, as necessary, if project schedules overlap.

Additional mitigation measures to reduce the traffic congestion on impacted roadway segments were considered, but none were found feasible to mitigate the temporary traffic impacts due to lagoon restoration activities. Many measures that would mitigate this impact would be permanent in nature, which would not be appropriate to correct a temporary impact that would be resolved once the proposed project work is complete. Similarly, measures were considered to reduce the traffic impact related to wetlands maintenance to less than significant, including alternative routes between the restoration site and the placement sites. However, the limited number of alternative roadways restrict the possibilities of alternative routes and because those alternate routes would be nearly twice as long and therefore would result in a marked increase in impacts related to air quality, greenhouse gas, and traffic, no mitigation measures were found to be feasible for maintenance-related traffic impacts.

Implementation of traffic-related standard construction practices and Mitigation Measure Traffic-1 would reduce traffic-related impacts. Because it is infeasible to predict the extent to which these measures would reduce traffic impacts, and because of the already-congested state of the roadways in question, temporary impacts related to increased construction traffic during initial project implementation would remain significant and unmitigable. Upon completion of lagoon restoration, these temporary traffic impacts would be eliminated and traffic operations would revert to their previous conditions, with the exception of maintenance activities following large storm events. These maintenance activities would be temporary and infrequent, but would result in a significant and unmitigable traffic impact while they occur.

5.9 AIR QUALITY

This section is summarized from the Air Quality Technical Study (Appendix M). Model calculations are provided in that appendix.

5.9.1 EXISTING CONDITIONS

Regulatory Setting

A full description of the regulatory setting for this document can be found in Appendix E. The following list includes laws, regulations, policies, plans, and programs that are applicable to this resource area.

- Clean Air Act
- Toxic Air Contaminants
- Executive Order 12088
- California Clean Air Act
- State Implementation Plan

Air quality is defined by the concentration of pollutants in relation to their impact on human health. Concentrations of air pollutants are determined by the rate and location of pollutant emissions released by pollution sources, and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, and sunlight. Therefore, ambient air quality conditions within the local air basin are influenced by such natural factors as topography, meteorology, and climate, as described in the Air Quality Technical Study, in addition to the amount of air pollutant emissions released by existing air pollutant sources.

The proposed project is located within the San Diego Air Basin (SDAB).

Criteria Air Pollutants

Individual air pollutants at certain concentrations may adversely affect human or animal health, reduce visibility, damage property, and reduce the productivity or vigor of crops and natural vegetation. Six air pollutants have been identified by the EPA and the California Air Resources Board (ARB) as being of concern at both the nationwide and statewide levels: ozone; carbon monoxide (CO); nitrogen dioxide (NO_2); sulfur dioxide (SO_2); lead; and particulate matter (PM), which is subdivided into two classes based on particle size: PM equal to or less than 10 micrometers in diameter (PM_{10}) and PM equal to or less than 2.5 micrometers in diameter ($PM_{2.5}$). Because the air quality standards for these air pollutants are regulated using human health and environmentally based criteria, they are commonly referred to as "criteria air pollutants." A brief description of each criteria air pollutant is provided below along with attainment designations for the project study areas. Monitoring data, health impact information, and national and state standards for each pollutant are provided in the Air Quality Technical Study.

Ozone. Ozone is the principal component of smog and is formed in the atmosphere through a series of reactions involving reactive organic gases (ROG) and nitrogen oxides (NO_X) in the presence of sunlight. ROG and NO_X are called precursors of ozone. NO_X includes various combinations of nitrogen and oxygen, including nitric oxide (NO), NO_2, and others. Ozone is a principal cause of lung and eye irritation in the urban environment. Significant ozone concentrations are usually produced only in the summer, when atmospheric inversions are greatest and temperatures are high. ROG and NO_X emissions are both considered critical in ozone formation.

Carbon Monoxide. CO is a colorless and odorless gas that, in the urban environment, is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. Relatively high concentrations are typically found near crowded intersections and along heavily used roadways carrying slow-moving traffic. Even under most severe meteorological and traffic conditions, high concentrations of CO are limited to locations within a relatively short distance (300 to 600 feet) of heavily traveled roadways. Vehicle traffic emissions can cause localized CO impacts, and severe vehicle congestion at major signalized intersections can generate elevated CO levels, called "hot spots," which can be hazardous to human receptors adjacent to the intersections.

Nitrogen Dioxide. NO_2 is a product of combustion and is generated in vehicles and in stationary sources, such as power plants and boilers. It is also formed when ozone reacts with NO in the atmosphere. As noted above, NO_2 is part of the NO_X family and is a principal contributor to ozone and smog generation.

Sulfur Dioxide. SO_2 is a combustion product, with the primary source being power plants and heavy industries that use coal or oil as fuel. SO_2 is also a product of diesel engine combustion. SO_2 in the atmosphere contributes to the formation of acid rain.

Lead. Lead is a highly toxic metal that may cause a range of human health effects. Previously, the lead used in gasoline anti-knock additives represented a major source of lead emissions to the atmosphere. EPA began working to reduce lead emissions soon after its inception, issuing the first reduction standards in 1973. Lead emissions have significantly decreased due to the near elimination of leaded gasoline use.

Particulate Matter. PM is a complex mixture of extremely small particles and liquid droplets. PM is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. Natural sources of PM include windblown dust and ocean spray. The size of PM is directly linked to the potential for causing health problems. EPA is concerned about particles that are 10 micrometers in diameter or smaller, because these particles generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects. Health studies have shown a significant association between exposure to PM and premature death. Other important effects include aggravation of respiratory and cardiovascular disease, lung disease, decreased lung function, asthma attacks, and certain cardiovascular problems, such as heart attacks and irregular heartbeat. Individuals particularly sensitive to fine particle exposure include

older adults, people with heart and lung disease, and children. As previously discussed, EPA groups PM into two categories, which are described below.

$PM_{2.5.}$ Fine particles, such as those found in smoke and haze, are $PM_{2.5}$. Sources of fine particles include all types of combustion activities (motor vehicles, power plants, wood burning, etc.) and certain industrial processes. $PM_{2.5}$ is also formed through reactions of gases, such as SO_2 and nitrogen oxides, in the atmosphere. $PM_{2.5}$ is the major cause of reduced visibility (haze) in California.

$PM_{10.}$ PM_{10} includes both fine and coarse dust particles; the fine particles are $PM_{2.5}$. Coarse particles, such as those found near roadways and dusty industries, are larger than 2.5 micrometers and smaller than 10 micrometers in diameter. Sources of coarse particles include crushing or grinding operations and dust from paved or unpaved roads. Control of PM_{10} is primarily achieved through the control of dust at construction and industrial sites, the cleaning of paved roads, and the wetting or paving of frequently used unpaved roads.

San Diego Air Basin Existing Air Quality

Ambient air pollutant concentrations in the SDAB are measured at air quality monitoring stations operated by ARB and the San Diego Air Pollution Control District (SDAPCD). The closest SDAPCD air quality monitoring station to the project site is the Del Mar-Mira Costa College station, located at Mira Costa College. However, that monitoring station only collects data on concentrations of ozone. The most representative station with additional data on NO_2, PM_{10}, and $PM_{2.5}$ is the San Diego monitoring station, located at Kearny Villa Road, San Diego, California. The Air Quality Technical Study presents the most recent data over the past 3 years from the San Diego monitoring station as summaries of the exceedances of standards and the highest pollutant levels recorded for years 2013 through 2015. These concentrations represent the existing, or baseline conditions, for the proposed project, based on the most recent information available.

Ambient air concentrations of CO and NO_2 at the San Diego monitoring station have not exceeded the National Ambient Air Quality Standards (NAAQS) or California Ambient Air Quality Standards (CAAQS) in the past 3 years. The 8-hour ozone NAAQS was exceeded in 2014 and the CAAQS was exceeded in 2014 and 2015. The 1-hour ozone and PM_{10} concentrations exceeded the CAAQS in 2014. Additional measured data are available in the Air Quality Technical Study.

SDAB Attainment Status

Both EPA and ARB use ambient air quality monitoring data to designate areas according to their attainment status for criteria air pollutants. The purpose of these designations is to identify the areas with air quality problems and initiate planning efforts for improvement. The three basic designation categories are nonattainment, attainment, and unclassified. An “attainment” designation for an area signifies that pollutant concentrations did not exceed the established standard. In most cases, areas designated or redesignated as attainment must develop and implement maintenance plans, which are designed to ensure continued compliance with the standard.

In contrast to attainment, a "nonattainment" designation indicates that a pollutant concentration has exceeded the established standard. Nonattainment may differ in severity. To identify the severity of the problem and the extent of planning and actions required to meet the standard, nonattainment areas are assigned a classification that is commensurate with the severity of their air quality problem (e.g., moderate, serious, severe, extreme).

Finally, an unclassified designation indicates that insufficient data exist to determine attainment or nonattainment. In addition, the California designations include a subcategory of nonattainment-transitional, which is given to nonattainment areas that are progressing and nearing attainment.

As shown in Table 5.9-1, the SDAB currently meets NAAQS for all criteria air pollutants except ozone, and meets the CAAQS for all criteria air pollutants except ozone, PM_{10}, and $PM_{2.5}$. The SDAB currently falls under a federal maintenance plan for 8-hour ozone. The SDAB is currently classified as a state nonattainment area for ozone, PM_{10}, and $PM_{2.5}$.

Table 5.9-1
San Diego Air Basin Attainment Designations

Pollutant	State	Federal
Ozone (1-hour)	Nonattainment	Attainment
Ozone (8-hour)	Nonattainment	Nonattainment
Carbon Monoxide	Attainment	Unclassified/Attainment
Nitrogen Dioxide	Unclassified/Attainment	Unclassified/Attainment
Sulfur Dioxide	Unclassified/Attainment	Unclassified/Attainment
PM_{10}	Nonattainment	Unclassified
$PM_{2.5}$	Nonattainment	Unclassified
Sulfates	Attainment	N/A
Hydrogen Sulfide	Unclassified	N/A
Visibility Reducing Particles	Unclassified/Attainment	N/A
Lead	Unclassified/Attainment	Unclassified/Attainment

N/A = not applicable; no standard
Source: ARB 2016

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 substantial, sources of TAC emissions are motor vehicles on freeways, high-volume roadways, or other areas with high numbers of diesel vehicles, such as distribution centers. Off-road mobile sources are also major contributors of TAC emissions and include construction equipment, ships, and trains.

Particulate exhaust emissions from diesel-fueled engines (diesel PM) were identified as a TAC by ARB in 1998. Diesel engines tend to produce a much higher ratio of fine particulates than other types of internal combustion engines. The fine particles that make up diesel PM tend to

penetrate deep into the lungs, and the rough surfaces of these particles makes it easy for them to bind with other toxins within the exhaust, thus increasing the hazards of particle inhalation. Federal and state efforts to reduce diesel PM emissions have focused on the use of improved fuels, adding particulate filters to engines, and requiring the production of new-technology engines that emit fewer exhaust particulates.

Odor

Odors are considered an air quality issue both at the local level (e.g., odor from wastewater treatment) and at the regional level (e.g., smoke from wildfires). Odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

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. These include children, the elderly, people with preexisting respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Air quality regulators typically define sensitive receptors as schools, hospitals, resident care facilities, day-care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. Residential areas are also 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.

Sensitive receptors are located at varying distances from the project site. The nearest sensitive receptors to the W-19 project site are single-family residential homes located approximately 825 feet to the north across Via de la Valle and single-family housing approximately 750 feet to the south across El Camino Real. For the disposal site, the nearest single-family housing is located approximately 700 feet to the northeast across El Camino Real and approximately 600 feet to the southeast. Beaches proposed for use as maintenance placement sites have residences directly east of the beach on the south side of the San Dieguito River inlet.

Recreational land uses are considered moderately sensitive to air pollution. During weekdays, trails within the project site and adjacent to the haul routes would be closed to avoid conflicts during construction activities. The CTC Trail is located adjacent to the northern edge of the San Dieguito River and would remain open during construction activities. Trail distances range from approximately 75 to 1,250 feet away from the northern limits of project grading.

Regulatory Environment

A detailed description of the regulatory environment relevant to air quality is provided in Appendix E of this EIR. Key regulations are summarized below.

EPA, under the provisions of the Clean Air Act, requires each state with regions that have not attained the NAAQS to prepare a State Implementation Plan (SIP), detailing how these standards are to be met in each local area. The SIP is a legal agreement between each state and the federal government to commit resources to improving air quality. ARB is the lead agency for developing the SIP in California. Local air districts and other agencies prepare Air Quality Attainment Plans or Air Quality Management Plans, which outline strategies for achieving the CAAQS for any criteria pollutants for which the region is classified as nonattainment.

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. The Air Toxics Hot Spots Information and Assessment Act requires that TAC emissions from stationary sources be quantified and compiled into an inventory and includes requirements for health risk assessments. ARB has also developed the Air Quality and Land Use Handbook: A Community Health Perspective to provide guidance on land use compatibility with sources of TACs, while is not law, but offers advisory recommendations for the siting of sensitive receptors near uses associated with TACs (ARB 2005).

In San Diego County, SDAPCD is the agency responsible for the administration of federal and state air quality laws, regulations, and policies. Included in the SDAPCD's tasks are monitoring of air pollution, preparation of the SIP for the SDAB, and promulgation of rules and regulations. The SIP includes strategies and tactics to be used to attain the federal ozone standard in the county. The SIP elements are taken from the Regional Air Quality Strategy (RAQS), the SDAPCD plan for attaining the state ozone standard, which is more stringent than the federal ozone standard. The RAQS relies on information from SANDAG and ARB to develop emission inventories and emission reduction strategies. The rules and regulations of the RAQS include procedures and requirements to control the emission of pollutants and to prevent adverse impacts. SDAPCD rules relevant to the proposed project are Regulation IV Rule 50, Visible Emissions, Rule 51 Nuisance, Rule 55 Fugitive Dust, and Rule 67.0.1 Architectural Coatings.

The proposed project is required to comply with these rules, and conformance would be incorporated into project specifications and procedures.

5.9.2 IMPACT THRESHOLDS

A significant impact would occur if implementation of the proposed project would:

A. Conflict with or obstruct implementation of the applicable air quality plan;

B. Violate any air quality standard or contribute substantially to an existing or projected air quality violation;

C. Result in cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard;

D. Expose sensitive receptors to substantial pollutant concentrations;

E. Exceed 100 pounds per day of PM_{10} dust; or

F. Create objectionable odors affecting a substantial number of people.

The CEQA impact thresholds for air quality are those recommended by the City of San Diego. The screening level thresholds are shown in Table 5.9-2. SDAPCD has not developed quantitative significance thresholds.

If the emissions of the project are found to be below the screening level thresholds, it can be concluded that the project would not violate air quality standards or contribute substantially to an existing or projected air quality violation.

Table 5.9-2
Regional Pollutant Emission Screening Level Impact Thresholds

	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$[1]	Lead
Pounds per hour	–	25	100	25	–	–	–
Pounds per day	137	250	550	250	100	55	3.2
Tons per year	15	40	100	40	15	10	0.6

CO = carbon monoxide; NO_X = oxides of nitrogen; PM_{10} = particulate matter equal to or less than 10 micrometers in diameter; $PM_{2.5}$ = particulate matter equal to or less than 2.5 micrometers in diameter; ROG = reactive organic gases; SO_X = sulfur oxides; – = No threshold proposed
[1] Threshold for $PM_{2.5}$ from South Coast Air Quality Management District
Source: City of San Diego 2011

Methodology

Construction-related emissions for the proposed project were estimated using emission factors from ARB's OFFROAD and EMFAC2014 inventory models. Construction emissions from the operation of diesel-fueled off-road equipment were estimated by multiplying daily usage (i.e., hours per day) and total days of construction by OFFROAD equipment-specific emission factors. Emissions from on-road motor vehicles were estimated using vehicle trips, vehicle miles traveled (VMT), and EMFAC2014 mobile source emission factors. Fugitive dust emissions were estimated using EPA's Compilation of Air Pollutant Factors for truck loading, grading, and travel on paved and unpaved roads based on VMT, material loading, and hours of operation.

5.9.3 IMPACT ANALYSIS

Due to the inherently cumulative nature of air quality impacts, emissions from the lagoon restoration, materials disposal, and maintenance of the project are analyzed in this section.

W-19 Restoration/Materials Disposal

Air quality plans describe air pollution control strategies to be implemented by a city, county, or regional air district. The primary purpose of an air quality plan is to bring an area that does not attain federal and state air quality standards into compliance with those standards pursuant to the requirements of the Clean Air Act and California Clean Air Act.

Projects that are consistent with the assumptions used in development of the RAQS would not conflict with or obstruct the attainment of the air quality levels identified in the plan, even if the project-level emissions exceed the regional emissions thresholds. Assumptions for land use development used in the RAQS are taken from local and regional planning documents. Emission forecasts rely on projections of VMT by the Metropolitan Planning Organizations, such as SANDAG, and population, employment, and land use projections made by local jurisdictions during development of the area and general plans.

In the case of the proposed project, no permanent land use change would occur as the area would remain as undeveloped open space and there would be no deviation from planning documents; thus, only construction and maintenance activities are quantified. The proposed project does not involve any land uses that would increase population beyond that considered in the RAQS. The proposed project does not include the construction of new residential or commercial buildings; therefore, it would not directly increase population or regional employment.

The proposed project would primarily involve off-road equipment operations. Assumptions for off-road equipment emissions in the RAQS were developed based on hours of activity and equipment population reported to ARB for rule compliance. The proposed project would not increase the assumptions for off-road equipment use in the RAQS. On-road trip generation would also occur during construction of the proposed project. Since the trip generation associated with construction would be temporary, the proposed project would not increase activities and/or emissions associated with on-road mobile sources that have been included in the RAQS.

Because the proposed project would be consistent with the assumptions in the RAQS, it is expected that the intensity of construction and operational emissions associated with the proposed project would have been accounted for in the RAQS. The proposed project would also comply with all construction-related SDAPCD rules and regulations during construction and infrequent maintenance activities for storm events, and would not construct a land use that would result in a net increase in long-term operational emissions. **Therefore, the proposed project would not conflict with or obstruct implementation of the applicable air quality plan and impacts would be less than significant (Criterion A).**

Construction Emissions

Construction of the proposed project would result in the temporary generation of ROG, NO_X, CO, PM_{10}, and $PM_{2.5}$ emissions. ROG, NO_X, and CO emissions are primarily associated with mobile equipment exhaust, including off-road construction equipment and on-road motor vehicles. As shown in Table 5.9-3, construction of the proposed project would result in maximum daily emissions of approximately 18 pounds of ROG, 200 pounds of NO_X, 95 pounds of CO, 332 pounds of PM_{10}, and 37 pounds of $PM_{2.5}$.

Table 5.9-3
Proposed Project – Estimated Daily Construction Emissions

Emission Source	Criteria Pollutant Emissions (pounds/day)				
	ROG	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Mobilization	0.33	6.07	5.89	3.42	0.92
Haul Roads[1]	10.47	118.43	56.58	12.53	7.91
Clear and Grub	10.47	118.43	56.58	12.53	7.91
Topsoil	10.47	118.43	56.58	12.53	7.91
Grading	17.73	199.54	94.67	332.23	37.26
Trail Improvements	5.91	68.55	38.03	7.72	4.16
Cleanup	5.91	68.55	38.03	7.72	4.16
Demobilization	0.33	6.07	5.89	3.42	0.92
Revegetation	3.54	40.12	22.95	3.79	2.26
Maximum Daily	**17.73**	**199.54**	**94.67**	**332.23**	**37.26**
Daily Thresholds	**75**	**250**	**550**	**100**	**55**
Exceed Thresholds?	**No**	**No**	**No**	**Yes**	**No**

CO = carbon monoxide; NO_X = oxides of nitrogen; PM_{10} = particulate matter equal to or less than 10 micrometers in diameter; $PM_{2.5}$ = particulate matter equal to or less than 2.5 micrometers in diameter; ROG = reactive organic gases
Source: Modeled by AECOM 2016
[1] Estimated daily construction emissions from haul roads may be slightly less, given the option to use a shortened route through SCE's disposal sites, which may decrease hauling distances to DS36.

As shown in Table 5.9-3, construction-related emissions of ROG, NO_X, CO, and $PM_{2.5}$ would not exceed the screening level thresholds and would not violate air quality standards or contribute substantially to an existing or projected air quality violation. However, construction-generated PM_{10} emissions would exceed applicable mass emission thresholds.

Table 5.9-4 summarizes the projected total and average annual emissions associated with construction of the proposed project.

Table 5.9-4
Proposed Project – Estimated Annual Construction Emissions

Emission Source	Criteria Pollutant Emissions (tons/year)				
	ROG	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Mobilization	0.00	0.04	0.04	0.02	0.01
Haul Roads[1]	0.03	0.30	0.14	0.04	0.02
Clear and Grub	0.08	0.89	0.42	0.09	0.06
Topsoil	0.08	0.89	0.42	0.09	0.06
Grading	2.80	31.53	14.96	53.23	6.37
Trail Improvements	0.18	2.06	1.14	0.23	0.12
Cleanup	0.01	0.17	0.10	0.02	0.01
Demobilization	0.00	0.04	0.04	0.02	0.01
Revegetation	0.07	0.80	0.46	0.09	0.04
Total Construction Phases	**3.25**	**36.70**	**17.71**	**53.84**	**6.69**
Average Annual	**0.91**	**10.24**	**4.94**	**15.03**	**1.87**
Annual Thresholds	**15**	**40**	**100**	**15**	**10**
Exceed Thresholds?	**No**	**No**	**No**	**Yes**	**No**

CO = carbon monoxide; NO_X = oxides of nitrogen; PM_{10} = particulate matter equal to or less than 10 micrometers in diameter; $PM_{2.5}$ = particulate matter equal to or less than 2.5 micrometers in diameter; ROG = reactive organic gases
Source: Modeled by AECOM 2016
[1] Estimated annual construction emissions from haul roads may be slightly less, given the option to use a shortened route through SCE's disposal sites, which may decrease hauling distances to DS36.

As shown in Table 5.9-4, the temporary average annual ROG, NO_X, CO, and $PM_{2.5}$ emissions during construction would not exceed the screening level thresholds and would not result in a significant impact. However, although annual PM_{10} emissions would be within rounding (15.03 tons) of the screening threshold (15 tons), PM_{10} emissions were conservatively assumed to exceed the threshold. **Therefore, based on the daily and average annual PM_{10} emissions, the construction of the proposed project would contribute substantially to an existing or projected air quality violation and impacts would be significant (Criterion B).**

Cumulative air quality analysis focuses on whether a specific project would result in a cumulatively considerable increase in emissions. By its very nature, air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development within the SDAB, and this regional impact is cumulative rather than attributable to any one source. A project's emissions may be individually limited, but cumulatively considerable, when taken in combination with past, present, and future development projects.

The thresholds are relevant to whether a project's individual emissions would result in a cumulatively considerable incremental contribution to the existing cumulative air quality conditions. If a project's emissions would be less than those threshold levels, the project would not be expected to result in a considerable incremental contribution to the significant cumulative impact. **Because construction activities would exceed the project-level air quality impact thresholds for PM_{10} emissions, the proposed project would have a cumulatively considerable contribution to the region's air quality and impacts would be significant (Criterion C).**

Fugitive Dust

Fugitive PM dust emissions are primarily associated with site preparation and vary as a function of such parameters as soil silt content, soil moisture, wind speed, acreage of disturbance area, and VMT by construction vehicles onsite and offsite. Construction grading and demolition dust account for 30 percent of all PM_{10} emissions in the SDAB. Road dust from paved and unpaved roads accounts for 47 percent of all PM_{10} emissions.

The proposed project would generate PM_{10} emissions from construction activities. Since the majority of the construction activities would occur within the lagoon, the soil would be saturated, reducing fugitive dust emissions from excavation. The PM_{10} emissions are primarily related to unpaved road dust from trucks hauling material to the disposal site. Construction of the proposed project could violate an ambient air quality standard or contribute substantially to an existing violation. As indicated in Table 5.9-3, construction-related PM_{10} emissions were estimated at a maximum of 332 pounds per day and 37 pounds of $PM_{2.5}$ per day. Additionally, as described above, annual PM_{10} emissions would be within rounding (15.03 tons) of the screening threshold (15 tons); however, PM_{10} emissions were conservatively assumed to exceed the threshold as described for Criterion B above. **Because the project would exceed 100 pounds per day of PM dust during construction activities, impacts would be significant (Criterion E).**

Toxic Air Contaminants

The greatest potential for TAC exposure resulting from construction of the proposed project would originate from diesel PM emissions associated with heavy equipment operations during construction activities. Typically, construction projects generate diesel PM in a single area for a short period of time. Project construction would also result in the generation of diesel PM emissions from the use of off-road diesel construction equipment required for vegetation clearing, dredging, material disposal, and construction of infrastructure. Other construction-related sources of diesel PM are material delivery trucks and may include construction worker vehicles. Emissions associated with vehicle trips to and from the project site during construction would be dispersed throughout the region and would have a nominal localized impact at the project site. Therefore, the analysis of potential impacts focuses on localized diesel PM emissions generated by onsite construction activities.

Sensitive receptors are located at varying distances from the project site and consist of single-family residences generally north (across Via de la Valle) or south and east (across El Camino Real).

ARB has published studies that show a 70 percent decrease in PM emissions at 500 feet from freeways and high-traffic roads, which are continuous emission sources. The distance at which off-road equipment and haul trucks would operate near sensitive receptors would vary considerably during the construction period. Furthermore, the concentration levels to which nearby receptors would be exposed would be limited because of the distance from the project site (approximately 600 to 700 feet from the project site and disposal site to the nearest sensitive receptor). Emissions would be dispersed around the project site; thus, TAC emissions from project construction would be less concentrated than those from a typical roadway and would be less likely to expose receptors to substantial pollutant concentrations. CTC Trail users would also not be anticipated to be in the vicinity of project construction for a substantial period of time. Assuming a hiking rate of 20 minutes per mile, hiker exposure to these levels would be approximately 5 minutes. Receptor locations typically include land use areas where persons can be situated for an hour or longer at a time. In addition, trails within the project site and adjacent to the haul routes would be closed during the week to avoid conflicts during construction activities so recreational users would not be exposed to emissions in those locations.

SDAPCD rules and permits would also reduce PM_{10} emissions generated by construction of the proposed project. Therefore, it is anticipated that PM concentrations would decrease substantially before affecting the nearest sensitive receptor. **Thus, the proposed project would not expose sensitive receptors to substantial construction pollutant concentrations and impacts would be less than significant (Criterion D).**

Odors

Potential sources that may emit odors during construction activities include exhaust from diesel construction equipment. However, because of the temporary nature of these emissions and the highly diffusive properties of diesel exhaust, nearby receptors would not be affected by diesel

exhaust odors associated with project construction. Odors from these sources would be localized and generally confined to the immediate area surrounding the project site.

The proposed project would utilize typical construction techniques, and the odors from off-road equipment and on-road vehicles would be typical of most construction sites and temporary in nature. Construction activities would include grading within the W-19 site and disposal of sediments excavated from the site. Grading activities could temporarily disturb soils and affect water levels at locations throughout the W-19 site. Sediment would not contain odor-generating contaminants other than naturally occurring organic material. The nearest sensitive receptors are located more than 600 feet from the grading and disposal sites. While an odor may be noted, it would be typical of odor currently associated with conditions in the area.

The proposed project involves removing sediment to reduce elevations within W-19 to wetlands that are hydraulically connected to the river. Tidal exchange between the river and wetland areas would maintain water circulation throughout the restoration site, maintaining water quality and minimizing the development of foul odors associated with anaerobic conditions. Long-term odors associated with the proposed project would be anticipated to be similar to existing conditions. **Therefore, the proposed project would not create objectionable odors affecting a substantial number of people and impacts would be less than significant (Criterion F).**

W-19 Wetlands Maintenance

Maintenance of the proposed project would result in the generation of ROG, NO_X, CO, PM_{10}, and $PM_{2.5}$ emissions. Although emissions would occur in future years (e.g., after 2040), emission estimates for maintenance were conservatively developed using the same emission factors as the construction activity. As shown in Table 5.9-5, maintenance of the proposed project would result in maximum daily emissions of approximately 3 pounds of ROG, 47 pounds of NO_X, 15 pounds of CO, 5 pounds of PM_{10}, and 1 pound of $PM_{2.5}$ that occurs for the 100-year storm event.

Table 5.9-5
Proposed Project – Estimated Daily Maintenance Emissions

Storm Frequency	Criteria Pollutant Emissions (pounds/day)				
	ROG	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**
25-Year	2.77	36.54	12.81	3.41	1.25
50-Year	3.12	46.21	15.08	4.63	1.43
100-Year	3.15	47.11	15.18	4.70	1.45
Maximum Daily	**3.15**	**47.11**	**15.18**	**4.70**	**1.45**
Daily Thresholds	**75**	**250**	**550**	**100**	**55**
Exceed Thresholds?	**No**	**No**	**No**	**No**	**No**

CO = carbon monoxide; NO_X = oxides of nitrogen; PM_{10} = particulate matter equal to or less than 10 micrometers in diameter; $PM_{2.5}$ = particulate matter equal to or less than 2.5 micrometers in diameter; ROG = reactive organic gases
Source: Modeled by AECOM 2016

Because the proposed project would be consistent with the assumptions in the RAQS, it is expected that the intensity of construction and operational emissions associated with the proposed project would have been accounted for in the RAQS. The proposed project would also comply with all construction-related SDAPCD rules and regulations during construction and

infrequent maintenance activities for storm events, and would not construct a land use that would result in a net increase in long-term operational emissions. **Therefore, the proposed project would not conflict with or obstruct implementation of the applicable air quality plan and impacts would be less than significant (Criterion A).”**

Table 5.9-6 summarizes the projected annual emissions associated with maintenance of the proposed project for 25-, 50, and 100-year storm frequency.

Table 5.9-6
Proposed Project – Estimated Annual Maintenance Emissions

Storm Frequency	Criteria Pollutant Emissions (tons/year)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
25-Year	0.02	0.24	0.08	0.02	0.01
50-Year	0.09	1.25	0.43	0.10	0.05
100-Year	0.18	2.41	0.82	0.16	0.10
Maximum Annual Emissions	**0.18**	**2.41**	**0.82**	**0.16**	**0.10**
Annual Thresholds	**15**	**40**	**100**	**15**	**10**
Exceed Thresholds?	**No**	**No**	**No**	**No**	**No**

CO = carbon monoxide; NO_X = oxides of nitrogen; PM_{10} = particulate matter equal to or less than 10 micrometers in diameter; $PM_{2.5}$ = particulate matter equal to or less than 2.5 micrometers in diameter; ROG = reactive organic gases
Source: Modeled by AECOM 2016

As shown in Tables 5.9-5 and 5.9-6, the maximum daily and annual criteria pollutant emissions would not exceed the screening level thresholds. **Therefore, maintenance of the proposed project would not contribute substantially to an existing or projected air quality violation and impacts would be less than significant (Criterion B).**

Because maintenance activities would not exceed the project-level air quality significance thresholds, the proposed project would not have a cumulatively considerable contribution to the region’s air quality and impacts would be less than significant (Criterion C).

As discussed above for construction activities, SDAPCD rules and permits would reduce emissions generated by maintenance activities of the proposed project. It is anticipated that emission concentrations would decrease substantially before affecting the nearest sensitive receptor. **Thus, maintenance of the proposed project would not expose sensitive receptors to substantial construction pollutant concentrations and impacts would be less than significant (Criterion D).**

The project would not exceed 100 pounds per day of PM dust during maintenance activities and impacts would be less than significant (Criterion E).

Similar to the construction activities, maintenance and removal of sediment would not contain odor-generating contaminants other than naturally occurring organic material. Tidal exchange between the river and wetland areas would maintain water circulation throughout the restoration site, maintaining water quality and minimizing the development of foul odors associated with anaerobic conditions. Long-term odors associated with the proposed project would be anticipated to be similar to existing conditions. **Therefore, the proposed project would not create**

objectionable odors affecting a substantial number of people and impacts would be less than significant (Criterion F).

5.9.4 SIGNIFICANCE OF IMPACTS

Table 5.9-7 summarizes the impact conclusions identified in the Impact Analysis for each threshold of significance. Impacts associated with air quality would be significant.

Table 5.9-7
Summary of Air Quality Impact Conclusions

Threshold	W-19 Restoration/ Materials Disposal	W-19 Inlet Maintenance
A. Conflict with or obstruct implementation of the applicable air quality plan.	Less than Significant	Less than Significant
B. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.	Significant	Less than Significant
C. Result in cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.	Significant	Less than Significant
D. Expose sensitive receptors to substantial pollutant concentrations.	Less than Significant	Less than Significant
E. Exceed 100 pounds per day of PM10 dust.	Significant	Less than Significant
F. Create objectionable odors affecting a substantial number of people.	Less than Significant	Less than Significant

5.9.5 MITIGATION MEASURES

Significant impacts have been identified due to construction emissions. Implementation of Mitigation Measure AQ-1 would reduce impacts to less than significant.

AQ-1

The following measures shall be implemented by the construction contractor to reduce fugitive dust emissions associated with off-road equipment and heavy-duty vehicles:

- Water the grading areas a minimum of twice daily to minimize fugitive dust, as permitted;
- Stabilize stockpiles in accordance with City grading ordinance requirements for stabilization of exposed soils to minimize fugitive dust;
- All onsite unpaved roads would be stabilized to limit visible emissions to no greater than 20 percent opacity for dust emissions by chemical stabilizers, dust suppressants, and/or watering.
- Remove any visible track-out into traveled public streets within 30 minutes of occurrence;

- Wet wash the construction access point at the end of each workday if any vehicle travel on unpaved surfaces has occurred;
- Provide sufficient perimeter erosion control to prevent washout of silty material onto public roads;
- Cover haul trucks or maintain at least 12 inches of freeboard to reduce blow-off during hauling on public roads;
- Suspend grading operations when wind speeds are high enough to result in dust emissions crossing the property line, despite the application of dust mitigation measures Cover/water onsite stockpiles; and
- Enforce speed limit of 15 miles per hour on unpaved surfaces.
- Exclude the use of brackish water when watering areas to minimize fugitive dust.

With the implementation of Mitigation Measure AQ-1, potential impacts to air quality under CEQA would be reduced to less than significant.

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5.10 NOISE

This section addresses the potential noise impacts associated with the project, specifically the potential for the proposed project to expose people to noise levels that exceed applicable noise standards, or cause a substantial temporary increase in ambient noise levels within or around the project site during project construction and/or maintenance. Because the proposed project is a restoration project and would not result in substantial operational noise, this analysis focuses on short-term construction and infrequent maintenance noise impacts. Once the project is constructed and vegetation is established, site activities would be limited to intermittent maintenance activities and recreational trail access. The analysis is based largely on the Noise Technical Report, provided as Appendix I. Noise impacts related to protected animal species and their habitats are discussed in Section 5.6, Biological Resources.

5.10.1 EXISTING CONDITIONS

Regulatory Setting

A full description of the regulatory setting for this document can be found in Appendix E. The following laws, regulations, policies, and plans are applicable to this resource area:

- City of San Diego General Plan, Noise Element
- City of San Diego Municipal Code, Noise Ordinance
- City of Del Mar Noise Ordinance

Noise Regulations

Applicable plans and ordinances with respect to noise include the City's General Plan, Noise Element (City 2015) and the City's Municipal Code, Noise Ordinance (City 2010b). The City's Noise Ordinance limits construction hours to 7 a.m. to 7 p.m. Monday through Saturday, and the construction noise level limit to not exceed an average sound level greater than 75 decibels (dB) during the 12-hour period from 7:00 a.m. to 7:00 p.m. at or beyond the property lines of any property zoned residential (City of San Diego 2010b).

The City of Del Mar's noise ordinance also limits construction noise to 7 a.m. to 7 p.m. Monday through Friday and 7 a.m. to 9 p.m. on Saturday. It limits construction noise levels to an hourly average sound level not to exceed 75 A-weighted decibels (dBA) on property zoned or used for residential purposes (City of Del Mar 1997).

Noise Descriptors

Noise is generally defined as sound that is loud, unpleasant, unexpected, or undesired, and therefore may cause general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment. Sound levels are usually expressed in units of dB, measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale for quantifying the magnitude of earthquakes. Thus, a doubling of the energy of a

noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; a halving of the energy would result in a 3-dB decrease.

Human Perceptions of Noise

The human ear is not equally sensitive to all frequencies within the sound spectrum; therefore, noise levels are factored more toward human sensitivity using the "A" weighting scale, expressed as dBA. Human perception of noise has no simple correlation with acoustical energy; the perception of noise is not linear in terms of acoustical energy. An average healthy ear can barely perceive a change of 3 dB, can readily perceive a 5 dB change, and an increase of 10 dB is perceived as twice as loud (Caltrans 2011b).

Averaging Noise Levels

In addition to noise levels at any given moment, the duration and averaging of noise over time is also important for the assessment of potential noise disturbance. Noise levels varying over time are averaged over a period of time, usually hour(s), expressed as dBA L_{eq}, which typically assumes a 1-hour average noise level. The maximum noise level (L_{max}) is the highest sound level occurring during a specific period. Time of day is also an important factor to consider when assessing potential community noise impacts, as noise levels that may be acceptable during the daytime hours may create disturbance during evening or nighttime hours, when people are typically at home and sleeping.

Noise levels attenuate with distance at a rate of 6 dBA per doubling of unobstructed distance between a point source (e.g., construction equipment) and receiver, and 3 dBA per doubling of distance from a line source (e.g., moving traffic). Intervening topography, structures, and sound-absorptive ground surface can further attenuate noise levels. An acoustically "soft" vegetated ground surface can further reduce noise levels by up to 1.5 dBA, and a large barrier between a noise source and a receiver can reduce noise levels from 5 to 10 dBA at that receiver.

Existing Noise Conditions

The existing noise environment is primarily influenced by noise from vehicle traffic on nearby roadways. The predominant source of traffic noise is from I-5, which is an 8-lane freeway located approximately 800 to 6,400 feet from the western and eastern boundaries of W-19 and approximately 900 to 2,725 feet from the western and eastern boundaries of the disposal site. The W-19 restoration and disposal sites are undeveloped and relatively flat, providing line-of-sight with I-5 traffic. Additional nearby roadways include El Camino Real, a four-lane arterial located adjacent to the W-19 southern and western boundaries and approximately 625 feet east of the disposal site, and Via de la Valle, a two-lane arterial located approximately 650 to 1,550 feet north of the W-19 northern boundary. In addition to vehicle traffic noise, other major noise sources include aircraft flyovers, active recreation events (i.e., Del Mar Racetrack and Fairgrounds; San Diego Polo Grounds), and intermittent noise from the surrounding residential and commercial areas.

The noise environment of the beach placement locations is influenced primarily by surf noise as ocean waves break on the beach, and also by noise from periodic train traffic along the railway, and traffic on local roadways, most specifically Camino Del Mar.

Noise-Sensitive Receptors

The W-19 and disposal sites are surrounded by passive recreation (i.e., hiking trails) and by equestrian facilities (i.e., horse stables and training center) to the north and residential development to the north, east, and south. Some land uses are considered more sensitive to noise than others due to the types of persons or activities involved, such as sleeping, reading, talking, or convalescing. Noise-sensitive receptors are generally considered humans engaged in activities, or occupying land uses, that may be subject to the stress of substantial interference from noise. Typically, land uses associated with noise-sensitive human receptors can include residential dwellings, hotels/motels, hospitals, nursing homes, educational facilities, libraries, and passive recreational areas (e.g., nature trails).

Noise receptors at the beach placement sites include the residential developments located immediately adjacent to the back of the beach area along the placement site south of the river inlet. Residential developments are also located on the bluff tops at the back of the beach placement site to the north of the river. Beach recreationalists using the beaches in the vicinity would also be considered noise-sensitive receptors.

In addition to human receptors, protected animal species and their habitats, such as bird species protected under the Migratory Bird Treaty Act, may be considered noise-sensitive receptors especially during their breeding season. Noise impacts to wildlife are addressed in Section 5.6, Biological Resources.

Noise Measurements and Observations

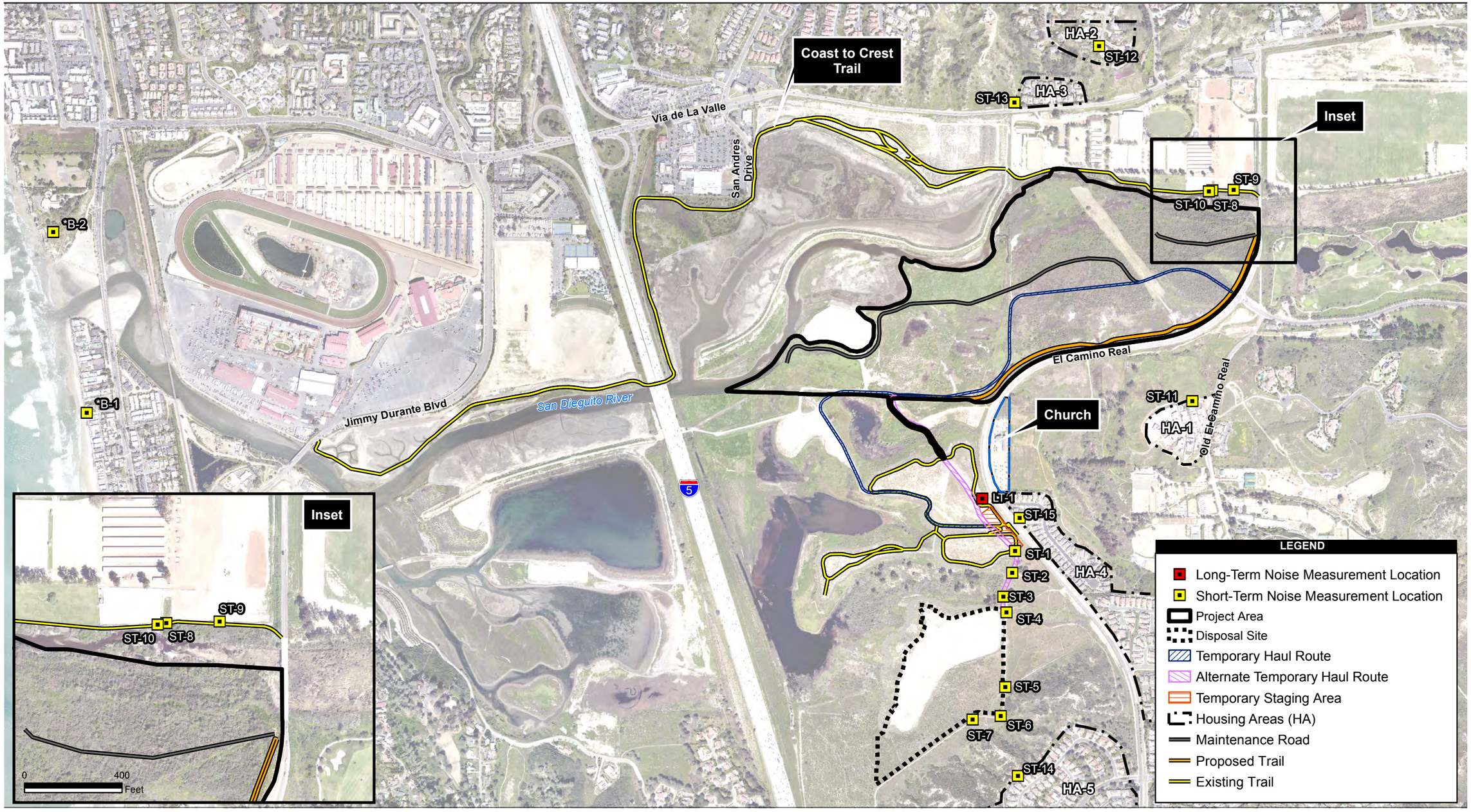
To analyze the potential noise impacts of the proposed project, ambient noise level measurements and observations were performed at human noise-sensitive receptors. These receptors include residences, the CTC Trail in proximity to the W-19 area, the disposal site as shown in Figure 5.10-1, Noise Measurement Locations, and also at a residential beach location near the sand placement areas. Measured noise levels are summarized in Table 5.10-1. The Dust Devil Nature Trail was not selected for a measurement location as the portion of the trail near construction noise sources would be closed during active construction operations and thus would not expose users to increased noise levels.

As summarized in Table 5.10-1, measurements at the CTC Trail near the W-19 area ranged from 50.8 to 51.7 dBA $L_{eq,}$ with the highest L_{eq} at locations in proximity to nearby major roadways (El Camino Real). At the disposal site, measurements ranged from 50.7 to 59.0 dBA L_{eq}, with highest L_{eq} at locations in proximity to nearby roadways (i.e., I-5 and El Camino Real). At nearby residences, measurements ranged from 41.1 to 67.9 dBA L_{eq} with highest noise levels in proximity to nearby roadways (i.e., I-5, Via de la Valle, and El Camino Real). At residential areas near the beach placement sites, measurements ranged from 67.6 near the southern site to 55.9 dBA L_{eq} near the northern site.

Table 5.10-1
Ambient Noise Measurement Data – Residences and Recreational Uses

Site ID	Housing Areas (HAs)	Location	L_{eq} (dBA)	L_{max} (dBA)	L_{min} (dBA)	Noise Sources
Residential Areas						
ST-11	HA-1	At residences off Old El Camino Real, 750 feet south of W-19, 100 feet AMSL	53.2	57.8	47.4	Vehicle traffic on El Camino Real, aircraft flyovers, conversations, mechanical
ST-12	HA-2	At residences at end of Vista de la Patria, 1,400 feet north of W-19, 238 feet AMSL	41.1	53.7	37.2	Vehicle traffic on Via de la Valle, aircraft flyovers, conversations
ST-13	HA-3	At residences, 50 feet north of Via de la Valle, 825 feet north of W-19, 61 feet AMSL	67.9	75.8	53.2	Vehicle traffic on Via de la Valle, aircraft flyovers, conversations
ST-14	HA-5	At residences north of Landfair Road, 540 feet south of the disposal site, 300 feet AMSL	60.2	68.2	57.4	Vehicle traffic on I-5 dominant, El Camino Real visible in distance, aircraft flyover
ST-15	HA-4	At residences east of El Camino Real at Sea Country Lane, 200 feet east of proposed truck haul disposal route	69.6	79.4	52.3	Vehicle traffic on El Camino Real dominant, I-5 visible in distance (faintly audible), aircraft flyover
LT-1	HA-4	At the project staging area (San Dieguito River Park parking area), residences across EL Camino Real	64.2	86.4	37.8	Vehicle traffic on I-5 and El Camino Real, except during peak hour when I-5 is congested, occasional aircraft flyovers
ST-3	N/A	At beach residence near sand placement area at beach in Solana Beach, 78 feet AMSL	55.9	70.8	50.7	Surf noise dominant, vehicle traffic on local roadways, occasional aircraft flyovers
Recreational Uses						
ST-8	N/A (CTC Trail)	North of W-19 and river on CTC Trail, 475 feet west of El Camino Real	50.8	67.1	42.6	Vehicle traffic primarily on El Camino Real, less on Via de la Valle
ST-9	N/A (CTC Trail)	North of W-19 and river on CTC Trail, 263 feet west of El Camino Real	51.7	57.1	47.3	Vehicle traffic primarily on El Camino Real, less on Via de la Valle
ST-10	N/A (CTC Trail)	North of W-19 and river on CTC Trail, 510 feet west of El Camino Real	47.5	50.4	45.1	Vehicle traffic primarily on El Camino Real, less on Via de la Valle
Beach Placement Sites						
B-1	N/A	At beach residence, near southern sand placement area at terminus of 29th Street	67.6	72.9	57.3	Surf noise dominant, vehicle traffic on local roadways, occasional aircraft flyovers
B-2	N/A	At bluff-top beach residence near northern sand placement area at beach, 78 feet AMSL	55.9	70.8	50.7	Surf noise dominant, vehicle traffic on local roadways, occasional aircraft flyovers

AMSL = above mean sea level; CTC Trail = Coast to Crest Trail; dBA = A-weighted decibels; Leq = equivalent noise level; Lmax = maximum noise level; Lmin = minimum noise level; N/A = not applicable
Source: San Dieguito W-19 Restoration Project Noise Technical Report (Appendix I)



Source: JPA: Dokken 2015

1,000 500 0 1,000 Feet

Scale: 1:12,000 1 inch = 1,000 feet

*Measurements at the beach were conducted separately from those at the restoration and disposal sites, and are referred to as ST-1 and ST-3 in the beach placement portion of the Noise Report. These sites are referred to as B-1 and B-2 in the EIR for clarity.

Figure 5.10-1
Noise Measurement Locations

Path: P:\2012\60274999_SD_W19\06GIS\6.3_Layout\Reports\EIR\Noise_Measurement_Locations.mxd, 9/25/2018, paul.moreno

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5.10.2 IMPACT THRESHOLDS

A significant impact would occur if implementation of the proposed project would:

A. Result or create a significant increase (>10 dBA) in the existing ambient noise levels;

B. Result in exposure of people to noise levels which exceed the City's adopted noise ordinance;

C. Result in exposure of people to current or future transportation noise levels which exceed standards established in the Transportation Element of the General Plan or an adopted airport Comprehensive Land Use Plan; or

D. Result in temporary construction noise which exceeds 75 dB (A) L_{eq} at a sensitive receptor.

The CEQA impact thresholds for noise are based on those recommended by the City of San Diego Development Services Department but are modified to take into account unique recreational uses within the San Dieguito River Park (City of San Diego 2011). This section addresses potential project-related construction noise impacts of the proposed project. However, because the project would not result in any permanent land use changes or new structures, it would not have any effect on future transportation noise levels that exceed standards established in the Transportation Element of the General Plan or an adopted Airport Comprehensive Land Use Plan, and impacts under Criterion C are not evaluated further.

Areas near the beach placement sites would be subject to the City of Del Mar Municipal Code, Chapter 9.20, Noise Regulations, which provides construction hours and noise level limits. Section 9.20.050 prohibits construction noise between the hours of 7 p.m. and 7 a.m. Monday through Friday, 7 p.m. and 9 a.m. on Saturday, and on Sundays and certain legal holidays. It limits construction noise levels to an hourly average sound level not to exceed 75 dBA on property zoned or used for residential purposes (City of Del Mar 1997).

5.10.3 IMPACT ANALYSIS

Project-caused construction and maintenance noise would vary depending on activities and duration, and the type and usage of equipment. Noise impacts from construction/maintenance activities are based on the noise levels generated by the construction equipment, the timing and duration of the activities, proximity to sensitive receptors, and applicable noise regulations and standards. Construction equipment can be stationary (i.e., operating in one location, such as pumps, generators) or mobile (i.e., moving around the construction site such as excavators, bulldozers, graders, loaders, and trucks). Heavy construction equipment (e.g., for earth-moving activities) typically operates for short periods at full power followed by extended periods of operation at lower power, idling, or powered-off conditions. For typical construction projects, earth-moving activities typically generate the highest noise levels ranging up to 85 dBA L_{max} at 50 feet (FTA 2006). However, typically, delays occur during construction activities (e.g., equipment repositioning and idling, worker breaks, safety measures) resulting in equipment operating at less than maximum load and duration. Therefore, maximum noise levels (L_{max}) over time (e.g., 1 hour) would equate to equivalent construction noise levels (L_{eq}) of approximately

80 dBA L_{eq} at 50 feet. Both the City of San Diego and City of Del Mar use L_{eq} for the construction noise level limit rather than the equivalent short-term, maximum noise levels (L_{max}).

W-19 Restoration

Active project construction activities in the W-19 restoration site would occur over approximately 30 months~~2 years~~. Noise-generating activities would include removal of vegetation, excavation, grading, and hauling of vegetation and sediment off-road to the disposal site. Project construction activities would occur from 7 a.m. to 7 p.m. on weekdays, consistent with the City of San Diego's construction noise ordinance (City of San Diego 2010b).

Project construction noise was predicted at representative nearby noise-sensitive receptors. A worst-case scenario for equipment usage was applied in Roadway Construction Noise Model to assess potential noise impacts associated with off-road equipment at the W-19 site. This equipment would include an excavator, scraper, grader, bulldozer, loaders, and two dump trucks, operating concurrently and in proximity to each other with an assumed load factor of 40 percent (to account for time when it is not functioning at full engine power due to worker breaks, change in construction activities, and maintenance) over a 1-hour period of operation. The anticipated construction equipment needed for project vegetation clearing and earthwork would generate noise levels as high as approximately 79 dBA L_{eq} at 50 feet from the centroid of the construction activity. Construction noise modeling output data are provided in Appendix A of the Noise Technical Report.

Traffic Noise

Project construction would generate construction traffic from daily construction worker trips and truck delivery of construction equipment and supplies. Construction vehicles would access the project site using major roadways of I-5, Via de la Valle, Del Mar Heights Road, and El Camino Real, where construction trips would be a minor contribution to the average daily traffic (ADT) volumes of the roadways shown in the Traffic Study (Appendix L). Therefore, the increase in traffic volume on area roadways due to project construction-related traffic would result in a less than 1 dBA L_{eq} increase in noise levels along adjacent roadways, which is a less than perceptible change in noise level**. Therefore, this impact would be less than significant (Criterion A). Noise associated with transportation would not exceed standards established in the Transportation Element of the General Plan, and no impact would occur (Criterion C).**

Housing Areas

As shown in Table 5.10-2, predicted construction noise levels at receptors ST-11 through ST-15 would be below the City's construction noise level limit of 75 dBA L_{eq} during the 12-hour period from 7 a.m. to 7 p.m. at or beyond the property lines of any property zoned residential, which indicates noise-sensitive receptors. **Therefore, project construction noise would not exceed City noise standards at residences, and this impact would be less than significant (Criteria B and D).**

Table 5.10-2 also shows that ambient noise levels at the closest representative residential receptors in proximity to W-19 (i.e., ST-11, ST-12, and ST-13) ranged from 51 to 68 dBA L_{eq}, with highest noise levels at ST-11 and ST-13 due to traffic noise on El Camino Real and Via de la Valle. **Predicted construction noise levels would not result in a substantial increase (i.e., >10 dBA L_{eq}) in existing ambient noise levels, and this impact would be less than significant for residential receptors in the vicinity of W-19 (Criterion A).**

Table 5.10-2
Project Construction Noise Assessment – Housing Areas

Receptor Location ID	Housing Area (HA)	Existing Ambient Level (dBA, L_{eq})	Distance from Receptor to Construction Activity (feet)	Predicted Construction Noise at Receptors (dBA, L_{eq})	Existing Ambient plus Construction Noise (dBA, L_{eq})	Increase over Ambient due to Construction (dBA, L_{eq})	>10 dBA L_{eq} Ambient Increase
Residences near W-19 Restoration Area							
ST-11	HA-1	53	1,875	53	56	3	No
ST-12	HA-2	51*	2,200	51	54	3	No
ST-13	HA-3	68	1,750	53	68	0	No
Residences near Truck Haul Routes							
ST-15	HA-4	70	200	63	71	1	No
Residences near Disposal Site							
ST-14	HA-5	60	1,300	57	62	2	No
ST-15	HA-4	70	1,650	54	70	0	No

dBA = A-weighted decibels; L_{eq} = equivalent noise level;
*The location of the ST-12 measurement of 41 dBA was determined to be substantially shielded from dominant noise sources, including traffic noise from I-5 and Via de la Valle (measurement was conducted at shielded north side of residential structure rather than the directly exposed south side of structure). Therefore, the reported noise level at ST-12 in Table 5.10-2 was adjusted by +10 dBA to 51 dBA L_{eq} to account for the shielding effects.
Source: San Dieguito Lagoon W-19 Restoration Project Noise Technical Report (Appendix I)

Recreational Uses

Users of the CTC Trail are considered noise-sensitive receptors and could experience construction noise while on portions of the trail adjacent to the W-19 area. Predicted construction noise levels from the operation of heavy construction during excavating and grading would be approximately 79 dBA hourly L_{eq} at 50 feet from the centroid of the grading activity. The W-19 grading boundary from the trail varies in distances of approximately 75 to 1,250 feet; therefore, the predicted grading noise level would attenuate with these distances to the trail ranging from approximately 73 to 47 dBA L_{eq}. Trail users would likely experience this varying range of grading noise levels as they hike along the trail, moving away from or toward project earth-moving activities. The worst-case noise exposure to hikers on the trail would be an approximately ¼-mile segment located 75 to 85 feet from the northernmost portion of the grading area, where grading activities would generate noise levels of approximately 73 dBA L_{eq}. **This impact would not exceed 75 dBA L_{eq} and would be less than significant (Criteria B and D).**

As shown in Table 5.10-3, measurements ST-8 through ST-10 along the CTC Trail near El Camino Real ranged from 48 to 52 dBA L_{eq} with noise levels decreasing farther away from El

Camino Real and its vehicle traffic. Therefore, ambient noise levels are anticipated to be lower on the trail moving west away from El Camino Real. Table 5.10-3 also provides the predicted construction noise levels at ST-8 through ST-10, as compared to existing ambient noise levels. A substantial increase (>10 dBA L_{eq}) in ambient noise levels would occur at ST-10 along the trail. As discussed above, trail users would be exposed to these levels for short periods of time when grading is occurring close to the project boundary and users are hiking within proximity to that activity (estimated duration on the order of minutes). **However, this projected increase in ambient noise levels would still represent a significant impact (Criterion A).**

Table 5.10-3
Project Construction Noise Assessment – Coast to Crest Trail

Receptor Location ID	Existing Ambient Level (dBA L_{eq})	Distance from Receptor to Construction Activity (feet)	Predicted Construction Noise at Receptors (dBA L_{eq})	Existing Ambient plus Construction Noise (dBA L_{eq})	Increase over Ambient due to Construction (dBA L_{eq})	>10 dBA L_{eq} Ambient Increase
ST-8	51	822	61	61	10	**No**
ST-9	52	861	60	61	9	No
ST-10	48	827	61	61	13	**Yes**

dBA = A-weighted decibels; L_{eq} = equivalent noise level;

Materials Disposal

Traffic Noise

Materials disposal would generate on-road construction traffic from daily construction worker trips and truck delivery of construction equipment and supplies. Construction vehicles would access the project site using major roadways of I-5, Via de la Valle, Del Mar Heights Road, and El Camino Real, where construction trips would be a minor contribution to the ADT volumes of the roadways shown in the Traffic Study (Appendix L). Therefore, the increase in traffic volume on area major roadways due to materials disposal-related traffic would result in a less than 1 dBA L_{eq} increase in noise levels along adjacent roadways, which is a less than perceptible change in noise level. **Therefore, this impact would be less than significant (Criterion A). Noise associated with transportation would not exceed standards established in the Transportation Element of the General Plan, and no impact would occur (Criterion C).**

Housing Areas

Truck hauling of excavated vegetation and soil from W-19 for placement at the disposal site would generate the most project construction traffic, although the haul routes would not include public roads. The disposal site is located approximately 2,500 feet southeast of W-19 and west of El Camino Real (Figure 5.10-1), and off-road trucks would transport materials directly to the disposal site over approximately 70 weeks. Hauling trip estimates assume that material would not require travel on public roadways (i.e., along the proposed onsite haul routes) and moving approximately 1,371,000 cy of material with a CAT 735 Articulated Truck with a hauling capacity of 25 cy per truck would require a total of 55,000 onsite hauling roundtrips (Appendix L). Vehicle travel on public roads associated with Hauling activities is estimated to require

approximately 269 daily one-way trips (Appendix L). Noise-sensitive receptors located in proximity to the haul routes include residential uses (HA-4) east of El Camino Real, as shown in Figure 5.10-1.

Hauling noise would be localized to the proposed off-road haul routes, and hauling would occur within the allowable hours of the City's noise ordinance (7 a.m. and 7 p.m. Monday through Saturday). As shown in Table 5.10-2, predicted construction noise levels at the representative receptor of ST-15 at HA-4 would not result in a substantial increase in existing ambient noise levels (>10 dBA L_{eq}). **Therefore**, **this impact would be less than significant (Criterion A).**

Table 5.10-2 also shows that predicted construction noise levels resulting from construction activities at the disposal site at the closest representative residential uses of HA-4 and HA-5, which are considered noise-sensitive receptors, would be below the City's construction noise level limit of 75 dBA L_{eq} during the 12-hour period from 7 a.m. to 7 p.m. at or beyond the property lines of any property zoned residential. **Therefore, this impact would be less than significant (Criteria B and D).**

W-19 Inlet Maintenance

Material Removal

The removal of sediment from the inlets and interior of the wetlands after substantial storm events would require similar construction methods and would utilize similar construction equipment as initial project construction. Maintenance work would include the use of construction equipment to perform excavation and grading. While the timeframe for construction activities and the total amount of construction equipment would be less than the initial lagoon restoration activities, the maintenance work would have the potential to create the same noise impact to recreational trail users along portions of the CTC Trail. As discussed for lagoon restoration, CTC Trail users would be exposed to a substantial increase in ambient noise levels for short periods of time when grading or excavating is occurring close to the project boundary and users are hiking within proximity to that activity. **As identified for the lagoon restoration activities, this projected increase in ambient noise levels would represent a significant impact during intermittent inlet maintenance events (Criterion A).**

Beach Placement

On-Road Material Hauling

The material removed during maintenance activities would be hauled via truck to the beach placement locations. As shown in Figure 3-10, trucks would travel offsite along El Camino Real north to Via de la Valle, west on Via de la Valle to Camino Del Mar, and then south along Camino Del Mar to beach access points either north of the river near Dog Beach or south of the river at the ends of 20th and/or 18th Streets. Once on the beach, trucks would deposit the material on the beach or in the nearshore. Residential receptors are located along portions of Via de la Valle and immediately adjacent to portions of Camino Del Mar. As detailed in Table 3-3, anticipated truck trips associated with maintenance activities would be approximately 625 round

trips over 13 working days for a 25-year storm and 2,500 round trips over 43 working days for a 50-year storm event. These daily haul trips (approximately 60 per day) would occur only between 7 a.m. and 7 p.m. Monday through Friday per both the Cities of San Diego and Del Mar noise ordinance requirements.

The increase in traffic volume on area roadways due to maintenance haul trips from the W-19 site to the beach placement sites would not cause substantial noise increases in the ambient noise environment and would not exceed the 12-hour 75 dBA L_{eq} threshold of the City of San Diego or the 1-hour 75 dBA L_{eq} threshold of the City of Del Mar. SANDAG reports that 2013 annual ADT volumes were 14,800 and 17,500 for the Camino Del Mar roadway segment between Via de la Valle and Jimmy Durante Boulevard and the Via de la Valle segment between Camino Del Mar and Jimmy Durante Boulevard, respectively (Appendix I). The additional daily volume of up to 60 dump truck round trips, even if represented as 327 PCEs, would result in less than a 3 percent increase for both of these roadway segments and, on the basis of this modest ADT increase, would be less than a 1 dBA increase in roadway traffic noise emission.

Additionally, if assessed as a dump truck passing by a receiver at an average occurrence frequency of up to 12 per hour, with the dump truck exhibiting 76.5 dBA L_{max} at a distance of 50 feet (FHWA 2006) and taking 1 minute to complete the pass-by, the estimated hourly noise level would be less than 75 dBA L_{eq} at a distance of 50 feet for an average of up to 12 trips per hour (i.e., 60 trips varyingly spread over an 10-hour daytime work shift).

Thus, construction-related traffic would not be substantial and would not result in a significant increase in noise levels along adjacent roadways or in exceedance of applicable noise standards. Impacts would be less than significant (Criteria A, B, and D). Noise associated with transportation would not exceed standards established in the Transportation Element of the General Plan, and no impact would occur (Criterion C).

Beach Placement

Once the material is delivered by truck to the beach placement area, bulldozers would spread the sand and this construction equipment noise would be audible to nearby receptors. The beach placement site to the south of the river inlet would be immediately adjacent to the residential properties located along the back of the beach area at a generally similar elevation (represented by measurement location B-1 in Figure 5.10-1). The placement area north of the river inlet would be somewhat buffered from sensitive receptors due to the high bluffs at the back of the beach; however, residential property boundaries are located in proximity to the placement site (represented by measurement location B-2). Beach placement activities are anticipated to occur during the weekday daytime hours of 7 a.m. to 7 p.m., consistent with the noise ordinances of the City of Del Mar. Over a period of 1 hour, the equipment would be anticipated to operate at an assumed load factor of 40 percent (to account for worker breaks, change in construction activities, and maintenance). Table 5.10-4 shows the modeled noise levels from the beach placement construction activities at the receptor locations.

Table 5.10-4
Beach Placement Construction Noise Assessment

Receptor Location ID	Existing Daytime Ambient Level (dBA, L_{eq})	Distance from Receptor to Construction Activity (feet)	Predicted Construction Noise (dBA, L_{eq})	Existing Ambient plus Predicted Construction Noise (dBA, L_{eq})	Ambient Increase due to Construction Noise (dBA, L_{eq})	Greater than 10 dBA L_{eq} ambient increment?
B-1	68	30	81	81	13	**Yes**
B-2	56	170	63	64	8	No

dBA = A-weighted decibels; L_{eq} = equivalent noise level;

As shown in Table 5.10-4, predicted average hourly construction noise level due to beach placement activity at representative residential receptors located along the bluffs at the northern sand placement sites represented by receptor location B2 would be below the City of Del Mar limit of 75 dBA hourly L_{eq} and would not cause more than a 10 dBA increase in the existing ambient noise level. This short-term noise increase would likely be audible at residences near or represented by the B-2 location; however, beach placement activity noise would not exceed City of Del Mar noise standards at residences, nor cause an ambient noise increase greater than 10 dBA at residential receptors along the northern sand placement site represented by receptor location B-2. **Therefore, this impact would be less than significant (Criteria A, B, and D).**

Table 5.10-4 shows that predicted average hourly construction noise levels would exceed 75 dBA hourly L_{eq} and result in a substantial temporary ambient increase exceeding 10 dBA at B-1. **This projected exceedance of the City of Del Mar noise standard and temporary increase in ambient noise levels due to beach placement would represent a significant impact to residential receptors at the southern sand placement site represented by receptor location B-1 during maintenance (Criteria A, B, and D).**

5.10.4 SIGNIFICANCE OF IMPACTS

Table 5.10-5 summarizes the impact conclusions identified in the Impact Analysis for each threshold of significance. A significant impact related to the increase in existing ambient noise levels on the CTC Trail during both lagoon restoration and maintenance would occur.

5.10.5 MITIGATION MEASURES

A significant noise impact could occur from the operation of construction equipment in proximity to recreational users on the CTC Trail. As described above, construction would only result in a significant increase in ambient noise levels for trail users if the construction equipment and trail users were adjacent to each other. A number of physical noise barriers, such as noise walls, were considered as mitigation for this impact. However, the continually moving nature of construction equipment during restoration and trail users would make noise walls less effective. In addition, trail users would be subjected to substantially higher noise levels than existing conditions for very short durations (approximately 5 minutes), and alternate trails would remain available for use during these periods. For these reasons, the use of noise walls or other physical

Table 5.10-5
Summary of Noise Impact Conclusions

Threshold	W-19 Restoration	Materials Disposal	W-19 Inlet Maintenance
A. Result or create a significant increase (>10 dBA) in the existing ambient noise levels.	Significant at CTC Trail	Less than Significant	Significant at residential receptors at southern sand placement site
B. Result in exposure of people to noise levels which exceed the City's adopted noise ordinance.	Less than Significant	Less than Significant	Significant at residential receptors at southern sand placement site
C. Result in exposure of people to current or future transportation noise levels which exceed standards established in the Transportation Element of the General Plan or an adopted airport Comprehensive Land Use Plan.	No Impact	No Impact	No Impact
D. Result in temporary construction noise which exceeds 75 dB (A) L_{eq} at a sensitive receptor.	Less than Significant	Less than Significant	Significant at residential receptors at southern sand placement site

barriers to reduce noise levels at sensitive receptors would not be considered a feasible noise minimization measure. Implementation of Mitigation Measure Noise-1 would reduce this impact to a less than significant level.

Noise-1

Prior to commencement of construction, public notices regarding the potential for temporarily increased noise levels shall be posted along the trail and in parking areas. These notices shall include a schedule of anticipated elevated noise levels and a description of alternate trails available for use.

A significant temporary increase in existing ambient noise levels measured at B-1, representing residences adjacent to the southern beach placement site, could occur from the placement of material on the beach during maintenance activities. As described for the noise impact associated with the CTC Trail, a number of physical noise barriers, such as noise walls or barriers, were considered as mitigation for this impact. However, the continually moving nature of construction equipment during material placement would require that the barriers be mobile and moved frequently to keep pace with the active construction area. The elevated location of the residential properties would make the barriers less effective. In addition, the barriers would have the potential to cause additional access restrictions for beach users. These challenges reduce or eliminate the value of this mitigation measure. For these reasons, the use of noise walls or other physical barriers along the beach placement sites to reduce noise levels at sensitive receptors would not be considered a feasible noise minimization measure. Implementation of Mitigation Measures Noise-2, 3, and 4 would not reduce the noise impact at local residential receptors to below a level of significance. The noise impact due to material placement on the beach would remain significant and unavoidable.

Noise-2

During maintenance requiring beach placement, the construction contractor will provide written notification to residents within a 100-foot radius of the beach placement site prior to the start of construction activities. The contractor will establish a telephone hot-line for use by the public to report any perceived substantial adverse noise conditions associated with the construction of the project. If the telephone is not staffed 24 hours per day, the contractor will include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. This hot-line telephone number will be provided in the written notification to nearby residents and posted at the project site during construction in a manner visible to passersby. This telephone number will be maintained until the beach placement activities have concluded.

Noise-3

Throughout the beach placement activities, the contractor will document, investigate, evaluate, and attempt to resolve construction-related noise complaints. The contractor or its authorized agent will:

- Use a Noise Complaint Resolution Form to document and respond to each noise complaint;
- Contact the person(s) making the noise complaint within 24 hours;
- Conduct an investigation to attempt to determine the source of noise related to the complaint; and
- Take reasonable measures to reduce the noise at its source.

Noise-4

The contractor will implement the following typical field techniques and equipment selection for reducing noise from construction activities, with the purpose of reducing aggregate construction noise levels at nearby noise-sensitive receptors:

- To the extent practical and unless safety provisions require otherwise, adjust all audible back-up alarms downward in sound level, reflecting vicinities that have expected lower background level, while still maintaining adequate signal-to-noise ratio for alarm effectiveness. Consider signal persons, strobe lights, or alternative safety equipment and/or processes as allowed, for reducing reliance on high-amplitude sonic alarms.
- At a minimum, equipment and vehicles used at the construction site will have intake and exhaust mufflers as factory installed or aftermarket as recommended by the manufacturers thereof, to help meet relevant noise limitations. Consider equipment acoustical upgrades, such as higher performing internal combustion engine exhaust mufflers and air filter/intakes, and engine hood/shroud/casing acoustical linings.
- Minimize equipment and vehicle engine idling time, as this will reduce the accumulation of sound energy over a typical hour of construction activity.

- Schedule intensive beach placement activity close to potentially impacted residential receivers when property owner/occupants may be temporarily away from the receptor locations (e.g., at work during usual business hours).

5.11 CULTURAL RESOURCES

Cultural resources consist of sites, buildings, structures, objects, and districts or other places of human activity that are considered significant to a community, culture, or ethnic group. These resources may be historic or prehistoric in age, or a combination of both. The cultural study area refers to the entire boundary of San Dieguito Lagoon. The W-19 restoration area of potential effects (APE) is the extent of physical disturbance for the undertaking as shown in Figure 5.11-1. The beach sites proposed for material placement during wetlands maintenance are dynamic coastal areas that have previously been utilized for sand placement by the SCE restoration project. No cultural resources have been identified within those sites.

This section is based primarily on information from the Archaeological Resource Report for the San Dieguito Lagoon W-19 Restoration Project (Appendix N). Other studies include the San Dieguito Wetland Restoration Project (Berryman and Woodman 2000), the EIR/EIS for the San Dieguito Wetlands Restoration Project (USFWS and San Dieguito River Park JPA 2000), Cultural Resource Overview for the San Dieguito River Valley (Gallegos et al. 1988), and Data Recovery Excavations Conducted at Archaeological Site CA-SDI-10,238 (Cooley et al. 2000).

5.11.1 EXISTING CONDITIONS

Regulatory Setting

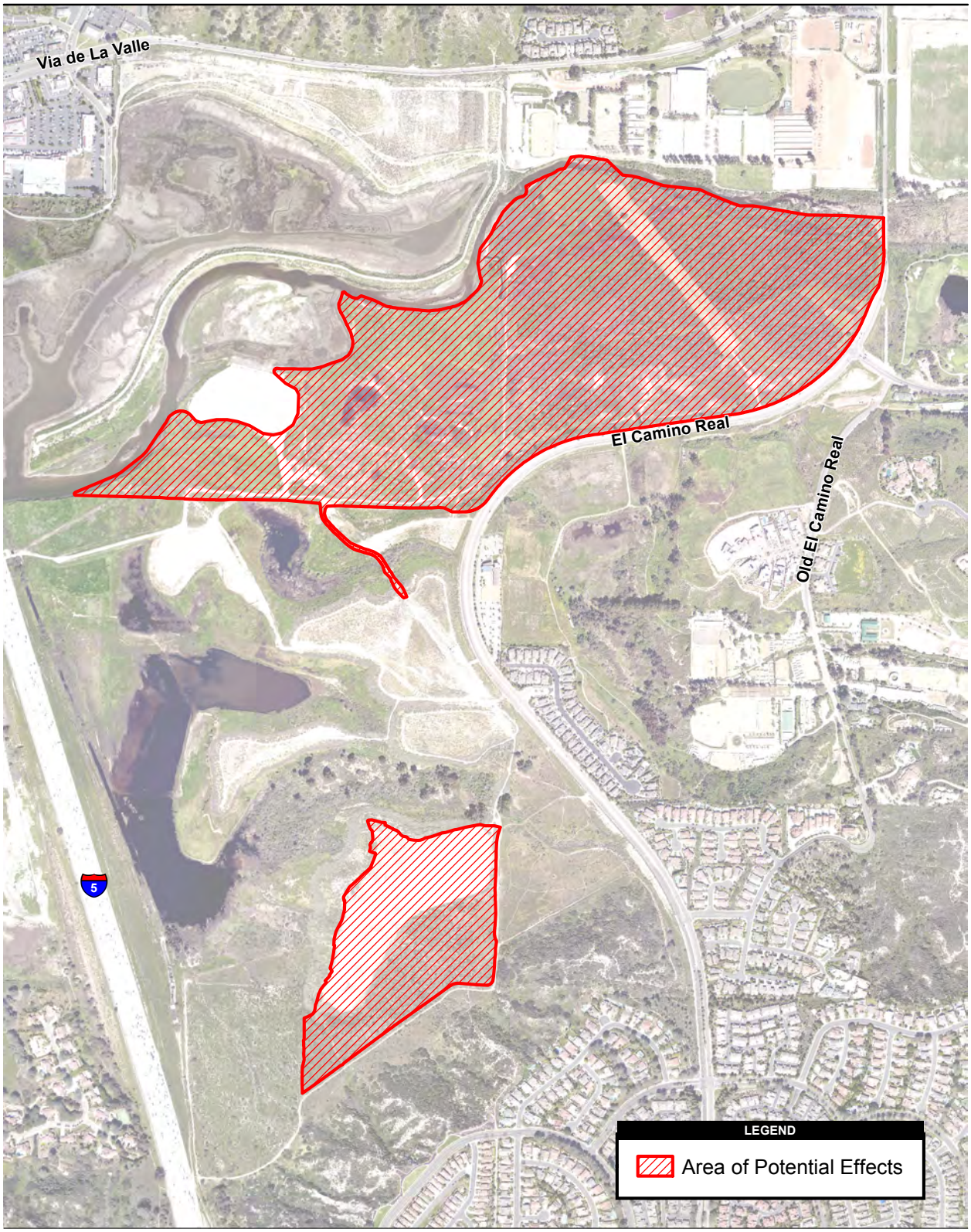
A full description of the regulatory setting for this document can be found in Appendix E. The following laws, regulations, policies, and plans are applicable to this resource area:

- National Historic Preservation Act
- Cal. Pub. Res. Code Section 5097.5, Section 5097.9, and Section 622.5
- California Health and Safety Code Sections 7050.5, 7051, and 7052
- CEQA Section 15064.5
- City of San Diego Land Development Code, Historical Resources Regulations
- City of San Diego Land Development Manual, Historical Resources Guidelines

Cultural Setting

The sequence of human occupation of coastal southern California begins in the Paleoindian period (11,500–8500 years before present [B.P.]), a time in which adaptations were formerly believed to be focused on the hunting of large game, but are now recognized to represent more generalized hunting and gathering, with considerable emphasis on marine resources (Erlandson and Colten 1991). The following period, the Archaic (8500–1300 B.P.), is traditionally seen as encompassing both a coastal and an inland focus, with the coastal Archaic represented by the shell middens of the La Jolla complex and the inland Archaic represented by the Pauma complex. The Late Prehistoric period (1300–200 B.P.) is marked by the appearance of small projectile points indicating the use of the bow and arrow, the common use of ceramics, and the replacement of inhumations with cremations.

During the Spanish period (1769–1821), the San Diego region was subject to exploration and the establishment of permanent Spanish settlements. San Diego Presidio and the missions at



Source: ESRI 2012; SANGIS 2017; USGS Topo 7.5' Quad Del Mar, CA 1984

1,000 500 0 1,000 Feet

Scale: 1:12,000; 1 inch = 1,000 feet

Figure 5.11-1
Project APE

Path: P:\2012\60274999_SD_W19\06GIS\6.3_Layout\Reports\EIR\CulturalEIRsection.mxd, 7/18/2018, paul.moreno

San Diego and San Luis Rey were built and occupied during this period. Water has always been an important resource in the semiarid San Diego region and water projects began in the Spanish period with the construction of Padre (Mission) Dam and its 6-mile flume.

Many Spanish practices survived into the early part of the Mexican period (1821–1848). The secularization of the missions in 1834 brought notable changes to the land ownership in the region. Large tracts of land were granted to families and individuals. Cattle ranching was a major economic focus.

The American period (1848–present) began when Mexico ceded California to the United States as part of the Treaty of Guadalupe Hidalgo. While some of the previous land claims were validated, much of the land that was once part of the ranchos became available for settlement. Population movement into California was an outgrowth of several events, including the discovery of gold, the conclusion of the Civil War, the passage of the Homestead Act, the construction of connecting railways, and both World War I and II.

History of the Project Area

The project property, located along the north side of the San Dieguito River, is well within the Kumeyaay/'Iipai (southern Diegueño) territory as understood by the Spaniards and later chroniclers. The Kumeyaay are traditionally considered a hunting-gathering society characterized by central-based nomadism. With a history stretching back at least 2,000 years, the Kumeyaay at the point of contact were settled in permanent villages or Rancherias with strong alliances. During the Late Period, the mouths of major drainages were often the location for a larger settlement. Locally, examples of known Kumeyaay villages were *Kulaumai*, immediately to the north; San Elijo Lagoon at the mouth of Escondido Creek (Kroeber 1925); and to the south, *Ystagua*, in Sorrento/Soledad Valley near the mouth of a coastal confluence of several larger creeks (Carrico 1977; Carrico and Taylor 1984). It is, therefore, interesting that the early explorers and ethnographers did not record such a village at the mouth of the San Dieguito River. While the Portola expedition apparently did encounter a settlement when they crossed the river in 1769, no native name has survived to assign to this drainage (Carrico 1977:34–35).

Early historical contact in the area is documented in the records of Don Gaspár de Portolá's 1769 expedition up the California coast to Monterey to identify locations for future missions and presidios. The Portolá expedition consisted of 63 men, including Franciscan Father Juan Crespí, cartographer Miguel Costansó, and Spanish officers and soldiers. Following established trails north from the Native American village of Cosoy at Presidio Hill on July 14, the expedition reached the San Dieguito Valley the following day, camping "near a large pool of fresh water west of present day El Camino Real" (Carrico 1977:34). South of the camp among a concentration of fresh water pools was a large Kumeyaay village. After exchanges and interaction with the Kumeyaay, the expedition left the next day, following the route of today's Camino Viejo. Portolá's route was used in subsequent years by Franciscan Padre Junipero Serra as he spearheaded the establishment of presidios, missions, and pueblos from San Diego to Sonoma. General Stephen Kearney's men followed its path during the Mexican-American War and, following California's admission to the United States in 1850, the well-worn El Camino Real served as the main north-south stage route (Forbes 1915; Corle 1949; Riesenberg 1962).

Mexican Rancheros inhabited the region until California became a state in 1850. The W-19 restoration site lies outside the southwest corner of the Rancho San Dieguito, whose 8,824.71 acres were later officially deeded by the United States Government to Juliana L. Osuna and family on April 18, 1871 (California State Archives 2000: MC 4:4–183). By 1872, the area of the San Dieguito river valley between the ocean and the Rancho was occupied by six property owners.

Until the end of the 19th century, the river valley sustained ranches and agriculture. At the same time, the coastal area was being used for recreation, including the tent city of "Del Mar" owned by Ella and Theodore Loop, which lent its name to the later residential development. The land within the W-19 restoration site continued to be used primarily for agriculture in the east up until the late 2000s as multiple restoration and mitigation projects altered the landscape (County of San Diego 1956, 2009).

Records Search

A California Historical Resources Information System (CHRIS) cultural resources records search for the proposed project APE and a 0.05-mile radius was conducted by Dokken Engineering in February 2011 at the Southern California Information Center (SCIC) and was updated by AECOM on July 17, 2015. The records search provides background information about the number and types of archaeological sites that might be present within the W-19 restoration site and vicinity. The records searches revealed that 179 investigations have been reported within a 1-mile radius of the W-19 restoration site. Of these 179 reports, 36 intersected the project APE. These investigations consisted of seven EIRs, four Finding-of-Effects reports, six inventory reports, five monitoring reports, seven survey reports, two survey and evaluation/testing reports, one general overview, two records searches, one supplemental project report, and one technical report. The entirety of the APE has been previously surveyed two times (USFWS and San Dieguito River Park JPA 2000; Hector and Brewster 2002) and 90 percent of the APE a total of three times (Gallegos et al. 1988; Berryman and Woodman 2000; Byrd and O'Neill 2002). Historical aerials were also consulted during initial investigations.

At least 116 archaeological resources have been recorded within a 1-mile radius of the APE. These consist of 39 prehistoric isolates, one cairn isolate of undetermined age, 63 prehistoric sites, five historic sites, and five multicomponent sites. Two sites (CA-SDI-192 and -193) have no description and CA-SDI-5370 is fossilized shell that was found not to be an archaeological resource. Of the 116 archaeological resources identified in the records search, nine cultural resources were previously identified within the archaeological APE for the project. Four of these are prehistoric isolates (P-37-14760, -14761, -14764, -14765), three are prehistoric shell scatters with lithic components (CA-SDI-7291, -7293, -10118), one is a prehistoric shell scatter with pit feature (CA-SDI-20032), and one is a historic refuse scatter (CA-SDI-10535). Prehistoric isolate P-37-14761 was previously recorded 39 feet outside of the APE but was later observed within the APE.

During review of the Draft EIR for the project, the City of San Diego Archaeological staff discovered additional information regarding an archaeological site in proximity to the W-19 site (P-37_8225H/CA-SDI-8225H) that was originally recorded in 1980 and updated in 1983. The

site was further expanded during monitoring and data recovery for another project. However, a site form was never prepared to reflect new information, which included the discovery of human remains.

A Sacred Lands File Search was requested from the Native American Heritage Commission (NAHC) on June 10, 2015, for the W-19 restoration site and a 1-mile radius. On September 25, 2015, all 13 groups identified by the NAHC were contacted by mail. Two responses, from the Inaja Cosmit Band of Mission Indians and the Kwaaymii Laguna Band of Mission Indians, were received and neither had comments.

Tribal Cultural Resources

Although this EIR was initiated before AB 52 took effect and the project is not required to meet the requirements of that regulation, potential impacts to Tribal cultural resources are considered in the context of the cultural resources discussion and analysis. Under AB 52, a Tribal cultural resource is identified as a site, feature, place, cultural landscape, sacred place or object, which is of cultural value to a Tribe; and is either on or eligible for the California Historic Register or a local historic register; or the lead agency, at its discretion chooses to treat the resource as a Tribal cultural resource (PRC Section 21074). Additionally, California Native American Tribes are those included "on the contact list maintained by the NAHC for the purposes of Chapter 905 of the Statues of 2004a" (PRC Section 21073). Of the resources identified by the records search, five archaeological sites are located within the project area, however, none were found to be eligible for the California Historic Register.

Field Survey

AECOM conducted a pedestrian survey on September 9 and 10, 2015, to identify cultural resources in the APE (Appendix N). The APE in general was very disturbed and overgrown with vegetation, and much of it was inaccessible. Overall visibility across the APE averaged 10 percent or less. The survey resulted in the relocation of one previously recorded isolated mano (P-37-14761) and two previously recorded prehistoric shell scatter sites (CA-SDI-20032 and CA-SDI-7291). One newly identified prehistoric shell scatter site was found during the survey (SDL-S-1). Four previously recorded sites and four previously recorded isolates were not relocated during the survey. This is likely due to disturbances related to previous agricultural practices, restoration efforts, and grading for vehicular and pedestrian roadways, which may have destroyed the resources, or displacement as a result of heavy ground disturbance and/or visibility limitations related to dense vegetation growth since these resources were originally recorded.

Due to the presence of shell at two of the sites, a subsurface survey was conducted on October 8 and 9, 2015, utilizing hand-held augers to determine whether sites P-37-31581 and SDL-S-1 contained a subsurface deposit. No subsurface presence was identified for either site. Due to the lack of artifacts or other items that would yield information about the activities at these two sites, both sites were found not eligible for the National Register of Historic Places (NRHP) or California Register of Historical Resources (CRHR).

5.11.2 IMPACT THRESHOLDS

A significant impact would occur if implementation of the proposed project would:

A. Result in an alteration, including the adverse physical or aesthetic effects and/or the destruction of a prehistoric or historic building (including an architecturally significant building), structure, or object or site;

B. Result in any impact to existing religious or sacred uses within the potential impact area; or

C. Result in the disturbance of any human remains, including those interred outside of formal cemeteries.

The CEQA impact thresholds for cultural resources are those recommended by the City of San Diego Development Services Department.

5.11.3 IMPACT ANALYSIS

The impact analysis addresses both archaeological and built environment resources for the proposed project, including lagoon restoration, materials disposal, and wetlands maintenance.

W-19 Restoration

Archaeological Resources

As discussed in Section 5.11.1, no known significant archaeological sites or Tribal cultural resources have been identified in or directly adjacent to the W-19 restoration site. While no CRHR- or NRHP-eligible archaeological properties within the proposed project APE will be adversely affected, much of the W-19 restoration site is covered in young alluvium, which could cap buried stable surfaces that may contain archaeological resources. Grading activities for the proposed project have the potential to encounter previously unidentified, potentially significant archaeological resources in these stable sediments, particularly in the margins of the lagoon where human activities may have been obscured by the deposition of these younger alluvial soils by seasonal flooding. **The potential for physical impact to, or destruction of, archaeological resources would be considered a significant impact (Criterion A).**

No existing religious or sacred uses have been identified within the W-19 restoration site. **The proposed project would have no impact to existing religious or sacred uses within the potential impact area (Criterion B).**

Although there is no evidence for the presence of human remains within the W-19 project site, based on an unrecorded discovery of human remains in proximity to the project area as described under the Record Search discussion above, there may be a potential for encountering human remains during ground-disturbing activities. **Thus, the unanticipated presence of human remains within the W-19 site would be considered potentially significant (Criteria C). ~~There is no evidence indicating the possible presence of human remains within the~~**

~~**proposed project site and no impact due to the disturbance of human remains is anticipated (Criterion C).**~~

Built Environment Resources

As discussed in Section 5.11.1, no built environment resources have been identified in or directly adjacent to the W-19 restoration site. The records search did not identify any previously recorded built environment resources within the W-19 restoration site. **No impact would result to existing built environment resources (Criterion A).**

Materials Disposal

Archaeological Resources

No previously recorded archaeological sites or existing religious or sacred uses have been identified within the proposed disposal site. The proposed site includes both previously undisturbed areas and areas that have been graded. Up to 3 feet of excavation could occur within the previously undisturbed portion of the disposal site to salvage topsoil. Areas from previously undisturbed portions of the disposal site were not adequately surveyed due to access issues or poor visibility from dense vegetation. Additionally, the hillside setting of the proposed project disposal site may have the potential for buried sites below the level of previous disturbance and current hillside ground surface level due to alluvial soil runoff. **Therefore, the W-19 restoration site may have the potential for resources to be present during excavation of previously undisturbed portions of the disposal site; thus, potential for physical impact to, or destruction of, archaeological resources due to materials disposal activities would be significant (Criterion A).**

The proposed project disposal site would have no impact to existing religious or sacred uses within the potential impact area, and there is no evidence indicating the possible presence of human remains within the proposed disposal site; therefore, no impacts are anticipated (Criteria B and C).

Although there is no evidence for the presence of human remains within the W-19 disposal site, based on an unrecorded discovery of human remains in proximity to the project area as described under the Record Search discussion above, there may be a potential for encountering human remains during ground-disturbing activities. **Thus, the unanticipated presence of human remains within the W-19 disposal site would be considered potentially significant (Criteria C).** ~~**There is no evidence indicating the possible presence of human remains within the proposed disposal site; therefore, no impacts are anticipated (Criterion C).**~~

Built Environment Resources

As discussed in Section 5.11.1, no built environment resources have been identified in or directly adjacent to the proposed disposal site. The records search did not identify any previously recorded built environment resources within the proposed project disposal site. **No impact would result to existing built environment resources (Criterion A).**

W-19 Wetland Maintenance

Archaeological Resources

Material removed during sediment maintenance would be alluvial sediment carried downstream and deposited in the lagoon during severe storm events. Therefore, intact cultural resources would not occur within this recently transported sediment, and its removal would not result in impacts to cultural resources. Beach placement of this sediment would not require disturbance of underlying sediment, so there is no risk of encountering previously unidentified resources during material placement. Additionally, environmental documentation from the SCE restoration project found no CRHR- or NRHP-eligible archaeological properties within the placement sites, so known archaeological resources would not be altered or destroyed as a result of the proposed project. **Impacts related to the alteration or destruction of cultural resources would be less than significant (Criterion A).**

No existing religious or sacred uses have been identified within the W-19 restoration site or placement sites, and there is no evidence indicating the possible presence of human remains within the restoration site or the placement sites. Additionally, as described above, sediment maintenance activities would remove only surficial sediment deposited during storm events and would not disturb any previously unknown buried resources. **Therefore, the proposed project would have no impact to existing religious or sacred uses and would not result in the disturbance of human remains (Criteria B and C).**

Built Environment Resources

As discussed in Section 5.11.1, no built environment resources have been identified in or directly adjacent to the W-19 restoration site or placement sites. The records search did not identify any previously recorded built environment resources within the proposed project restoration site or placement sites. **No impact would result to existing built environment resources (Criterion A).**

5.11.4 SIGNIFICANCE OF IMPACTS

Table 5.11-1 summarizes the impact conclusions identified in the Impact Analysis for each threshold of significance. Significant impacts due to potential alteration of unknown prehistoric resources during excavation at the W-19 or disposal sites would occur.

Table 5.11-1
Summary of Cultural Resources Impact Conclusions

Threshold	W-19 Restoration	Materials Disposal	W-19 Inlet Maintenance
A. Result in an alteration, including the adverse physical or aesthetic effects and/or the destruction of a prehistoric or historic building (including an architecturally significant building), structure, or object or site	Significant	Significant	Less Than Significant
B. Result in any impact to existing religious or sacred uses within the potential impact area	No Impact	No Impact	No Impact
C. Result in the disturbance of any human remains, including those interred outside of formal cemeteries	~~No Impact~~Significant	~~No Impact~~Significant	No Impact

5.11.5 MITIGATION MEASURES

Archaeological resources or buried human remains, if present onsite, could be substantially damaged or destroyed during excavation of underlying stable sediments within the W-19 restoration site or previously undisturbed portion of the proposed disposal site. The potential for damage or destruction of archaeological resources or human remains would be considered a significant impact.

Implementation of Mitigation Measure Cultural-1 would reduce proposed project impacts to archaeological resources to less than significant levels (Section 5.11.4). ~~There is no evidence for the presence of human remains within the W-19 restoration site and proposed disposal site, but should human remains be encountered during ground-disturbing activities conducted as part of the proposed project~~ Although there is no evidence for the presence of human remains within the W-19 restoration site and proposed disposal site, based on information regarding the discovery of human remains in proximity to these areas, there may be a potential for encountering human remains during ground-disturbing activities for the proposed project and therefore, the applicable sections of Mitigation Measure Cultural-1 would be implemented to ensure impacts are less than significant.

Cultural-1

I. Prior to Permit Issuance (for projects that include ground disturbance)

A. Entitlements Plan Check

1. Prior to issuance of any construction permits, including, but not limited to, the first Grading Permit, Demolition Plans/Permits and Building Plans/Permits, but prior to the first preconstruction (precon) meeting, whichever is applicable, the Project Archaeologist shall verify that the requirements for archaeological monitoring and Native American monitoring have been noted on the applicable construction documents through the plan check process.

B. Letters of Qualification Have Been Submitted to Project Archaeologist

1. The project's cultural resources consultant shall submit a letter of verification to Mitigation Monitoring Coordination (MMC) identifying the Principal Investigator (PI) for the project and the names of all persons involved in the archaeological monitoring program, as defined in the City of San Diego Historical Resources Guidelines (City of San Diego 1999). If applicable, individuals involved in the archaeological monitoring program must have completed the 40-hour HAZWOPER (Hazardous Waste Operations and Emergency Response) training with certification documentation.
2. MMC would provide a letter to the project's cultural resources consultant confirming the qualifications of the PI and all persons involved in the archaeological monitoring of the project meet the qualifications established in the Historical Resources Guidelines.
3. Prior to the start of work, the project's cultural resources consultant must obtain written approval from MMC for any personnel changes associated with the monitoring program.

II. Prior to Start of Construction

A. Verification of Records Search

1. The PI shall provide verification to MMC that a site-specific records search (quarter-mile radius) has been completed. Verification includes, but is not limited to, a copy of a confirmation letter from SCIC, or, if the search was in-house, a letter of verification from the PI stating that the search was completed.
2. The letter shall introduce any pertinent information concerning expectations and probabilities of discovery during trenching and/or grading activities.
3. The PI may submit a detailed letter to MMC requesting a reduction to the quarter-mile radius.

B. PI Shall Attend Precon Meetings

1. Prior to beginning any work that requires monitoring; the JPA and Corps shall arrange a precon meeting that shall include the PI, Native American consultant/monitor (where Native American resources may be impacted), Construction Manager (CM) and/or Grading Contractor, Resident Engineer (RE), Building Inspector (BI), if appropriate, and MMC. The qualified archaeologist and Native American monitor shall attend any grading/excavation-related precon meetings to make comments and/or suggestions concerning the archaeological monitoring program with the CM and/or Grading Contractor.
    a. If the PI is unable to attend the precon meeting, the JPA and Corps shall schedule a focused precon meeting with MMC, the PI, RE, CM or BI, if appropriate, prior to the start of any work that requires monitoring.

2. Identify Areas to Be Monitored

    a. Prior to the start of any work that requires monitoring, the PI shall submit an Archaeological Monitoring Exhibit (AME) (with verification that the AME has been reviewed and approved by the Native American consultant/monitor when Native American resources may be impacted) based on the appropriate construction documents (reduced to 11 inches x 17 inches) to MMC identifying the areas to be monitored, including the delineation of grading/excavation occurring within stable undisturbed sediments.

    b. The AME shall be based on the results of a site-specific records search as well as information regarding existing known soil conditions (native or formation).

3. When Monitoring Will Occur

    a. Prior to the start of any work, the PI shall also submit a construction schedule to MMC through the RE indicating when and where monitoring would occur.

    b. The PI may submit a detailed letter to MMC prior to the start of work or during construction requesting a modification to the monitoring program. This request shall be based on relevant information such as review of final construction documents that indicate site conditions such as depth of excavation and/or site graded to bedrock, etc. that may reduce or increase the potential for resources to be present.

III. During Construction

A. Monitor(s) Shall Be Present during Grading/Excavation/Trenching

1. The Archaeological Monitor shall be present full time during soil-disturbing and grading/excavation/trenching activities into stable undisturbed sediments that could result in impacts to archaeological resources as identified on the AME. The CM is responsible for notifying the RE, PI, and MMC of changes to any construction activities such as in the case of a potential safety concern within the area being monitored. In certain circumstances, Occupational Safety and Health Administration safety requirements may necessitate modification of the AME.

2. The Native American consultant/monitor shall determine the extent of their presence during soil-disturbing and grading/excavation/trenching activities based on the AME and provide that information to the PI and MMC. If prehistoric resources are encountered during the Native American consultant/monitor's absence, work shall stop and the Discovery Notification Process detailed in Section III.B–C and IV.A–D shall commence.

3. The PI may submit a detailed letter to MMC during construction requesting a modification to the monitoring program when a field condition such as modern disturbance post-dating the previous grading/trenching activities, presence of fossil formations, or when native soils are encountered that may reduce or increase the potential for resources to be present.

4. The Archaeological Monitor and Native American consultant/monitor shall document field activity via the Consultant Site Visit Record (CSVR). The CSVRs

shall be faxed by the CM to the RE the first day of monitoring, the last day of monitoring, monthly (Notification of Monitoring Completion), and in the case of ANY discoveries. The RE shall forward copies to MMC.

B. Discovery Notification Process

1. In the event of a discovery, the Archaeological Monitor shall direct the contractor to temporarily divert all soil-disturbing activities including, but not limited to, digging, trenching, excavating, or grading activities in the area of discovery and in the area reasonably suspected to overlay adjacent resources and immediately notify the RE or BI, as appropriate.
2. The Archaeological Monitor shall immediately notify the PI (unless Monitor is the PI) of the discovery.
3. The PI shall immediately notify MMC by phone of the discovery, and shall also submit written documentation to MMC within 24 hours by fax or email with photos of the resource in context, if possible.
4. No soil shall be exported offsite until a determination can be made regarding the significance of the resource, specifically if Native American resources are encountered.

C. Determination of Significance

1. The PI and Native American consultant/monitor, where Native American resources are discovered, shall evaluate the significance of the resource. If human remains are involved, follow protocol in Section IV below.
    a. The PI shall immediately notify MMC by phone to discuss significance determination and shall also submit a letter to MMC indicating whether additional mitigation is required.
    b. If the resource is significant, the PI shall submit an Archaeological Data Recovery Program that has been reviewed by the Native American consultant/monitor, and obtain written approval from MMC. Impacts to significant resources must be mitigated before ground-disturbing activities in the area of discovery would be allowed to resume. Note: If a unique archaeological site is also a historical resource as defined in CEQA, then the limits on the amount(s) that the project may be required to pay to cover mitigation costs as indicated in CEQA Section 21083.2 shall not apply.
    c. If the resource is not significant, the PI shall submit a letter to MMC indicating that artifacts would be collected, curated, and documented in the Final Monitoring Report. The letter shall also indicate that that no further work is required.

IV. Discovery of Human Remains

If human remains are discovered, work shall halt in that area and no soil shall be exported offsite until a determination can be made regarding the provenance of the human remains, and the following procedures as set forth in CEQA Section 15064.5(e), Cal. Pub. Res.

Code (Section 5097.98) and State Health and Safety Code (Section 7050.5) shall be undertaken:

A. Notification

1. Archaeological Monitor shall notify the RE or BI as appropriate, MMC, and the PI, if the Monitor is not qualified as a PI. MMC would notify the appropriate Senior Planner in the Environmental Analysis Section (EAS) of the Development Services Department to assist with the discovery notification process.
2. The PI shall notify the Medical Examiner after consultation with the RE, either in person or via telephone.

B. Isolate Discovery Site

1. Work shall be directed away from the location of the discovery and any nearby area reasonably suspected to overlay adjacent human remains until a determination can be made by the Medical Examiner in consultation with the PI concerning the provenance of the remains.
2. The Medical Examiner, in consultation with the PI, would determine the need for a field examination to determine the provenance.
3. If a field examination is not warranted, the Medical Examiner would determine with input from the PI whether the remains are, or are most likely to be, of Native American origin.

C. If Human Remains Are Determined to Be Native American

1. The Medical Examiner would notify the NAHC within 24 hours. By law, only the Medical Examiner can make this call.
2. The NAHC would immediately identify the person or persons determined to be the Most Likely Descendant (MLD) and provide contact information.
3. The MLD would contact the PI within 24 hours or sooner after the Medical Examiner has completed coordination, to begin the consultation process in accordance with CEQA Section 15064.5(e), the Cal. Pub. Res. Code and California Health and Safety Codes.
4. The MLD would have 48 hours to make recommendations to the JPA and Corps or representative, for the treatment or disposition with proper dignity, of the human remains and associated grave goods.
5. Disposition of Native American human remains would be determined between the MLD and the PI, and, if:
    a. The NAHC is unable to identify the MLD, or the MLD failed to make a recommendation within 48 hours after being notified by the NAHC; OR;
    b. The JPA and Corps or authorized representative rejects the recommendation of the MLD and mediation in accordance with Cal. Pub. Res. Code 5097.94 (k) by the NAHC fails to provide measures acceptable to the JPA and Corps, then,
    c. In order to protect these sites, the JPA and Corps shall do one or more of the following:

(1) Record the site with the NAHC;

(2) Record an open space or conservation easement on the site;

(3) Record a document with the County.

d. Upon the discovery of multiple Native American human remains during a ground-disturbing land development activity, the JPA and Corps may agree that additional conferral with descendants is necessary to consider culturally appropriate treatment of multiple Native American human remains. Culturally appropriate treatment of such a discovery may be ascertained from review of the site utilizing cultural and archaeological standards. Where the parties are unable to agree on the appropriate treatment measures, the human remains and cultural materials buried with Native American human remains shall be reinterred with appropriate dignity, pursuant to Section 5.c., above.

D. If Human Remains Are Not Native American

1. The PI shall contact the Medical Examiner with notification of the historic era context of the burial.

2. The Medical Examiner would determine the appropriate course of action with the PI and JPA and Corps staff (Cal. Pub. Res. Code 5097.98).

3. If the remains are of historic origin, they shall be appropriately removed and conveyed to the San Diego Museum of Man for analysis. The decision for interment of the human remains shall be made in consultation with MMC, EAS, any known descendant group, and the San Diego Museum of Man.

V. Night and/or Weekend Work

A. If Night and/or Weekend Work Is Included in the Contract

1. When night and/or weekend work is included in the contract package, the extent and timing shall be presented and discussed at the precon meeting.

2. The following procedures shall be followed.

a. No Discoveries

In the event that no discoveries were encountered during night and/or weekend work, the PI shall record the information on the CSVR and submit to MMC via fax by 8 a.m. of the next business day.

b. Discoveries

All discoveries shall be processed and documented using the existing procedures detailed in Sections III – During Construction, and IV – Discovery of Human Remains. Discovery of human remains shall always be treated as a significant discovery.

c. Potentially Significant Discoveries

If the PI determines that a potentially significant discovery has been made, the procedures detailed under Section III – During Construction and IV – Discovery of Human Remains shall be followed.

d. The PI shall immediately contact MMC, or by 8 a.m. of the next business day, to report and discuss the findings as indicated in Section III-B, unless other specific arrangements have been made.

B. If Night and/or Weekend Work Becomes Necessary during the Course of Construction

1. The CM shall notify the RE, or BI, as appropriate, a minimum of 24 hours before the work is to begin.

2. The RE, or BI, as appropriate, shall notify MMC immediately.

C. All Other Procedures Described Above Shall Apply, as Appropriate.

VI. Post-Construction

A. Preparation and Submittal of Draft Monitoring Report

1. The PI shall submit two copies of the Draft Monitoring Report (even if negative), prepared in accordance with the Historical Resources Guidelines that describes the results, analysis, and conclusions of all phases of the Archaeological Monitoring Program (with appropriate graphics) to MMC for review and approval within 90 days following the completion of monitoring. It should be noted that if the PI is unable to submit the Draft Monitoring Report within the allotted 90-day timeframe resulting from delays with analysis, special study results, or other complex issues, a schedule shall be submitted to MMC establishing agreed-upon due dates and the provision for submittal of monthly status reports until this measure can be met.

a. For significant archaeological resources encountered during monitoring, the Archaeological Data Recovery Program shall be included in the Draft Monitoring Report.

b. Recording Sites with State of California Department of Parks and Recreation

The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) any significant or potentially significant resources encountered during the Archaeological Monitoring Program in accordance with the City's Historical Resources Guidelines, and submittal of such forms to the SCIC with the Final Monitoring Report.

2. MMC shall return the Draft Monitoring Report to the PI for revision or for preparation of the Final Report.

3. The PI shall submit revised Draft Monitoring Report to MMC for approval.

4. MMC shall provide written verification to the PI of the approved report.

5. MMC shall notify the RE or BI, as appropriate, of receipt of all Draft Monitoring Report submittals and approvals.

B. Handling of Artifacts

1. The PI shall be responsible for ensuring that all cultural remains collected are cleaned and catalogued.

2. The PI shall be responsible for ensuring that all artifacts are analyzed to identify function and chronology as they relate to the history of the area; that faunal material is identified as to species; and that specialty studies are completed, as appropriate.

3. The cost for curation is the responsibility of the property owner.

C. Curation of Artifacts: Accession Agreement and Acceptance Verification

1. The PI shall be responsible for ensuring that all artifacts associated with the survey, testing, and/or data recovery for this project are permanently curated with an appropriate institution. This shall be completed in consultation with MMC and the Native American representative, as applicable.

2. The PI shall include the Acceptance Verification from the curation institution in the Final Monitoring Report submitted to the RE or BI and MMC.

3. When applicable to the situation, the PI shall include written verification from the Native American consultant/monitor indicating that Native American resources were treated in accordance with state law and/or applicable agreements. If the resources were reinterred, verification shall be provided to show what protective measures were taken to ensure no further disturbance occurs in accordance with Section IV – Discovery of Human Remains, Subsection 5.

D. Final Monitoring Report(s)

1. The PI shall submit one copy of the approved Final Monitoring Report to the RE or BI as appropriate, and one copy to MMC (even if negative), within 90 days after notification from MMC that the draft report has been approved.

2. The RE shall, in no case, issue the Notice of Completion and/or release of the Performance Bond for grading until receiving a copy of the approved Final Monitoring Report from MMC that includes the Acceptance Verification from the curation institution.

Implementation of Mitigation Measure Cultural-1 would reduce proposed project impacts to cultural resources to less than significant levels (Section 5.11.4).

5.12 PALEONTOLOGICAL RESOURCES

Paleontological resources include fossilized remains or traces of prehistoric plants or animals, with the exception of human remains, as well as the deposits associated with those remains. These resources can include bones and teeth as well as materials such as shells and wood. Paleontological resources are located in the geologic deposits in which they were originally buried, and can often provide a valuable record of historical environmental conditions, depending on the age and the characteristic of the formation. These resources represent limited, nonrenewable, and sensitive scientific and educational resources.

Based on past studies and findings throughout the San Diego region, local geologic formations have been assigned paleontological resource sensitivities, which indicate their potential to contain paleontological resources of scientific importance.

Several studies have been completed to characterize geologic formations in the region, as well as their potential for containing paleontological resources. The following analysis is based on the baseline conditions established in Paleontological Resources, San Diego County, California (Deméré and Walsh 2003), and the Preliminary Geotechnical Report, San Dieguito Lagoon Restoration Plan (Geocon 2011).

5.12.1 EXISTING CONDITIONS

Regulatory Setting

A full description of the regulatory setting for this document can be found in Appendix E. The following laws, regulations, policies, and plans are applicable to this resource area:

- Administrative Code; Title 14, Section 4307

Title 14 Section 4307 requires that no person shall remove, injure, deface, or destroy any object of paleontological, archaeological, or historical interest or value.

Due to the relationship between fossils and geologic formations in which they can occur, the geology of an area provides a reasonable basis for predicting the potential for the presence of paleontological resources. The proposed project site is located within the Coastal Plain and Western Foothill Slopes region of the Peninsular Ranges Province. The Coastal Plain region is underlain by a sequence of marine and nonmarine sedimentary rock units deposited over the last 140 million years. During that time, the region experienced periods of extensive sea level rise and fall, and there are now ancient marine rocks preserved at elevations of up to around 900 feet above sea level. Faulting related to the local La Nación and Rose Canyon Fault Zones has broken up the sedimentary sequence in the Coastal Plain region into a number of distinct fault blocks in the southwestern portion of San Diego County. In the northern area of the county, including the project site, the effects of faulting are not as great and the rock units are relatively undeformed (Deméré and Walsh 2003).

As discussed in Section 5.5, Geology/Soils, the W-19 restoration site is underlain by later Quaternary (Holocene and late Pleistocene) alluvial floodplain deposits (Qya). This deposit type is classified as alluvial sediments of relatively recent age (i.e., generally younger than 10,000 years old). These sediments consist of poorly consolidated clays, silts, sands, and gravels generally laid down by ephemeral streams, and are categorized by Deméré and Walsh as having low resource potential. The disposal site and nearby portions of the haul routes are underlain by marine terrace deposits, which are assigned a moderate to high resource sensitivity based upon the occurrence of diverse and well-preserved assemblages of marine invertebrate fossils and rare vertebrate fossils. Haul routes are located in already disturbed areas and no excavation is required; therefore, additional impacts related to haul routes are not discussed further in this section. The beach sites proposed for material placement during wetlands maintenance are dynamic coastal areas which have previously been utilized for sand placement by the SCE restoration project and are highly unlikely to contain intact paleontological resources.

5.12.2 IMPACT THRESHOLDS

A significant impact would occur if implementation of the proposed project would:

A. Require over 1,000 cubic yards of excavation in a high resource potential geologic deposit/formation/rock unit; or

B. Require over 2,000 cubic yards of excavation in a moderate resource potential geologic deposit/formation/rock unit.

The CEQA impact thresholds for paleontological resources are those recommended by the City of San Diego Development Services Department (City of San Diego 2011).

5.12.3 IMPACT ANALYSIS

While there is a predictive relationship between fossils and the geologic formations in which they are contained, paleontological resources are typically irregularly dispersed throughout a geologic formation, both horizontally and vertically, and it is not possible to predict the specific location of fossils within a particular formation.

Direct impacts to a paleontological resource, which could include both destruction and alteration of the resource, could result from ground-disturbing activities that disrupt subsurface geologic formations. These activities could include, but are not limited to, grading, excavation, trenching, boring, and tunneling. Indirect impacts to paleontological resources are not caused by project implementation, but rather may be reasonably foreseeable results of project implementation at a later time. For example, increased erosion as a result of project construction, or the unauthorized tampering or removal of a fossil or paleontological resource from a project site, could result in the destruction or loss of surface fossils. Activities that place material on top of existing surface areas, such as placement of material to level a surface, do not typically have the potential to adversely impact subsurface resources.

W-19 Restoration

Grading for the proposed project would remove approximately 1.1 mcy of soil from the W-19 site to attain the desired elevations. As described in the Paleontological Identification Report (Appendix O), the later Quaternary alluvial sediments that underlie the W-19 restoration site are assigned a low paleontological resource sensitivity because of their young age and location within the Coastal Plain region. Therefore, grading under W-19 would not disturb geologic deposit/formation/rock units with moderate or high resource potential. **Impacts to paleontological resources as a result of lagoon restoration would be less than significant (Criteria A and B).**

Materials Disposal

Activities related to materials disposal would disturb both alluvial deposits and marine terrace deposits. Approximately 340 cy of sediment would be disturbed from surficial grading. Additionally, up to 3 feet of excavation could occur within the previously undisturbed portion of the disposal site to salvage topsoil. Although all of this material would not be composed of marine terrace deposit, calculations were performed assuming only marine terrace deposit material and 3 feet of excavation throughout the previously undisturbed portion of the site in order to ensure a conservative analysis. Three feet of excavation across this previously undisturbed area would result in approximately 27,500 cy of ground disturbance. Materials disposal activities would result in the disturbance of more than 1,000 cy of moderate to high resource potential material. **This would result in a potentially significant impact to paleontological resources (Criteria A and B).**

W-19 Wetlands Maintenance

Post-storm sediment maintenance activities would only involve disturbance of recently deposited alluvial sediment and placement of that sediment on the beach. As described earlier in this section, alluvial sediments are considered to have low resource potential. Placement of this material on the beach would not require disturbance of any underlying formations, and the beach is a generally dynamic environment unlikely to contain undiscovered paleontological resources. **Therefore, wetlands maintenance and other adaptive management activities would not result in impacts to paleontological resources (Criteria A and B).**

5.12.4 SIGNIFICANCE OF IMPACTS

Table 5.12-1 summarizes the impact conclusions identified in the Impact Analysis for each threshold of significance. Impacts associated with paleontological resources at the restoration site would be less than significant, but there is a potentially significant impact from disposal site activities.

Table 5.12-1
Summary of Paleontological Resources Impact Conclusions

Threshold	W-19 Restoration	Materials Disposal	W-19 Inlet Maintenance
A. Require over 1,000 cubic yards of excavation in a high resource potential geologic deposit/formation/rock unit.	Less than Significant	Significant	No Impact
B. Require over 2,000 cubic yards of excavation in a moderate resource potential geologic deposit/formation/ rock unit.	Less than Significant	Significant	No Impact

5.12.5 MITIGATION MEASURES

Implementation of the proposed project would require disturbance of approximately 27,500 cy of soils that have a moderate to high resource potential and there is a potentially significant impact related to paleontological resources. With the implementation of Mitigation Measure Paleo-1, the significance of potential impacts to paleontological resources would be reduced to less than significant.

Paleo-1

A paleontological monitor shall be onsite on a full-time basis during the initial cutting of previously undisturbed deposits of moderate to high paleontological significance (marine terrace deposits) within the disposal site to inspect exposures for contained fossils. (A paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil materials. The paleontological monitor should work under the direction of a qualified paleontologist.) As grading progresses, the qualified paleontologist and paleontological monitor shall have the authority to reduce the scope of the monitoring program to an appropriate level if it is determined that the potential for impacts to paleontological resources is lower than anticipated.

5.13 PUBLIC SERVICES AND UTILITIES

This section summarizes the public services and utilities within the project area, including the disposal site. Public utilities and infrastructure can include telephone and cable lines, gas lines and oil pipelines, wastewater and sewer outfalls/access/structures, solid waste disposal sites, natural gas lines, electrical transmission lines, and utility poles. Because this restoration project does not increase the demand for public services or utilities, this analysis focuses on impacts related to the potential for disruption of service and infrastructure. Additionally, no utilities are present on the material placement site; therefore, those locations are not addressed in this analysis. Information in this section is derived from project field surveys and service provider information, as referenced in the text, as well as Preliminary Utility Plans for the proposed project (Appendix P).

5.13.1 EXISTING CONDITIONS

Regulatory Setting

A full description of the regulatory setting for this document can be found in Appendix E. The following laws, regulations, policies, and plans are applicable to this resource area:

- California Government Code, Section 4216: Protection of Underground Infrastructure
- Public Utilities Code [California Public Utilities Commission General Order 131-D]

A variety of utility infrastructure traverses the W-19 restoration site. Multiple service providers, jurisdictions, and agencies own and maintain these utilities. The existing utility infrastructure is described below. No public services, including lifeguard/police service and services such as libraries and schools, would be affected by the proposed project. These public services are not discussed further.

The relevant policies and regulations regarding public services and utilities, both at the W-19 site and the disposal site, are summarized in this section. A comprehensive description of applicable regulatory laws, plans, policies, and regulations is provided in Appendix E.

W-19 Restoration

SDG&E holds a utility easement for a 150-foot-wide corridor that traverses the W-19 restoration site, as shown in Figure 3-7. The majority of the utilities present on the project site are consolidated within this corridor. Beyond the northern terminus of the berm, many of the utilities cross under the San Dieguito River on the northern boundary of the restoration site. As described in Section 5.5, Geology/Soils, these utilities are currently vulnerable to exposure during storm events at the point where they cross under the river (Appendix D).

Electricity

SDG&E provides electrical service to the San Diego region, including the project area. The utility corridor described above contains three 69-kV SDG&E power transmission lines, one of

which also includes a 12-kV underbuilt distribution line, in addition to a number of other utilities, as described below. A separate set of SDG&E poles, including five wooden and one steel foundation pole, currently carry a 69-kV transmission line and a 12-kV distribution line across the project area to the west of the utility corridor. A smaller SDG&E 12-kV overhead line runs along the southern side of El Camino Real, outside the boundary of the W-19 restoration site.

Gasoline/Oil Pipelines

Kinder Morgan owns one 16-inch high-pressure petroleum pipeline and one 10-inch pipeline (currently dormant) that traverse the W-19 restoration site within the SDG&E utility corridor. The pipelines are used to carry fuels (gasoline and oil) between Los Angeles and San Diego counties.

Gas

SDG&E owns a 30-inch, 595-PSI (pounds per square inch) gas transmission line traversing the W-19 restoration site within the utility corridor.

Cable/Telephone Lines

Three fiber-optic lines are buried within the limits of the utility corridor across the W-19 restoration site; two are owned by Cox Communication and one is owned by NextG Communications. An overhead AT&T telephone line is present on the southern side of El Camino Real, outside the boundary of the W-19 restoration site.

Disposal Site

There are no existing utilities within the disposal site grading limits. However, overhead electrical facilities owned by SDG&E run north-south immediately east of the disposal site.

5.13.2 IMPACT THRESHOLDS

A significant impact would occur if implementation of the proposed project would:

A. Result in a need for new systems, or require substantial alterations to existing utilities, the construction of which would create physical impacts:
   - Natural gas
   - Water
   - Sewer
   - Communication systems
   - Solid waste disposal

B. Result in the use of excessive amounts of fuel or energy (e.g., natural gas);

C. Result in the use of excessive amounts of power;

D. Result in use of excessive amounts of water; or

E. Result in landscaping which is predominantly non-drought-resistant vegetation.

The CEQA impact thresholds for public services and utilities are those recommended by the City of San Diego Development Services Department (City of San Diego 2011).

5.13.3 IMPACT ANALYSIS

W-19 Restoration

For project implementation to occur, relocation of the SDG&E electric lines (69 kV and 12 kV) that are outside of the utility corridor would be required. The City of San Diego has future plans to underground these lines within existing roadways that are planned for widening and other improvements by the City of San Diego in the near future (El Camino Real and Via de la Valle). However, if the W-19 restoration project occurs before the road improvements, the project would coordinate the relocation of these lines into the existing utility corridor. As described in Section 3.4, Project Components, relocated electrical lines would be incorporated either onto existing electrical facilities within the utility corridor that have capacity or onto new poles within an expansion of the existing utility corridor to the west. The corridor and associated easement may be expanded by up to 20 feet to accommodate the relocated lines with necessary clearances.

The relocated line would connect to existing electrical infrastructure as shown in Figure 3-7. At the northern end of the utility corridor, the line would connect to an existing utility pole west of the utility corridor and south of Via de la Valle. At the southern end of the corridor, the relocated lines would extend west along El Camino Real, approximately 10 feet from the north side of the roadway and adjacent to the proposed trail, before connecting to the existing electrical alignment. New poles installed along El Camino Real would be compliant with SDG&E pole standards and would be 60 to 70 feet high to maintain required clearances for pedestrian, bicycle, and vehicular traffic safety along the road.

The remainder of utilities located within the project area are within the utility corridor and would not be impacted by implementation of the proposed project. As stated in Section 5.13.1, there is the potential for scour of the utilities that pass under the river under existing conditions. Modeling shows, however, that implementation of the proposed project would not increase the likelihood of these utilities becoming exposed or the severity of exposure events (Appendix P). Therefore, the proposed project would not result in impacts related to the exposure or scour of these utilities.

Restoration activities within the utility corridor would include planting and related ground disturbance. Installation of rock slope protection along the elevated berm adjacent to the utility corridor would also occur, as shown in Figure 3-3. Where armoring would be installed on the slope, the ground would be dug up and protection placed. The armoring would then be placed under the finished grade, re-covered with soil, and replanted. No armoring would be placed in the river. The aboveground utilities within the utility corridor would be maintained in place and would not be impacted by the proposed project. The proposed project would not result in a need for new systems, or require substantial alterations to existing utilities. **Neither of the potential**

configurations of the relocated electrical line would result in any interruption in utility service, or any demand for an increase thereof; therefore, impacts related to utility services would not occur (Criterion A).

Construction equipment used during construction and maintenance activities would result in the consumptive use of fuel, power, and/or energy. Energy sources such as gasoline and diesel oil would be used to power construction and maintenance equipment and vehicles. Electrical power would be used for lighting. Standard construction measures, such as the minimization of idling time, would minimize the extent of these uses. **However, the project would not require any ongoing energy use once completed. Impacts related to excessive use of fuel, energy, or power would be less than significant (Criteria B and C).**

Similar to the use of energy described above, water consumption associated with the proposed project would be limited and would only be required during initial construction, the plant establishment period, and maintenance activities. Planting activities associated with the proposed project would involve minimal water use, as the majority of habitat types that would be established would be inundated by tidal waters. Restoration activities within upland/transitional areas outside of tidal influence would utilize a drought-resistant native plant palette that would require only temporary irrigation during plant establishment. **Therefore, impacts related to excessive use of water or non-drought-resistant vegetation would be less than significant (Criteria D and E).**

Materials Disposal

There are no existing utilities within the grading limits of the proposed disposal site, and the project would not create uses that would require utilities. **Therefore, impacts related to demand for or alteration of utility systems would not occur (Criterion A).** Consumption of fuel, power, energy, and water would be similar to that for the W-19 restoration site. Equipment and vehicles used in construction and maintenance activities would require the use of fuel, and electricity would be used for lighting (if necessary) during project implementation. After sediment is placed on the site and leveled, planting of a drought-tolerant palette of native plants would occur, and irrigation would only be required during the plant establishment period. **Therefore, impacts related to energy, power, water, or non-drought-resistant vegetation would be less than significant (Criteria B, C, and D). Restoration at the disposal site would utilize a drought-resistant native plant palette as described under W-19 Restoration above, and impacts would be less than significant (Criterion E).**

W-19 Wetlands Maintenance

Post-storm sediment maintenance activities, including sediment removal from W-19 and placement of material on area beaches, would not impact or require alterations to existing utilities, and would not result in a need for new utility systems. **Therefore, impacts related to utility services would not occur (Criterion A).**

Construction equipment used during maintenance activities would result in the consumptive use of fuel, power, and/or energy. Energy sources such as gasoline and diesel oil would be used to power maintenance equipment and vehicles. Electrical power would be used for lighting.

Standard construction measures, such as the minimization of idling time, would minimize the extent of these uses. **Impacts related to excessive use of fuel, energy, or power would be less than significant (Criteria B and C).**

Similar to the use of energy described above, water consumption associated with maintenance activities would be limited and would only be required following large, infrequent storm events. Any planting activities found necessary as a part of adaptive management would involve minimal water use, as the habitat types most likely to experience sedimentation would be inundated by tidal waters. Adaptive planting within those upland/transitional areas outside of tidal influence would utilize a drought-resistant native plant palette that would require only temporary irrigation during plant establishment. **Therefore, impacts related to excessive use of water or non-drought-resistant vegetation would be less than significant (Criteria D and E).**

5.13.4 SIGNIFICANCE OF IMPACTS

Table 5.13-1 summarizes the impact conclusions identified in the Impact Analysis for each threshold of significance. Impacts associated with public services and utilities would be less than significant.

Table 5.13-1
Summary of Public Services and Utilities Impact Conclusions

Threshold	W-19 Restoration	Materials Disposal	W-19 Inlet Maintenance
A. Result in a need for new systems, or require substantial alterations to existing utilities, the construction of which would create physical impacts: • Natural gas • Water • Sewer • Communication systems • Solid waste disposal.	No Impact	No Impact	No Impact
B. Result in the use of excessive amounts of fuel or energy (e.g., natural gas).	Less than Significant	Less than Significant	Less than Significant
C. Result in the excessive amounts of power.	Less than Significant	Less than Significant	Less than Significant
D. Result in use of excessive amounts of water.	Less than Significant	Less than Significant	Less than Significant
E. Result in landscaping which is predominantly non-drought resistant vegetation.	Less than Significant	Less than Significant	Less than Significant

5.13.5 MITIGATION MEASURES

The proposed project would not result in any significant impacts to public services or utilities, and no mitigation is required.

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5.14 PUBLIC HEALTH AND SAFETY

This section addresses public health and safety impacts associated with implementation of the proposed project, focusing on topics such as hazardous materials, wildland fires, vectors, and recreational safety. Flooding and flood hazards are discussed in Section 5.2, Hydrology.

This section is based largely on information from two project-specific technical studies: Phase I Environmental Site Assessment (AECOM 2015) and Preliminary Environmental Study (Appendix D to the Preliminary Technical Report [Geocon 2011]).

5.14.1 EXISTING CONDITIONS

Regulatory Setting

A full description of the regulatory setting for this document can be found in Appendix E. The following laws, regulations, policies, and plans are applicable to this resource area:

- Executive Order 12088 – Federal Compliance with Pollution Control Standards
- California Code of Regulations; Title 14 Division 1.5
- San Diego County Vector Control Program

Wildland Fire Hazards

The California Department of Forestry and Fire Protection (CAL FIRE) identifies and maps areas of high fire hazard. The project site and immediately surrounding areas are located within the San Diego Local Responsibility Area (LRA) and are designated as a Very High Fire Hazard Severity Zone (CAL FIRE 2009). The vegetation surrounding the lagoon transitions from marsh habitats into scrub habitat, with some locations of fairly dense shrub vegetation. Scrub habitat constitutes the primary vegetation found within the W-19 site. The disposal site and surrounding hillsides also contain scrub habitat. Wildland fire safety concerns exist due to the presence of relatively large expanses of native and exotic vegetation in proximity to residences and other developed areas. In most cases, these residences are separated from the areas of dense vegetation as they are located on the opposite side of roads (Via de la Valle or El Camino Real), or the river itself.

Hazardous Materials

The W-19 site is not listed as a hazardous materials site on State of California Hazardous Waste and Substances lists compiled pursuant to Government Code Section 65962.5, and no known sites are located in the immediate vicinity of the project area (AECOM 2015; DTSC 2015a, 2015b). There are no known existing or historical aboveground storage tanks (ASTs) or underground storage tanks (USTs) on the project site. There is no evidence of onsite hazardous waste generation and the site is not listed as a generator of hazardous waste in the site-specific database report (AECOM 2015). The nearest known hazardous material sites include three Leaking Underground Storage Tank (LUST) sites and one Spills, Leaks, Investigation, and Cleanups (SLIC) site as detailed in Table 5.14-1. The California State Water Board regulates

LUST and SLIC sites. A LUST site is an undergoing cleanup due to an unauthorized release from an UST system. UST regulations apply only to underground tanks and piping storing either petroleum or certain hazardous substances. The SLIC program investigates and regulates nonpermitted discharges. As noted in the table, all of the nearby LUST and SLIC site cleanup cases have been completed and closed.

Table 5.14-1
Known Hazardous Material Sites in Proximity to Project Site

Site Name	Site Type	Address	Distance from Project Site	Status
Del Mar Mobil	LUST	2750 Via de la Valle	Approximately 0.25 mile	Completed, Case Closed as of 1991
Rancho Car Wash	LUST	2661 Via de la Valle	Approximately 0.25 mile	Completed, Case Closed as of 2010
David Plank	LUST	14905 El Camino Real	Approximately 0.5 mile	Completed, Case Closed as of 1997
Evangelica Formosan Church	SLIC	14900 El Camino Real	Approximately 0.5 mile	Completed, Case Closed as of 2007
San Dieguito Wetlands Restoration Project	LUST	SCE Restoration Site, W-1 Pond	Approximately 0.5 mile	Completed, Case Closed as of 2009
San Dieguito Wetlands Restoration Project	Cleanup Site	SCE Restoration Site, W-1 Pond	Approximately 0.5 mile	Completed, Case Closed as of 2012

LUST = leaking underground storage tank
Source: AECOM 2015; DTSC 2015a,b

Due to historical agricultural use of the project site, 16 soil samples were taken and analyzed per appropriate test methods for a variety of hazardous materials, including arsenic, organochlorine pesticides (OCPs), organophosphorus pesticides (OPPs), and chlorinated herbicides as detailed in the Preliminary Geotechnical Report (Geocon 2011).

The laboratory analytical results are summarized below:

- Arsenic was not reported at concentrations above the laboratory reporting limit in the 16 soil samples.
- OPPs and chlorinated herbicides were not reported at concentrations above the laboratory reporting limit in the four soil samples analyzed.
- 4,4'-DDE was reported in three soil samples at concentrations ranging from 13 to 94 micrograms per kilogram.
- 4,4'-DDT was reported in four soil samples at concentrations ranging from 2.1 to 23 micrograms per kilogram.
- Other OCPs were not reported at concentrations above the laboratory reporting limit for the remaining samples.

Vectors

The term "vector" is used to denote a carrier of disease organisms. The vector may be purely mechanical (houseflies spreading enteric organisms), or biological, wherein the disease organism multiplies or undergoes change within the vector (the development of encephalitic viruses in mosquitoes). In some cases, lagoons can provide breeding conditions for vectors, specifically mosquitos, due to shallow and/or stagnant standing water. The conditions that tend to favor mosquitoes are stagnant, fresh or brackish water with minimal circulation, narrow channels or a limited circulation system, and dense vegetation. Key management strategies to control vector populations in water bodies focus on breaking the larval life cycle before they mature and become adult mosquitoes. Strategies focus on increasing water circulation and wave action, varying water levels, decreasing vegetation such as cattails, decreasing nutrients and reducing water temperatures, and providing improved access for natural predators of larval and adult mosquitoes (aquatic and airborne) to potential breeding areas. Aerial larvicide treatments can also become more effective if channels are extended through dense vegetation that may otherwise prevent the larvicide from reaching the water surface. Common natural predators of aquatic mosquito larvae include *Gambusia* ("mosquito fish"), native killifish and stickleback, other small native and nonnative fish species, and the aquatic nymph stages of dragonflies and damselflies (*Odonata*). Predators of adult mosquitoes include frogs, bats, swallows, purple martins, and many other insectivorous bird species.

Lagoons in the San Diego region, specifically those with large expanses of standing water, dense vegetation, and extended residency times, such as Buena Vista Lagoon, are known as very conducive mosquito breeding sites. Relative to other lagoons in the vicinity, the San Dieguito Lagoon in general is not considered a trouble spot or a substantial breeding ground for vectors as there are less marshy conditions, minimal small channels, and limited standing water. The County of San Diego Vector Control currently does not make scheduled aerial larvicide applications on the entire San Dieguito Lagoon (County of San Diego 2016). However, they do treat two specific areas by helicopter when specific conditions arise. One location is referred to as Derby Downs and is just east of I-5 and south of the main river channel that often fills up with water when it rains and can form mosquito breeding conditions. The second area borders the polo grounds to the south on the east side of El Camino Real and is heavily vegetated and can produce large numbers of mosquitoes if not treated on a regular basis (Conlan, personal communication, 2016). A number of receptors are sensitive to vector-borne diseases in the vicinity of the lagoon, such as nearby residences and commercial establishments, nearby equestrian facilities, and people recreating at and around the lagoon.

Recreational Safety

As discussed in Section 5.1, Land Use and Recreation, various recreational opportunities exist within and immediately surrounding San Dieguito Lagoon and the San Dieguito river valley. The majority of recreational opportunities within the lagoon system include the trail network with observation platforms and are available for a wide variety of uses including hiking, biking, nature observation, and horseback riding (as permitted in various locations). Water sports including boating, wading, and diving are prohibited, but fishing from the shore is allowed only in designated areas as posted by the City of Del Mar (California Department of Parks and

Recreation 2015). Although nearby, the W-19 site itself does not have formal or official trails or recreational opportunities or facilities. Similarly, the disposal site does not offer formal recreational opportunities.

A primary concern specifically associated with placement of material on a beach is ensuring public safety during construction. Recreational safety on local beaches is provided by the City of Del Mar Lifeguard Department. Scarps (or escarpments) develop naturally along sandy beaches and vary in height due to substantial changes in the beach profile (i.e., drastic change in elevation). Scarp height is a function of the breaking wave height and the elevation of the existing beach berm. Large scarps may result in safety hazards due to substantial changes in the beach profile.

5.14.2 IMPACT THRESHOLDS

A significant impact would occur if implementation of the proposed project would:

A. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including when wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands;

B. Impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan;

C. 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, create a significant hazard to the public or environment;

D. Expose people to toxic substances, such as pesticides and herbicides, some of which have long-lasting ability, applied to the soil during previous agricultural uses;

E. Substantially increase human exposure to vectors, such as mosquitoes, that are capable of transmitting significant public health diseases or creating nuisances; or

F. Substantially increase hazards for people recreating in or around the lagoon and/or beach.

The CEQA impact thresholds for public safety and hazardous materials are those recommended by the City of San Diego Development Services Department. An additional vector-related threshold (Criterion E) was added to address unique public safety concerns associated with the wetland conditions that would be created by the proposed restoration. A recreation-focused threshold was also added to capture potential impacts to both San Dieguito River Park and beach users.

5.14.3 IMPACT ANALYSIS

W-19 Restoration

Wildland Fire Hazards

During restoration activities, staging and access areas would be generally located in previously disturbed areas with minimal vegetation. The lack of vegetation in these work areas would minimize the risk of accidental ignition of surrounding vegetation, and work within the damp areas of the W-19 would not be in high risk areas. While fire hazard risks associated with the use of construction equipment are not anticipated, a variety of standard construction practices would be implemented by the contractor (Table 3-2). Specifically, construction equipment used in restoration and maintenance activities would have fire suppression equipment on board or at the worksite, heavy equipment operators would be trained in appropriate responses to accidental fires, and emergency communication equipment would also be available to site personnel. These construction practices would provide for quick response to accidental fires during construction activities as fires could be quickly extinguished and dealt with expediently before spreading, and provide for quick emergency service notification for help if an accidental fire were to occur and require additional assistance to be extinguished.

Restoration activities would not introduce new or permanent structures within the lagoon area that would create new fire hazards or be subject to fire hazards. The established habitats in the lagoon would include wetland habitats with some areas of upland habitat. The established vegetation conditions would not result in conditions that would be highly vulnerable to wildfires; rather, they would create a mosaic of damp wetland and marsh conditions that transitions to some drier upland habitats. The new trail associated with the lagoon restoration would be located along the edge of the restoration site and adjacent to El Camino Real and would not place people in an area with newly created wildfire risk. **For these reasons, the lagoon restoration would not expose people or structures to increased risk from wildland fires and the impact would be less than significant (Criterion A).**

Emergency Response and Evacuation

Various emergency preparedness and emergency planning documents cover the project site, such as the San Diego County Multi-Jurisdictional Hazard Mitigation Plan (OES 2010). In the vicinity of the project, I-5 is designated as a primary transportation route for emergency evacuations by the County of San Diego Office of Emergency Services Emergency Operations Plan (OES 2014). However, as detailed in Section 3.4, Project Components, restoration activities would be confined to the W-19 site and specified staging areas, and would not be located on or interfere with I-5 or other local roadways that may serve as emergency routes. Some traffic trips on local roadways would be required for various transportation needs such as worker trips and equipment delivery; however, the restoration activities at the W-19 site would not obstruct or hinder the ability of the local transportation network and designated roads to serve emergency purposes or as evacuation routes if an emergency were to occur. **Impacts would be less than significant (Criterion B).**

Hazardous Materials

A recognized environmental condition is defined by the American Standards of Testing and Materials standard as "the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment." As stated in the Phase I Environmental Site Assessment (AECOM 2015) analysis of the database listings, neither the W-19 site nor surrounding sites are expected to present a recognized environmental condition to the subject property, based on the following:

- distance (generally greater than 500 feet)
- regulatory status (i.e., regulatory closure, no violations found)
- media impacted (soil only)
- topographical position relative to the subject property (i.e., down-gradient or cross-gradient)

Thus, restoration activities would not create a significant hazard to the public or environment due to its location on or near a known hazardous material site and there would be no impact (Criterion C).

Historical agricultural use of the project site could have involved the use of pesticides or other agricultural chemicals that might persist in the soils; thus, 16 soil samples were analyzed for pesticide concentrations (Geocon 2011). Results did not indicate a significant potential of pesticides and herbicides in the soils that would be affected by the project.

The chemical concentrations found in the onsite soil samples were evaluated against regulatory health risk-based soil screening levels) and ecological risk-based screening levels developed by the State of California, as well as soil screening levels developed by EPA (Regional Screening Levels [RSLs]). California Human Health Screening Levels (CHHSLs) are concentration levels of chemicals that the California Environmental Protection Agency (California EPA) has determined to be below thresholds of concern for risks to human health (California EPA 2005). Pesticide concentrations in the onsite shallow soils are less than the screening levels for direct exposure to the soil in a nonresidential setting, which suggests that these soils appear to not pose a health risk to workers who would be exposed during restoration-related excavation (Geocon 2011). The reported pesticide concentrations were also found to be less than the screening levels for ecological receptors, which suggests that the long-term lagoon habitat restoration would not be adversely affected by residual pesticides in soil. **Thus, because concentrations are below human and ecological screening levels, the potential for exposure to toxic substances is less than significant (Criterion D).**

The reported pesticide concentrations were also compared with risk-based groundwater protection soil screening levels (part of the RSLs) to determine if the pesticides in the soil would pose a potential threat to groundwater beneath the site. The reported concentration of DDE in one soil sample slightly exceeded the respective risk-based groundwater protection soil screening level. However, the analysis found that there is a low likelihood that the pesticides would migrate

vertically and impact local groundwater in the future. **Thus, the analysis concludes that it is unlikely that historical activities at the site have impacted the site to an extent that would pose limitations on the project (Geocon 2011) and the impact would be less than significant (Criterion D).**

Vectors

Vector issues are typically an existing concern within a lagoon and/or wetlands setting due to the potential for standing or stagnant water to serve as breeding locations for mosquitos. During restoration activities, heavy equipment, construction vehicles, and other tools/storage facilities would be present within the site and staging areas. There is some potential for rainwater or other water sources to become impounded in small containers or wheel ruts. Given the rapid mosquito life cycle, an impoundment of 7 to 10 days can allow for successful breeding. Per standard construction measures described in Table 3-2, a construction monitor would be onsite during construction. One responsibility would be confirmation that the contractor is satisfying construction specifications dictating no ponded water, which would ensure that no new breeding conditions would be created during construction. The monitor would also be empowered to empty small containers of water to eliminate breeding conditions.

In the long term, restoration activities would modify the habitats and water areas within the W-19 site. As described in Section 5.4, Water Quality, the proposed project would restore approximately 141 acres to a functional mix of tidal salt marsh, brackish marsh, tidal wetlands, and transitional/upland habitats. The restoration has been designed for provision of adequate circulation of water throughout the wetland habitats and to allow for tidal circulation within the tidal wetland system. This restoration design for the tidal wetlands ~~would~~ create unfavorable habitats for mosquitoes as water circulation and tidal circulation would interrupt the mosquito reproduction process, leading to mortality of eggs, larvae, and pupae. Eggs laid on water during one point of the tide may be left totally high and dry during the subsequent low tide. Tidal action also can result in other benefits for mosquito abatement, including increased salinity, which reduces the ability of these vectors to reproduce, and the higher volume of cooler ocean water within the tidal wetland habitats would also create a poor temperature-based environment for larvae survival.

The freshwater/brackish portion of the W-19 site would be designed for proper circulation throughout the area and graded in a manner to best support the proposed habitats. ~~minimize the potential for areas of standing or stagnant water~~ The open water channel would supply freshwater flowing through the site. The design of the site ~~would~~could result in some areas where water may pond, as necessary to support cattail marsh habitat. These conditions would not be substantially different than other flat areas that currently exist with the lagoon basin and surrounding areas. ~~be specific to the prevention of~~While some restored marsh areas may have conditions suitable for vector breeding, ~~conditions and~~ the potential for vector breeding in this location would not be substantial relative to existing conditions and surrounding areas. Additionally, vector control methods could be applied in a manner similar to nearby and adjacent areas currently being treated by County of San Diego Vector Control, such as aerial larvicide applications as described in Section 5.14-1 to prevent substantial increases in the exposure of humans to vectors.

As detailed in Section 5.4, Water Quality, the restoration activities would slightly modify the hydraulic conditions of locations downstream, such as the SCE restoration site. The resulting alterations in offsite hydraulic conditions would not be of the magnitude or nature to cause a substantial change in the location or quality of breeding conditions for vectors, such as creating large areas of stagnant or ponded water, decreased circulation, or decreased salinity levels.

Thus, implementation of the project would not ~~increase vector breeding conditions onsite or offsite~~ substantially ~~and~~ increase the public health and safety risk associated with mosquito-borne diseases ~~would not be increased~~. **Substantial increases in human exposure to vectors are not anticipated during construction or after implementation of the project and the impact would be less than significant (Criterion E).**

Recreational Safety

The public is provided access to the lagoon and surrounding areas via the existing trail network. As described in Section 5.1, Land Use and Recreation, a system of official trails exists adjacent to the lagoon. As shown in Figure 3-8, the staging areas and access roads to be used for lagoon restoration would be located in various locations around the W-19 site as needed and would be sited in existing disturbed areas near some existing trail access points and in proximity to some trail alignments. As a standard construction practice described in Table 3-2, active construction areas are restricted to maintain public safety. Construction areas would be staked and "no access zones" established to minimize public trespass or accidental entry into those potentially unsafe areas.

As part of the project, a new trail would be established adjacent to El Camino Real. In the near term (prior to completion of the El Camino Real Bridge replacement as proposed by the City of San Diego), the northern terminus of the new trail would be just south of the San Dieguito River. To ensure that trail users do not unsafely attempt to continue north across the narrow El Camino Real Bridge, which has no designated pedestrian/bike lanes or shoulders, temporary fencing would be installed at the terminus. Signage would also be posted to convey that there is no access beyond the trail terminus. **These measures would ensure the new trail does not create safety hazards to recreational trail users and impacts would be less than significant (Criterion F).**

Once the El Camino Real Bridge replacement is complete (anticipated December 2024) and safe pedestrian access across the bridge is available, the fencing would be modified to allow trail users to access El Camino Real and safely cross to the north and connect with the CTC Trail.

The Del Mar Horse Park is located north of the San Dieguito River and the W-19 site. The construction activities associated with the restoration would generate noise that would audible at the Horse Park. While the construction noise would not be at levels that could harm the animals, some horses may spook at loud or unfamiliar noises and cause a safety concern for their riders or handlers. The Horse Park is currently exposed to roadway noise associated with the adjacent Via de la Valle and El Camino Real, as well as other nearby establishments. Additionally, the center is exposed to construction noise associated with the prior restoration activities at the adjacent SCE restoration site and the ongoing maintenance. The short-term construction noise generated

south of the San Dieguito River during restoration activities would not be out of context or create a substantial change to the noise already experienced in the ambient conditions at the Horse Park. **Therefore, construction activities in the proximity of the Horse Park would not create safety hazards to adjacent uses and impacts would be less than significant (Criterion F).**

Materials Disposal

Wildland Fire Hazards

The disposal site is located within a Very High Fire Hazard Severity Zone as designated by CAL FIRE. Materials disposal would also require the use of construction equipment, which can pose a hazard for accidental fire ignition. However, the majority of work would occur on existing disturbed roads and the previous disposal site, which do not support dense vegetation that would pose an ignition threat. Areas of the disposal site that currently have vegetation would quickly be covered with disposal material and the potential for accidental ignition of a fire would be minimal. The standard construction practices that address fire safety described under lagoon restoration would also be applicable to materials disposal to provide for quick response to accidental fires. Materials disposal would not introduce new or permanent structures within the lagoon area that would create new fire hazards, be subject to fire hazards, or place people at increased risk of harm from wildland fires.

The disposal site would be revegetated with coastal sage scrub once placement is complete. The proposed coastal sage scrub revegetation would be consistent with the surrounding scrub habitat and is a native vegetation type for the local area. The disposal site is partially vegetated and the revegetation would not introduce a new cover type to the general area that would be a greater fire hazard than the current conditions. There would not be a substantial increase in wildland risk as the surrounding area and hillsides are already covered with similar scrub vegetation. Once the material is placed and the area is revegetated, there would be no additional project-related equipment or other human activity required at the site that could spark accidental fires. **For these reasons, actions associated with materials disposal would not expose people or structures to increased risk from wildland fires and the impact would be less than significant (Criterion A).**

Emergency Response and Evacuation

I-5 is designated as a primary transportation route for emergency evacuations. As detailed in Chapter 3, Project Description, hauling and material placement activities would occur primarily within the river valley and equipment would not be using local roadways for material transport or other disposal work. **Material disposal activities would not obstruct or hinder the ability of the local transportation network and designated roads to serve emergency purposes or as evacuation routes if an emergency were to occur and impacts would be less than significant (Criterion B).**

Hazardous Materials

The disposal site is not listed as a hazardous material site. **Additionally, none of the listed surrounding sites are expected to present a recognized environmental condition to the subject property and there would be no impact (Criterion C).**

As described under lagoon restoration, pesticide concentrations found in soils samples are at low levels that do not pose a health risk to workers or ecological receptors exposed to the soils, or to groundwater sources based on their detected levels being lower than CHHSLs and RSLs for direct exposure in a nonresidential setting (Geocon 2011). **Thus, the movement and placement of excavated materials on top of the disposal site would not expose people to toxic substances, such as pesticides and herbicides, and the impact would be less than significant (Criterion D).**

Vectors

Vector breeding conditions are not a concern at the disposal site as there is not substantial opportunity for expanses of standing and stagnant water. The placement of additional material across the disposal site would not result in an increase of vector hazards. The standard construction practice to avoid creation of ponded water would also be applicable to the materials disposal activities. The final site grading would be designed to facilitate sheet flow of water across the site and avoid the creation of standing or ponded water. Thus, implementation of the project would not result in conditions conducive to vector breeding, and public health and safety risk associated with mosquito-borne diseases would not increase. **Substantial increases in human exposure to vectors are not anticipated during construction or after materials disposal and there would be no impact (Criterion E).**

Recreational Safety

During materials disposal, haul routes for the trucks carrying the material from the excavation areas to the disposal location would be located onsite and traverse through the lagoon and river valley. To avoid additional habitat disturbance, the haul routes would be located along existing maintenance roadways as well as a portion of the Dust Devil Nature Trail as shown in Figure 3-8. For public safety purposes, during the active materials disposal portion of construction, simultaneous use of the trail by construction equipment and recreationalists would not be allowed and the affected trail segments and associated parking lot off of El Camino Real would be closed to public use during weekday construction activities. Construction is scheduled Monday through Friday, which would allow for safe trail use during the weekend. Once the project is completed, trail use would return to typical use. The closure of the Dust Devil Nature Trail during weekday construction activities would limit the opportunity for unsafe interactions between material hauling activities and trail use during materials disposal.

While there are no formal trails or public use areas near the disposal site, informal pathways and maintenance roads are used by hikers and are located around the perimeter of the site. The disposal site perimeter would be temporarily fenced to restrict public access, and signage would be placed to inform the public of the active construction operations as part of standard

construction practices (see Table 3-2). **The impact would be less than significant (Criterion F).**

W-19 Wetlands Maintenance

Wildland Fire Hazards

As described in Section 5.14.1, the W-19 site is located within a Very High Fire Hazard Severity Zone as designated by CAL FIRE. Wetlands maintenance activities would take place at inlet locations and the interior of the wetlands where the potential for accidental fire ignition is minimized due to the wet or damp conditions. While fire hazard risks associated with the use of construction equipment are not anticipated, a variety of standard construction practices would be implemented by the contractor (Table 3-2) as described for restoration activities, including fire suppression equipment on board construction equipment, operators trained in appropriate responses to accidental fires, and available emergency communication equipment. Wetlands maintenance activities would not introduce new or permanent structures within the lagoon area that would create new fire hazards or be subject to fire hazards. Material placement on the beach would not create a highly susceptible risk for fire ignition due to the damp sandy conditions with minimal flammable vegetation or material. **For these reasons, the W-19 inlet maintenance would not expose people or structures to increased risk from wildland fires and the impact would be less than significant (Criterion A).**

Emergency Response and Evacuation

As detailed in Section 3.4, Project Components, as described for restoration activities, inlet maintenance and material placement on the beach would be confined to the W-19 site, specific beach locations, and specified staging areas, and would not be located on or interfere with I-5 or other local roadways that may serve as emergency routes. As shown in Figure 3-10, haul routes from the W-19 site to the beach placement locations would require traffic trips on local roadways including El Camino Real, Via de la Valle, and Camino Del Mar. The presence of heavy trucks on the local roadways would not restrict or hinder the use of the road for evacuation purposes and it is not likely that material hauling would continue during an emergency situation requiring evacuation. Additionally, safety concerns along local roadways would be addressed in the required Traffic Management Plan (described in Table 3-2). **Thus, W-19 inlet maintenance would not substantially affect evacuation routes if an emergency were to occur and impacts would be less than significant (Criterion B).**

Hazardous Materials

Neither the W-19 site nor surrounding sites are expected to present a recognized environmental condition to the subject property. **Thus, maintenance activities would not create a significant hazard to the public or environment due to their location on or near a known hazardous material site and there would be no impact (Criterion C).**

Soil chemical concentrations as described for the proposed restoration activities would be the same for the maintenance activities. Shallow soils at the W-19 site appear to not pose a health

risk to workers who would be exposed to the soils during excavation of the soils and would also not constitute a risk for ecological receptors. Additionally, maintenance activities would remove sediments recently deposited though sedimentation and storm events. **Thus, because concentrations are below human and ecological screening levels, the potential for exposure to toxic substances is less than significant (Criterion D).**

Vectors

Similar to restoration activities, during maintenance activity there is some potential for rainwater or other water sources to become impounded in small containers or wheel ruts, which could allow for successful mosquito breeding. Per standard construction measures described in Table 3-2, a construction monitor would be onsite during maintenance and would confirm that the contractor is satisfying specifications dictating no ponded water and dictating the release of small containers of water, which would ensure that new breeding conditions would not be created during construction. In the long term, the maintenance activities would aid in maintaining the habitats and water areas as designed within the W-19 site, including the provision of adequate circulation of water throughout the wetland and marsh habitats and to allow for tidal circulation within the tidal wetland system, creating unfavorable habitats for mosquitoes. **Thus, substantial increases in human exposure to vectors are not anticipated during construction or after implementation of maintenance activities and the impact would be less than significant (Criterion E).**

Recreational Safety

The haul routes necessary to transport sediment removed during maintenance would, at certain locations, be adjacent to or require crossing the proposed new trail, as shown in Figure 3-8. When construction operations would interfere with safe use of the new trail, that portion of the trail would be closed until construction activities were complete, similar to the requirements listed for initial restoration work in PDF-5. Any temporary closures would be short term, with anticipated construction duration ranging from approximately 23 to 93 days dependent on volume of sediment to be removed (Table 3-6). Maintenance activities would not be in proximity to the CTC Trail or the Dust Devil Nature Trail and would not interfere or create safety concerns related to those recreational facilities. These facilities would remain available for trail users (PDF-7). **These measures would ensure the maintenance activities do not create safety hazards to recreational trail users and impacts would be less than significant (Criterion F).**

Placement of material on local beach locations, as shown in Figure 3-10, would create a potentially dangerous situation with construction equipment operating in areas of typical public beach recreation. A series of PDFs have been incorporated into the project as previously implemented for similar projects. During placement of material on the beach, portions of the beach directly affected by active material placement activities may be closed temporarily (PDF-6). Closing the area to the public would prevent potentially unsafe conditions for the public associated with the operation of heavy equipment to move the sand onto the beach. Adjacent stretches of beach not directly affected by placement activities would remain open to public access and recreational activities (PDF-7). As sand placement activities shift along the beach, those areas where sand placement has been completed would be reopened to public use. Prior to

opening areas of beach with placed materials, the material would be spread and checked for potential hazards (e.g., foreign objects in the sand) (PDF-8). Horizontal access along the back beach would be maintained at sites with no alternative access (e.g., where beach abuts bluffs), with temporary closures occurring as necessary to complete sand placement to the back edge of the beach (PDF-9). Lifeguard services would remain during construction, and mobile lifeguard towers would be temporarily relocated if necessary (PDF-10), and sand would be placed to avoid blocking line-of-sight at lifeguard towers (PDF-11). **Maintenance activities would not create safety hazards to recreational beach users at material placement locations and impacts would be less than significant (Criterion F).**

5.14.4 SIGNIFICANCE OF IMPACTS

No significant impacts to public health or safety have been identified for the proposed project. Table 5.14-2 summarizes the impact conclusions identified in the Impact Analysis for each threshold of significance.

Table 5.14-2
Summary of Public Health and Safety Impact Conclusions

Threshold	W-19 Restoration	Materials Disposal	W-19 Inlet Maintenance
A. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including when wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.	Less than Significant	Less than Significant	Less than Significant
B. Impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan.	Less than Significant	Less than Significant	Less than Significant
C. 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, create a significant hazard to the public or environment.	No Impact	No Impact	No Impact
D. Expose people to toxic substances, such as pesticides and herbicides, some of which have long-lasting ability, applied to the soil during previous agricultural uses.	Less than Significant	Less than Significant	Less than Significant
E. Substantially increase human exposure to vectors, such as mosquitoes, that are capable of transmitting significant public health diseases or creating nuisances.	Less than Significant	No Impact	Less than Significant
F. Substantially increase hazards for people recreating in or around the lagoon and/or beaches.	Less than Significant	Less than Significant	Less than Significant

5.14.5 MITIGATION MEASURES

No significant public safety impacts would result from lagoon restoration, materials disposal, or W-19 wetlands maintenance, and no mitigation measures are required.

5.15 GREENHOUSE GAS EMISSIONS

This section is based largely on the Greenhouse Gas Analysis prepared for the proposed project (Appendix Q).

5.15.1 EXISTING CONDITIONS

Regulatory Setting

A full description of the regulatory setting for this document can be found in Appendix E. The following laws, regulations, policies, and plans are applicable to this resource area:

- Clean Air Act
- Council on Environmental Quality Guidance
- Mandatory Greenhouse Gas Reporting Rule
- Assembly Bill 32: California Global Warming Solutions Act of 2006
- Assembly Bill 1493
- Executive Order S-1-07
- Executive Order S-3-05
- Executive Order S-13-08
- Senate Bill 97
- Senate Bill X1-2

Scientific Basis of Climate Change

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 back toward 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 are GHGs 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)
- Nitrogen trifluoride (NF_3)

Emissions of CO_2 are byproducts of fossil fuel combustion. CH_4 is the main component of natural gas and is associated with agricultural practices and landfills. N_2O is a colorless GHG that results from industrial processes, vehicle emissions, and agricultural practices. HFCs are synthetic chemicals used as a substitute for chlorofluorocarbons in automobile air conditioners and refrigerants. PFCs are produced as a byproduct of various industrial processes associated with aluminum production and the manufacturing of semiconductors. SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable GHG used for insulation in electric power transmission and distribution equipment, and in semiconductor manufacturing. NF_3 is used in the electronics industry during the manufacturing of consumer items, including photovoltaic solar panels and liquid-crystal-display (i.e., LCD) television screens.

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 28, and N_2O, which has a GWP of 265. For example, 1 ton of CH_4 has the same contribution to the greenhouse effect as approximately 28 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 equivalent (CO_2e) is used to account for the different GWP potentials of GHGs to absorb infrared radiation.

Although the exact lifetime of any particular GHG molecule is dependent on multiple variables, it is understood by scientists who study atmospheric chemistry that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration. GHG emissions related to human activities have been determined as "extremely likely" to be responsible (indicating 95 percent certainty) for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's atmosphere and oceans, with corresponding effects on global circulation patterns and climate. The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; however, no single project is expected to measurably contribute to a noticeable incremental change in the global average temperature, or to a global, local, or microclimate.

Global Climate Trends and Associated Impacts

The Intergovernmental Panel on Climate Change concluded that variations in natural phenomena, such as solar radiation and volcanoes, produced most of the warming of the earth from pre-industrial times to 1950. These variations in natural phenomena also had a small cooling effect. From 1950 to the present, increasing GHG concentrations resulting from human activity, such as fossil fuel burning and deforestation, have been responsible for most of the observed temperature increase.

Global surface temperature has increased by approximately 1.53 degrees Fahrenheit (°F) over the last 140 years; however, the rate of increase in global average surface temperature has not been consistent. The last three decades have warmed at a much faster rate per decade.

During the same period when increased global warming has occurred, many other changes have occurred in other natural systems. Sea levels have risen; precipitation patterns throughout the world have shifted, with some areas becoming wetter and others drier; snowlines have risen in elevation, resulting in changes to the snowpack, runoff, and water storage; and numerous other conditions have been observed. Although it is difficult to prove a definitive cause-and-effect relationship between global warming and other observed changes to natural systems, there is a high level of confidence in the scientific community that these changes are a direct result of increased global temperatures caused by the increased presence of GHGs in the atmosphere.

Additional changes related to climate change can be expected by the year 2050 and on to the end of the century, including the following:

- California's mean temperature may rise by 2.7°F by 2050 and by 4.1°F to 8.6°F by the end of the century. Temperatures in San Diego County may rise by 3.1°F to 5.8°F during that same period.
- A consistent rise in sea level has been recorded worldwide over the last 100 years. Rising average sea level over the past century has been attributed primarily to warming of the world's oceans, the related thermal expansion of ocean waters, and the addition of water to the world's oceans from the melting of land-based polar ice. Sea level rise is expected to continue, and the most recent climate science report, Sea Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future, has estimated that sea levels along the U.S. Pacific coast will increase by up to 66 inches by 2100 (National Research Council 2012). Various California climate models provide mixed results regarding forecasted changes in total annual precipitation in the state through the end of this century. However, recent projections suggest that 30-year statewide average precipitation will decline by more than 10 percent.
- Historically, extreme warm temperatures in the San Diego region have mostly occurred in July and August, but as climate warming continues, the occurrences of these events will likely begin in June and could continue to take place into September. All simulations indicate that hot daytime and nighttime temperatures (heat waves) will increase in frequency, magnitude, and duration.

Existing GHG Emission Sources

GHG emissions contributing to global climate change are attributable in large part to human activities associated with the transportation, industrial/manufacturing, electric utility, residential, commercial, and agricultural categories. Emissions of CO_2 are byproducts of fossil fuel combustion, and CH_4, a highly potent GHG, is the primary component in natural gas and is associated with agricultural practices and landfills. N_2O is also largely attributable to agricultural practices and soil management.

For purposes of accounting for and regulating GHG emissions, sources of GHG emissions are grouped into emission categories. ARB identifies the following main GHG emission categories that account for most anthropogenic GHG emissions generated within California:

- *Transportation:* On-road motor vehicles, off-road equipment, recreational vehicles, aviation, ships, and rail
- *Electric Power:* Use and production of electrical energy
- *Industrial:* Mainly stationary sources (e.g., boilers and engines) associated with process emissions
- *Commercial and Residential:* Area sources, such as landscape maintenance equipment, fireplaces, and consumption of natural gas for space and water heating
- *Agriculture:* Agricultural sources that include off-road farm equipment; irrigation pumps; crop residue burning (CO_2); and emissions from flooded soils, livestock waste, crop residue decomposition, and fertilizer volatilization (CH_4 and N_2O)
- *High GWP:* Refrigerants for stationary and mobile-source air conditioning and refrigeration, electrical insulation (e.g., SF_6), and various consumer products that use pressurized containers
- *Recycling and Waste:* Waste management facilities and landfills; primary emissions are CO_2 from combustion and CH_4 from landfills and wastewater treatment

California

ARB performs an annual GHG inventory for emissions and sinks of the six major GHGs. In 2013, California produced 459 million metric tons (MMT) of CO_2e. Combustion of fossil fuel in the transportation category was the single largest source of California's GHG emissions in 2013, accounting for 37 percent of total GHG emissions in the state. The transportation category was followed by the industrial category, which accounts for 23 percent of California's total GHG emissions, and the electric power category (including in-state and out-of-state sources), which accounts for 20 percent of total GHG emissions in California.

San Diego County

The University of San Diego School of Law, Energy Policy Initiative Center, prepared a GHG inventory for San Diego County in 2008. The inventory was updated in 2014 using the best available data and following the U.S. Community Protocol for Accounting and Reporting of GHG Emissions. Total GHG emissions in San Diego County in 2012 were estimated to be 32.9 MMT of CO_2e. This represents an 11 percent increase compared to 1990 emissions levels of 29.5 MMT CO_2e. Transportation is the largest emissions sector, accounting for approximately 14 MMT of CO_2e, or 41 percent of total emissions. Energy consumption, including electricity and natural gas use, is the next largest source of emissions, at 32 percent of the total.

City of San Diego

The City of San Diego emitted approximately 15.5 million tons (MT) of GHGs in 1990. Citywide emission levels were previously projected to result in an increase to 22.5 MT per year by 2010. The most recent GHG inventory for the year 2010 estimated the total emissions at 13.0 MT CO_2e per year. Transportation is the largest emissions sector, accounting for approximately 55 percent of total emissions. Energy consumption is the next largest source of emissions, at 40 percent of the total. Accounting for future population and economic growth, the City estimates that GHG emissions will increase to approximately 14.1 MT CO_2e in 2020 and 16.4 MT CO_2e in 2035.

Regulatory Environment

A detailed description of the regulatory environment relevant to global climate change and GHG emissions is provided in Appendix E of this EIR.

5.15.2 IMPACT THRESHOLDS

A significant impact would occur if implementation of the proposed project would:

A. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or

B. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The CEQA impact thresholds for climate change, GHG emissions, and sea level rise are those recommended by the City of San Diego Development Services Department.

The City's memorandum "Addressing Greenhouse Gas Emissions from Projects Subject to CEQA," August 2010, provides guidance for the evaluation of GHG emissions from land use development projects. The memorandum recommends that the conservative, quantitative threshold of 900 MT CO_2e per year be used to evaluate the potential impact of a project's GHG emissions. If a project does not exceed 900 MT CO_2e per year, then the climate change impacts would be less than significant. Based upon guidance from the Association of Environmental Professionals (2010), the total construction GHG emissions associated with a project are amortized over the 30 years for project construction, and added to the operational GHG emissions.

If the project exceeds 900 MT CO_2e per year, then the City recommends that the significance be based on whether the project would impede the implementation of AB 32. AB 32 is the California Global Warming Solutions Act of 2006, which details and puts into law the mid-term GHG reduction target to reduce GHG emissions to 1990 levels by 2020. To demonstrate that the project would not impede the implementation of AB 32, the project should demonstrate how future GHG emissions generated by the project would be reduced to approximately 28.3 percent below projected business-as-usual levels in 2020, which would achieve the equivalent GHG reduction as AB 32.

5.15.3 IMPACT ANALYSIS

Heavy-duty off-road equipment, material transport, and worker commutes during construction and maintenance of the proposed project would result in exhaust-related GHG emissions. GHG emissions generated by construction/maintenance activities would be primarily in the form of CO_2. Although emissions of other GHGs, such as CH_4 and N_2O, are important with respect to global climate change, the emission levels of these other GHGs from on- and off-road vehicles used during construction/maintenance are relatively small compared with CO_2 emissions, even when factoring in the relatively larger global warming potential of CH_4 and N_2O.

Emissions for the proposed project were estimated using emission factors from ARB's OFFROAD and EMFAC2014 inventory models. Construction and maintenance emissions from the operation of diesel-fueled off-road equipment were estimated by multiplying daily usage (i.e., hours per day) and total days of construction by OFFROAD equipment-specific emission factors. Emissions from on-road motor vehicles were estimated using vehicle trips, VMT, and EMFAC2014 mobile source emission factors.

As discussed above, construction emissions may be amortized over the expected (long-term) operational life of a project, which can conservatively be estimated at 30 years, unless evidence is provided demonstrating a different project life. Since the projected maintenance activities are based on a 25-year storm event, this analysis conservatively considers the project life to be 25 years for the purpose of amortizing construction emissions. After severe storm events, wetlands maintenance would be implemented to remove accumulated sediment from W-19 and place it on area beaches, as described in Section 3.4.2, and emissions from these activities are calculated separately.

Due to the inherently cumulative nature of climate change and GHG emissions, emissions from the lagoon restoration, materials disposal, and maintenance of the project are analyzed together in this section.

Project construction would primarily involve removing vegetation and altering existing ground elevations within the project area to create the habitat distribution proposed as part of the proposed project. Construction of the proposed project would require approximately 30 months~~2 years~~. Additional details related to project implementation and construction sequencing are discussed in Section 3.4.2, Proposed Habitat Restoration/Establishment.

As shown in Table 5.15-1, construction emissions would total 4,416 MT CO_2e over the construction period for the proposed project. The amortized construction-related emissions for the proposed project would be approximately 177 MT CO_2e per year (4,416 MT CO_2e / 25 years = 177 MT CO_2e).

Table 5.15-1
Proposed Project – Construction-Related GHG Emissions (MT CO_2e)

Year	Total
Mobilization	18
Haul Roads[1]	35
Clear and Grub	104
Topsoil	104
Grading	3,671
Trail Improvements	308
Cleanup	26
Demobilization	18
Revegetation	132
Total	4,416
Amortized Construction Emissions	177

MT CO_2e = metric tons of carbon dioxide equivalent
Note: Totals may not add due to rounding.
Additional details available in Appendix Q.
Source: Modeled by AECOM in 2016
[1] Construction-Related GHG Emissions from haul roads may be slightly less, given the option to use a shortened route through SCE's disposal sites, which may decrease hauling distances to DS36.

Maintenance of the W-19 inlets would be required after large storm events (25-year event or larger) to remove accumulated material. Emissions from off-road equipment and trucks hauling material to the beach were estimated for 25-, 50- and 100-year events. Although maintenance emissions could be amortized over the estimated storm frequency (i.e., 50-year storm emissions could be amortized over 50 years), the total maintenance emissions are conservatively presented in Table 5.15-2.

Table 5.15-2
Proposed Project – Maintenance-Related GHG Emissions (MT CO_2e)

Storm Frequency	Amortized Construction	Total Maintenance	Total Maintenance and Amortized Construction
25-Year	177	29	206
50-Year	177	160	337
100-Year	177	313	490
Significance Threshold			900
Exceeds Threshold?			NO

MT CO_2e = metric tons of carbon dioxide equivalent
Note: Totals may not add due to rounding.
Additional details available in Appendix Q.
Source: Modeled by AECOM in 2016

As shown in Table 5.15-2, the total maintenance and amortized construction GHG emissions for any storm frequency for the proposed project would not exceed the threshold of 900 MT CO_2e per year. **Therefore, the proposed project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment and impacts would be less than significant (Criterion A).**

Many regional and local agencies have developed plans and policies to address GHG emissions consistent with the goals of AB 32 and Executive Order S-3-05. At the time of this writing, SANDAG has not adopted a Climate Action Plan (CAP) that meets the requirements identified in CEQA Guidelines Section 15183.5. However, SANDAG published a Climate Action Strategy in 2010 that was prepared under a partnership with the California Energy Commission. The City of San Diego adopted a CAP in December 2015. Therefore, for the purposes of this analysis, the applicable GHG reduction plans are the Climate Action Strategy and the CAP. A project consistent with the goals and strategies of the Climate Action Strategy and the CAP would be considered not to conflict with the state's purpose of reducing GHG emissions.

The City of San Diego General Plan (City of San Diego 2008) and CAP (City of San Diego 2015b) include policies and actions to reduce construction-related emissions. With respect to the proposed project, the General Plan includes Policy CE-A.8 to "reduce construction and demolition waste in accordance with Public Facilities Element, Policy PF-I.2, or by renovating or adding on to existing buildings, rather than constructing new buildings." The CAP also includes Action 4.1, which states "Enact the City's Zero Waste Plan, and implement landfill gas collection operational procedures in compliance with the California Air Resources Board's Landfill Methane Capture regulations." That action has a target to divert 75 percent of solid waste by 2020 and 90 percent by 2035.

The proposed project would remove over 1 mcy of soil from the W-19 site. As discussed earlier, soil would be placed approximately 0.4 mile south in an upland disposal site. During maintenance activities, trucks would deposit the material on the beach or in the nearshore. Material would not be exported as "waste"; therefore, the proposed project would be consistent with the General Plan and the CAP.

The proposed project would be consistent with policies adopted and/or recommended by the AB 32 Scoping Plan, SANDAG Climate Action Strategy, and City of San Diego General Plan and CAP. **Therefore, the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG and impacts would be less than significant (Criterion B).**

5.15.4 SIGNIFICANCE OF IMPACTS

Table 5.15-3 summarizes the impact conclusions identified in the Impact Analysis for each threshold of significance. Impacts associated with climate change, GHG emissions, and sea level rise would be less than significant.

Table 5.15-3
Summary of Greenhouse Gas Emissions Impact Conclusions

Threshold	W-19 Restoration	Materials Disposal	W-19 Inlet Maintenance
A. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	Less than Significant	Less than Significant	Less than Significant
B. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	Less than Significant	Less than Significant	Less than Significant

5.15.5 MITIGATION MEASURES

No significant impacts related to global climate change, GHG emissions, or sea level rise were identified, and no mitigation measures are required.

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CHAPTER 6.0
SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

As required by Cal. Pub. Res. Code Section 21100(b)(2)(B) and Section 15126.2(c) of the CEQA Guidelines, an EIR must identify the significant, irreversible environmental changes that would result from a project. Irreversible environmental changes are typically categorized as either primary impacts, such as the direct use of nonrenewable resources or secondary impacts, which facilitate the use of such resources. Construction of the proposed project would result in the direct use of nonrenewable resources, including fossil fuels, natural gas, water, and building materials such as concrete. Additionally, electrical power would be used for lighting. However, use of these resources would be typical of a construction project and would not represent an extraordinary amount of material in comparison with other restoration projects of similar size. Therefore, the proposed project is not anticipated to consume substantial amounts of energy or use other resources in a wasteful manner.

Implementation of the proposed project would result in irreversible changes to the natural environment. The project would change the lagoon environment by removing the existing vegetation and soils (or fill) from previous agricultural activities within the project area to establish a functional mix of coastal wetlands of approximately 60~~50~~ acres of tidal salt marsh and 15 acres of brackish wetlands. The project would also modify the San Dieguito River channel to enhance connectivity of the river to the river valley to promote functionality of the broader lagoon ecosystem and promote a sustainable system of native wetland and terrestrial vegetation communities. While the project would create a substantial change to the existing lagoon environment, the modifications are considered to be an improvement and biologically beneficial as wetland habitats are a valuable resource.

Because the proposed project would not induce any growth or increased demand for resources in the area, changes to the natural environment would be limited to those related to initial construction or maintenance activities. As evaluated in Section 5.6, Biological Resources, recolonization and recovery of biological communities would be anticipated to occur within 5 to 10 years. Additionally, the project would result in a net gain of more biologically productive habitat, with the restoration of approximately 141 acres to a functional mix of tidal salt marsh, brackish marsh, tidal wetlands, and transitional/upland habitats. Thus, consumption of resources or changes to the natural environment as a result of the proposed project would not be considered significant.

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CHAPTER 7.0
GROWTH INDUCEMENT

CEQA Guidelines require an EIR to discuss ways in which a project could induce growth. This includes ways in which the project would foster economic or population growth, or the construction of additional housing in the surrounding environment. A project would induce growth if its implementation would result in new development that would exceed the growth planned in applicable master plans, land use plans, or projections made by regional planning authorities. Specifically, Section 15126.2(d) of the CEQA Guidelines states that an EIR should:

> *"Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth… Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment."*

City of San Diego growth inducement guidelines require EIRs to analyze the consequences of growth induced by the projects using the criteria listed below:

> *Would the proposal:*
>
> 1. *Induce substantial population growth in an area (for example, by proposing new homes and commercial or industrial businesses beyond the land use density/intensity envisioned in the community plan)?*
> 2. *Substantially alter the planned location, distribution, density, or growth rate of the population of an area?*
> 3. *Include extensions of roads or other infrastructure not assumed in the community plan or adopted Capital Improvements Project list, when such infrastructure exceeds the needs of the project and could accommodate future developments?*

Analysis

The restoration of the W-19 site and placement of sediment at the disposal site would not be considered growth inducing. No zoning changes would be required for implementation of the proposed project and the project site would remain as currently used for public open space that is not proposed or designated for future development. No new homes or businesses are proposed. Implementation of the proposed project would not increase land use density or intensity in the project area as the restoration project would maintain the existing open space setting of the W-19

site and disposal site. Construction and maintenance activities would require workers throughout the temporary construction period, as well as during intermittent maintenance events, but it is anticipated that most of these workers would come from the local workforce. Therefore, implementation of the proposed project would not result in a direct increase in population in the project area.

While components of the proposed project such as new or improved trails would provide enhanced and expanded recreational opportunities, it is not anticipated that the new trail or connectivity afforded by the trail would attract sufficient numbers of new visitors to induce expansion of existing tourist-related commercial uses. No public roads would be extended and modifications to infrastructure within the lagoon would be limited to the potential relocation of SDG&E electricity lines as described in Section 5.13, Public Services and Utilities. This relocation, if it occurs as part of the proposed project, would be performed in cooperation with SDG&E and would not facilitate future development. The potential relocation of the electrical lines would not service a new area or increase the capacity of the transmission lines. For these reasons, implementation of the proposed project would not result in an indirect increase in population in the project area. **Impacts from the proposed project related to growth inducement, both direct and indirect, would not be significant.**

CHAPTER 8.0
CUMULATIVE IMPACTS

CEQA Guidelines require a discussion of cumulative impacts of a project "when the project's incremental effect is cumulatively considerable" (2011 CEQA Guidelines, Section 15130). As defined by Section 15065 (a)(3) "cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (2011 CEQA Guidelines, Section 15065 (a)(3)). These cumulative impacts are defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (CEQA Guidelines Section 15355).

The discussion of cumulative impacts is further guided by CEQA Guidelines Section 15130(a) and (b), which states the following:

- An EIR shall not discuss impacts which do not result in part from the project evaluated in the EIR.
- When the cumulative effect of the project's incremental contribution and the effect of the other projects are not significant, the EIR shall briefly indicate why and not discuss it further.
- An EIR may identify a significant cumulative effect, but determine that a project's contribution is less than significant. That conclusion could result if the project is required to implement or fund its fair share of a mitigation measure designed to alleviate the cumulative impact.
- The discussion of cumulative impacts shall reflect the possibility of occurrence and severity of the impacts and focus on cumulative impact to which the identified other projects could contribute.

In general, effects of a particular action or a group of actions would be considered cumulative impacts under the following conditions:

- effects of several actions in a common location,
- effects are not localized (i.e., can contribute to effects of an action in a different location),
- effects on a particular resource are similar in nature (i.e., they affect the same specific element of a resource), and
- effects are long term (short-term impacts tend to dissipate over time and cease to contribute to cumulative impacts).

City of San Diego CEQA Guidelines recommend the following three considerations in determining the significance of cumulative impacts:

1. If there are known documented existing significant impacts occurring in a community, additional increments would exacerbate the impact (e.g., an overloaded transportation system).
2. If a community plan and/or precise plan identifies cumulative impacts in the community wide EIR, individual projects which contribute significantly to the community wide impacts would be considered cumulatively significant.
3. A large scale project (usually regional in nature) for which direct impacts are mitigated by the collective number of individual impacts results in a cumulative impact.

8.1 DESCRIPTION OF CUMULATIVE ENVIRONMENT

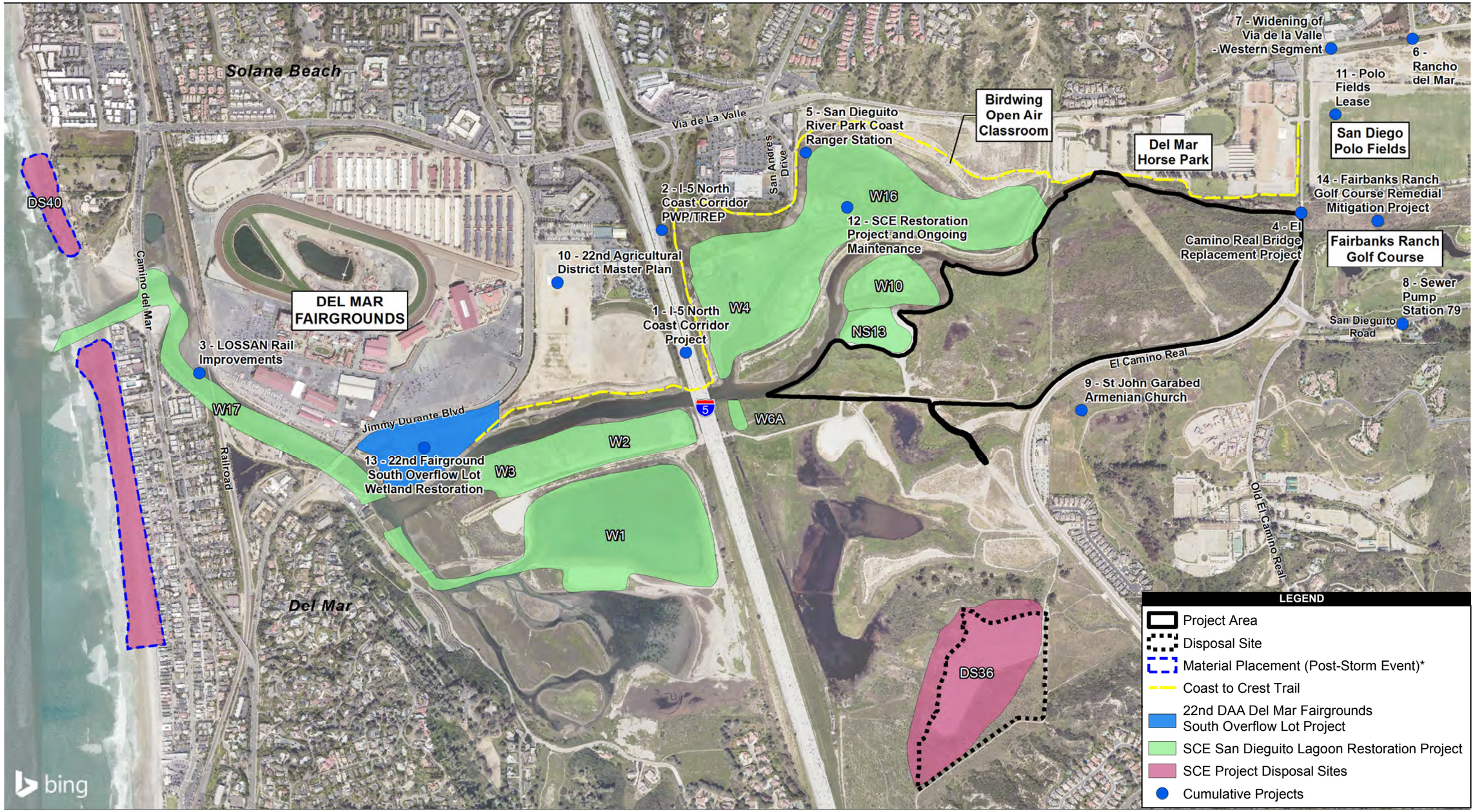
The study area for this cumulative analysis varies somewhat by issue area but for most issues is focused on the adjacent areas of the surrounding communities, such as Carmel Valley, Del Mar, and Solana Beach. One key exception is air quality, which is addressed at a regional (county-wide) level because standards are set by ARB at this more gross scale. Additionally, key lagoons along the San Diego regional coastline are considered due to the unique nature of coastal lagoons.

There are six lagoons in northern San Diego County with a long history of human modifications, particularly infrastructure construction like roads and rail that run perpendicular to lagoon features. Only in the past few decades has the focus been on ecological enhancement of those lagoons. The most recent is the SCE restoration project within San Dieguito Lagoon where planning and implementation occurred between 1997 and 2011 and has ongoing maintenance. Here, fill was removed to transform upland/farmland acreage to wetland habitat. Restoration of Batiquitos Lagoon was implemented over 15 years ago to create a more tidally open system. Plans for lagoon restoration at San Elijo Lagoon have completed environmental review and are currently in the permitting phase.

8.2 PROJECTS CONSIDERED IN THE CUMULATIVE IMPACTS ANALYSIS

The cumulative projects considered in the following analysis are listed in Table 8-1 and general locations are shown in Figure 8-1, Cumulative Projects. Most of the projects are located within the surrounding communities. Key local coastal lagoon projects are occurring or being planned throughout the San Diego region with recreational and habitat resources that are similar between the lagoons. However, other lagoon restoration or enhancement projects, such as those at Buena Vista Lagoon or San Elijo Lagoon, are distant from San Dieguito Lagoon with limited potential to cause combined impacts with the proposed project and, thus, are not included on the cumulative project list. If the geographic scope is expanded or narrowed for a specific topic area, it is described in the appropriate section.

Table 8-1 identifies the project name, the jurisdiction within which the action would occur or has occurred, a brief description, and the anticipated schedule for implementation. This list primarily includes planned projects that are on file with local jurisdictions or agencies. Relevant, known projects that have not yet begun the planning process may also be included in this list for the purposes of disclosure, although adequate information may not be available at this time to



Source: JPA: Dokken 2015

1,000 500 0 1,000 Feet

Scale: 1:12,000; 1 inch = 1,000 feet

* The proposed materials placement sites are the same as those used for maintenance dredging required by the SCE Restoration Project (DS-40).

Figure 8-1
Cumulative Projects

Path: P:\2012\60274999_SD_W19\06GIS\6.3_Layout\Reports\EIR\Cumulative_Overview.mxd, 7/23/2018, paul.moreno

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Table 8-1
Cumulative Projects

ID #	Project Name	General Location/ Jurisdiction	Project Type	Description	Project Status/Schedule
1	I-5 North Coast Corridor Project	San Diego north coast region, from San Diego to Oceanside	Highway facility improvements	Caltrans - District 11 proposes improvements to a 27-mile stretch of I-5 in San Diego County. The proposed project begins at La Jolla Village Drive in the City of San Diego and ends at Harbor Boulevard in the City of Oceanside. Currently, I-5 is an eight-lane freeway with some auxiliary lanes that are frequently over capacity and subject to traffic congestion and travel delays. The project is expected to be constructed in phases through 2040. As part of Phase 2, a second HOV/Express Lane will be added in each direction on I-5 from SR 56 to Manchester Avenue; Phase 2 also includes the widening of the I-5 bridge at the San Dieguito lagoon.	Draft EIR/EIS July 2010 Supplemental Draft EIS/EIR released August 2012 Final EIR/EIS issued October 2013 Portions under construction
2	North Coast Corridor PWP/TREP	San Diego north coast region, from San Diego to Oceanside	Various improvements, enhancements, and restoration associated with 1-5 North Coast Corridor project	The PWP/TREP lays out a blueprint for implementing a program of rail, highway, transit, bicycle, pedestrian, and coastal resource improvements that span 27 miles of northern San Diego County. The following improvements are proposed within the San Dieguito lagoon area: Bicycle/Pedestrian Enhanced Trail and bridge on West Side of I-5 at San Dieguito Lagoon (SD#3): As part of the I-5 North Coast Bike Trail, a proposed Class I bike path would connect Del Mar Heights Road to Via de la Valle and would be 2.25 miles long and 12 feet wide. A new bike/pedestrian path is proposed on the western freeway slopes across San Dieguito Lagoon. This would cross the lagoon in an area where no crossing exists and would provide a possible connection to the CTC Trail. The bicycle/pedestrian path would be cut into a large	PWP/TREP approved by the California Coastal Commission August 2014, amended March 2016 (Caltrans 2016a)

ID #	Project Name	General Location/ Jurisdiction	Project Type	Description	Project Status/Schedule
				fill slope south of the river. Where actually crossing the lagoon, the bicycle/pedestrian path would be suspended from the existing I-5 bridge. The PWP/TREP includes the Coast to Crest Trail LOSSAN Crossing (DM#1) that would construct a pedestrian crossing of the LOSSAN rail corridor at the western end of the CTC Trail.	
3	LOSSAN Rail Corridor Improvements	Throughout San Diego coastal region	Railway infrastructure improvements	During the next 20 years, SANDAG plans to construct nearly $820 million in improvements in the San Diego County section, including a primary effort to double-track the corridor from Orange County to downtown San Diego. A portion of the LOSSAN Rail Improvement is the San Dieguito Double Track and Platform, which includes double-track; replacement of San Dieguito Lagoon bridge; and construction of new platform for fairgrounds special events.	Ongoing – Preliminary Engineering and Environmental Clearance
4	El Camino Real Bridge/Road Widening ~~Replacement~~ Project	City of San Diego	Transportation infrastructure	Modify the segment of El Camino Real between Via de la Valle and San Dieguito Road including replacing El Camino Real Bridge over the San Dieguito River, alleviate problems associated with high flood events, improve pedestrian and vehicular access to nearby coastal and recreational resources, and relieve traffic congestion.	Final Recirculated EIR issued in June 2016. Approved by Carmel Valley Community Planning Board in August 2016. Approved by City Council on February 14, 2017. NEPA approval was received in June 2018. Anticipated construction scheduled to begin June 2022 and end December 2024 (Straughn 2017). ~~Draft EIR issued in September 2015, Final Recirculated EIR issued in June 2016~~ ~~Approved by Carmel Valley Community Planning Board in Aug 2016~~

ID #	Project Name	General Location/ Jurisdiction	Project Type	Description	Project Status/Schedule
					~~Pending City approval~~
5	San Dieguito River Park Coast Ranger Station	Via de la Valle and San Andres Drive	Recreational	Construct 2,400-square-foot park ranger station and work yard adjacent to existing trail staging area.	Approved, construction to begin 2017
6	Hacienda del Mar	Near Via de la Valle and El Camino Real	Residential	150 senior housing units	Proposed
7	Widening of Via de la Valle ~~– Western Segment~~	Along Via de la Valle	Roadway improvements	Widening of two-lane portion to four lanes, from existing four-lane portion at San Andres Drive easterly to El Camino Real.	Approved, construction expected to start 2018
8	Sewer Pump Station 79	Along El Camino Real	Infrastructure	Demolish the existing sewer pump station, and construct a new pump house and other improvements.	Pending
9	St. John Garabed Armenian Church	Along El Camino Real	Religious facility	New 8,740-square-foot church, 17,185-square-foot multi-purpose hall, 13,150-square-foot recreation center, and 10,460-square-foot cultural/education building.	Approved, construction pending
10	22nd Agricultural District Master Plan	Del Mar Fairgrounds/ 22nd District Agricultural District	Master Plan updates	Replace existing exhibit buildings (add 26,220 square feet); pave east parking lot; new 60,000-square-foot health club; Solana gate improvement; rooftop sports field.	Pending
11	Surf Cup Sports lease on "Polo Fields"	El Camino Real south of Via de la Valle/City of San Diego	Property lease	New lessee for 120-acre City-owned "Polo Fields" site for soccer fields; extension of CTC Trail on south side of lease area.	Approved
	Lagoon Restoration Projects				
12	SCE San Dieguito Lagoon Restoration Project and Ongoing Maintenance	San Dieguito Lagoon both west and east of I-5 (Del Mar and San Diego).	Lagoon restoration and ongoing project maintenance	The San Dieguito Wetlands Restoration Project revitalized 150 acres of coastal wetlands, creating a fish nursery and a refuge for migratory water fowl and endangered species. The project restored tidal flows, natural habitat, and vegetation. Restoration opportunities continue to be implemented, such as W6A, which is a 1-acre site south of the San Dieguito River, west of W-19. Construction of 1.7-mile segment of CTC Trail, Dust Devil Nature Trail, two staging areas, and Birdwing Open Air Classroom.	Ongoing Restoration completed in 2011, being monitored for 40 years Ongoing on annual basis or as needed

ID #	Project Name	General Location/ Jurisdiction	Project Type	Description	Project Status/Schedule
				Project includes ongoing monitoring and assessment. Monitoring efforts include measuring flow volumes to assess tidal prism, yearly habitat surveys, survey data and field observations to assess topographic degradation, yearly inspection of seven plant species seed sets in summer–fall, exotic species surveys, water quality testing, bird surveys 18 times annually, fish sampling, macroinvertebrate sampling, and vegetation coverage analysis (CCC 2016). Inlet maintenance is also ongoing. Originally scheduled for every 2 years, inlet maintenance is periodic based upon varying environmental conditions. Material removed during inlet maintenance is placed on Del Mar Beach as sand nourishment.	
13	Fairgrounds South Overflow Lot Wetland Restoration	22nd District Agricultural Association	Wetland restoration	Approximately 11-acre wetland restoration of former dirt parking lot.	Phase 1 complete, Phase 2 under construction
14	Fairbanks Ranch Golf Course Remedial Mitigation Project	East of El Camino Real, within and adjacent to San Dieguito River, City of San Diego	Wetland and riparian habitat restoration and enhancement	The Project will include the restoration of native wetland and riparian habitat through the conversion of upland ornamental portions of the Golf Course to wetlands, as well as the enhancement of existing wetland and riparian habitat through the removal of non-native exotic and ornamental species along the river channel, and subsequent revegetation with appropriate native wetland and riparian species.	Mitigation Monitoring and Reporting Plan prepared February 2016. Ongoing permitting and approvals.

determine their potential cumulative contribution. Additionally, recently completed projects are also included on the list for informational purposes, even though the environmental effects of a previously completed project would be considered in existing conditions and included in the overall baseline. Programmatic policy documents (i.e., Coastal Regional Sediment Management Plan, Shoreline Preservation Strategy) are not included on the cumulative project list, as those are considered strategic planning documents that do not necessarily provide authority for implementation and generally do not identify specific projects.

8.3 CUMULATIVE IMPACT ANALYSIS

8.3.1 LAND USE AND RECREATION

Section 5.1 identified no significant land use impacts as a result of the implementation of restoration or material disposal associated with the project. Other cumulative projects, such as infrastructure improvements both within and around the San Dieguito Lagoon area, are not generally of the nature to result in significant land use conflicts or incompatibilities and would improve or upgrade existing infrastructure such as I-5 or the railway corridor as opposed to creating new uses or substantially modified alignments. However, the EIR/EIS for the SCE restoration project (USFWS and San Dieguito River Park JPA 2000) identified a cumulative land use impact due to the loss of farmland associated with that restoration project and other area projects that was significantly contributing to changing the semi-rural character of the area. The proposed project would not convert any active farmland and would maintain the current open space nature of the W-19 site and disposal site and thus would not contribute to an urbanizing change of local character. **For these reasons, the proposed project would not make a cumulatively considerable contribution to a significant cumulative impact related to land use.**

No significant impacts to recreation opportunities or facilities were identified in association with the project. Other cumulative projects listed would serve to enhance recreational opportunities and facilities within the area. For example, the I-5 North Coast Corridor Project PWP within the San Dieguito lagoon area includes a new bike path along the interstate and new CTC Trail undercrossing at the railroad bridge. Also, a new San Dieguito River Park ranger station is being constructed adjacent to the existing trail staging area near Via de la Valle and San Andres Drive. While temporary closures or rerouting may be required during construction or maintenance activities for safety purposes, recreation opportunities would continue to be available in the area and recreation facilities would ultimately be enhanced by the project and other cumulative projects. **The temporary restrictions and interruptions to recreational opportunities that would result from the proposed project would not make a cumulatively considerable contribution to a significant cumulative impact related to recreation.**

8.3.2 HYDROLOGY

Section 5.2 identified no significant hydrology impacts related to project restoration, material disposal, or maintenance. It is possible that other cumulative projects, specifically projects that require substantial earth-moving or surface alterations, or projects that increase impervious surface area such as the El Camino Real Bridge/Road Widening ~~Replacement~~ Project, could also

change and modify local hydrology. Some cumulative projects could serve to improve river hydraulics through reduced constrictions, such as the El Camino Real Bridge/Road Widening ~~Replacement~~ Project, and the Los Angeles to San Diego Rail Corridor (LOSSAN) double-tracking project. However, similar to the proposed project, other cumulative projects would be required to adhere to all federal, state, and local regulatory requirements, and may include preparation of a SWPPP and implementation of BMPs to minimize impacts on surface drainage patterns, the amount of surface runoff, and the exposure of people or property to water-related hazards such as flooding. These regulations and requirements would further aid in minimizing the potential for project impacts that could combine to create cumulative hydrology impacts. **For these reasons, the proposed project would not make a cumulatively considerable contribution to a significant cumulative impact related to hydrology.**

8.3.3 COASTAL PROCESSES AND SEDIMENT DELIVERY

Section 5.3 details the potential impacts on coastal processes, including a disruption to the local littoral system due to the increased amount of sand entrained in the lagoon inlet. Another potential impact would result from decreased river sediment supplies that would no longer be available for beach and littoral cell replenishment. These significant impacts would be mitigated through the implementation of a deepened sand trap that would be used to capture material and place it on a beach receiver site, placement of sand removed during W-19 lagoon maintenance on the beach, and a beach nourishment program. Each of these activities would provide intermittent nourishment on the beaches and in the littoral cell. However, as identified in the SCE restoration project EIR/EIS, potential cumulative impacts to the lagoon inlet may be substantial depending on the quantity of sand placed and the location of the site relative to the inlet, resulting in a cumulatively significant but temporary increase in the longshore transport rate in the vicinity of the inlet. The SCE EIR/EIS found that the increase in the availability of sand at the inlet may result in more frequent closure and necessity for increased maintenance dredging; however, since implementation of the SCE restoration project, the inlet has remained open for longer periods than initially projected. The additional volumes of sand added to the beaches due to the deepened sand trap as mitigation as well as the sand placement of material removed during maintenance activities and beach nourishment program would be the same as the SCE placement locations. However, because the potential impact of more frequent inlet closure as anticipated in the SCE EIR/EIS has not occurred since implementation and the inlet has remained opened for longer periods of time, the increased sand volumes resulting from the proposed project would not add to a cumulative impact. **For this reason, the proposed project would not make a cumulatively considerable contribution to a temporary significant cumulative coastal process and sediment deposition impact during sand trap maintenance and W-19 inlet maintenance.**

8.3.4 WATER QUALITY

As detailed in Section 5.4, overall water quality throughout the lagoon would not be impacted with implementation of the proposed project. Overall, the proposed project would improve water quality that would cumulatively benefit the lagoon environment. Water quality and hydrology impacts can have widespread effects on an entire watershed, hydrologic unit, and downstream locations. For this reason, analysis of potential cumulative impacts to water quality must also consider development and projects that are occurring at upstream locations in the watershed.

Often, smaller projects with minor ground disturbance would not be of the type or magnitude to create significant water quality impacts. Some projects, such as the Sewer Pump Station 79 project, would make improvements to existing infrastructure to minimize the potential for local wastewater spills to affect local water quality. However, larger projects, such as the I-5 North Coast Corridor project, LOSSAN project, or other large developments within the watershed, could result in degraded water quality. As described in Section 5.4, multiple federal, state, and local regulations must be complied with to protect water quality. Typically, projects under the Construction General Permit would be required to prepare a SWPPP that identifies BMPs that would be used to prevent pollutant discharge and minimize other water quality impacts. Additionally, projects would be implemented in accordance with RWQCB water quality certifications, which require compliance with applicable water quality standards, limitations, and restrictions. The EIR/EIS for the SCE restoration project (USFWS and San Dieguito River Park JPA 2000) identified a cumulative contribution to water quality impacts, but found that the impact could be mitigated with BMPs, similar to those required for the proposed project and other cumulative projects. The required adherence to water quality regulations and implementation of required BMPs would minimize the potential for water quality impacts to result from cumulative projects and development throughout the watershed. **For these reasons, the proposed project would not make a cumulatively considerable contribution to a cumulatively significant impact related to water quality.**

8.3.5 GEOLOGY/SOILS

Section 5.5 identified no significant impacts related to geologic hazards. It is possible that the W-19 restoration project could be under construction concurrent with other cumulative projects. Planned infrastructure projects within the local area, including the railroad corridor improvements as part of the LOSSAN double-tracking project, the El Camino Real Bridge/Road Widening ~~Replacement~~ Project, and other road widening projects would be subject to multiple regulatory codes and requirements to ensure structures are properly designed and engineered to achieve high safety standards when being constructed in unstable geologic conditions. The ~~draft~~EIR for the upstream and adjacent El Camino Real Bridge/Road Widening ~~Replacement~~ Project did not identify any significant direct or cumulative geologic impacts (City of San Diego 2015a). The SCE restoration project has been completed adjacent to the project site, including site-specific geotechnical investigations and did not identify any unmitigated significant geologic hazards or any cumulative geologic impacts (USFWS and San Dieguito River Park JPA 2000).

Thus, the proposed project would not make a cumulatively considerable contribution to a cumulatively significant impact related to geology and soils.

8.3.6 BIOLOGICAL RESOURCES

The majority of the cumulative projects that could also include construction are located within or in proximity to the river valley itself and have the potential to adversely impact sensitive biological resources. Adverse biological impacts resulting from cumulative projects could include the disturbance of sensitive vegetation communities, habitat loss, impacts to nesting and/or foraging habitat of sensitive animal species, temporary restrictions to wildlife movement, degraded water quality, and others. These projects would be subject to federal, state, and local

regulations aimed at the avoidance, protection, and mitigation of adverse impacts to biological resources although biological impacts could still occur.

As described in Section 5.6, similar temporary biological impacts would result during the active construction of the proposed project as habitat removal would be necessary to create the proposed habitat distributions and elevations to support those habitats. While it has been determined that the method to best minimize the temporary duration of proposed project impacts is to have year-round construction, with initial vegetation removal to occur outside of the breeding season (PDF-19), some other cumulative projects would avoid construction during the breeding season. For example, the El Camino Real Bridge/Road Widening Project Final EIR (City of San Diego 2016) describes how that project will avoid construction activity in the river and mitigation site during the nesting season and has specific measures that will be taken to protect non-migratory light-footed Ridgway's rail.

San Dieguito Lagoon and the San Dieguito river valley offer over 600 acres of habitat for sensitive wildlife species, spanning from east of Jimmy Durante Boulevard to beyond the El Camino Real Bridge on both sides of the river. As an example, Section 5.6 describes that light-footed Ridgway's rails have been identified in the lagoon area immediately east of I-5 as well as upstream of the El Camino Real Bridge. Species have the ability to move both east and west throughout the river valley corridor to find adequate areas of habitat if certain locations are disturbed by construction activities, either directly through habitat loss or by indirect effects such as noise. Areas upstream of El Camino Real will also be improved through the Fairbanks Ranch Golf Course Remedial Mitigation Project. Even if the projects were to overlap in timing, the Fairbanks Ranch Golf Course work includes avoidance and minimization requirements related to vegetation disturbance that would include implementation of restrictions for the work to only be conducted by hand and outside of the nesting bird season period. The cumulative analysis in the El Camino Real Bridge/Road Widening Project Final EIR (City of San Diego 2016) also found that implementation of the bridge/road widening project and cumulative projects in the vicinity of the project site would not result in adverse cumulative impacts to sensitive wildlife. In addition, the construction of the El Camino Real Bridge/Road Widening Project is not currently scheduled to begin until mid-2022 and thus would have the potential for only minimal overlap of construction activities with the proposed project. Thus, for the majority of the time, species temporarily affected by the proposed project activities could likely use habitat near the El Camino Real Bridge and areas east, and similarly, species affected during the El Camino Bridge/Road Widening Project could use newly created habitat within the proposed project area.

As described in Section 8.3.10 below, noise is a localized issue that extends only as far as noise from a project is audible. Noise sources do not necessarily combine in a manner that creates substantially higher noise levels. For example, if two noise sources are each producing 90 dB right next to each other, the combined noise sound level will be 93 dB, as opposed to 180 dB (OSHA 2013). Though other cumulative projects are anticipated to occur within the general river valley area at some point during restoration activities, it is unlikely that two projects would combine to create noise levels that are substantially greater than those identified for the individual projects or lead to cumulative noise impacts to species. Seasonal restrictions on cumulative projects would also serve to minimize the potential for overlapping noise effects that could affect sensitive wildlife species. The Mitigation Monitoring and Reporting Plan for the

Fairbanks Ranch Golf Course Remedial Mitigation Project states that all noise generating work adjacent to sensitive habitats would be restricted to occur outside of the bird nesting season (Dokken 2016). The El Camino Real Bridge/Road Widening Project Final EIR states that construction activity in the river and mitigation site will avoid the nesting season (February 1 through September 30) of all sensitive bird species, and specific measures will be taken to protect non-migratory light-footed Ridgway's rail.

The ability of wildlife species to use lagoon habitat during project operations (i.e., ongoing maintenance) is discussed in Section 5.6 of the EIR. As detailed, the proposed project operations would include infrequent maintenance activities of short duration. Activities would be focused within specific areas of the site that receive substantial sedimentation and therefore have reduced habitat function. These focused activities would not significantly affect the ability of species to utilize habitat within the lagoon, and would not contribute to a significant cumulative impact. Additionally, during future maintenance the local wildlife would also have the benefit of other restored habitat areas from other nearby restoration projects, such as the SCE San Dieguito Lagoon Restoration Project or the Fairbanks Golf Course Remedial Mitigation Project.

~~Conversely, a~~As identified in Table 8-1 above, the SCE San Dieguito Lagoon Restoration Project recently restored a large portion of the lagoon and associated upland area. As a result of this restoration, habitat within the general lagoon area now has increased biological value and could provide refugia for species displaced or indirectly affected by implementation of the proposed project. Similarly, implementation of the proposed project would further enhance wetland function and value within the San Dieguito Lagoon complex by expanding suitable habitat for a number of listed and special-status species. In the context of the larger lagoon complex and the habitat it offers, cumulative impacts from the implementation of cumulative projects would be relatively minor.

While some adverse short-term biological impacts could occur if construction overlaps with that of the proposed project, they would not be considered significant because the cumulative contribution of the proposed project would cease over time as habitats establish. In addition, the proposed project would not result in a considerable contribution to long-term cumulative impacts because of the overall positive and beneficial biological results that would occur from the construction of this proposed project. **Thus, the proposed project would not make a cumulatively considerable contribution to a cumulatively significant impact related to biological resources.**

8.3.7 VISUAL RESOURCES

Section 5.7 identified that the visual environment of the W-19 site and disposal site would be altered due to construction activities but the alteration would not be a significant impact. When analyzing cumulative visual impacts, it is important to consider those projects that could alter the existing visual environment with the same viewshed as the project. Other cumulative projects, such as the I-5 North Coast Corridor Project, ~~and~~the widening of Via de la Valle, and the El Camino Real Bridge/Road Widening ~~Replacement~~ Project, could contribute to the short-term temporary construction visual affects by adding more construction equipment operating in the area, increasing vegetation removal, landform modifications, stockpiling, and other construction-

related activities. However, due to the limited nature of construction within the W-19 site and disposal site, because the visual intrusion of construction activities would last only for the duration of each project's construction period and, ultimately, the river valley character would be returned similar to existing preconstruction conditions, the visual effects from various construction projects are considered noticeable and somewhat out of context, but would not be substantial. **Thus, the proposed project would not make a cumulatively considerable contribution to a significant cumulative visual impact due to the cumulative construction projects throughout the W-19 site and disposal site.**

The EIR for the SCE restoration project (USFWS and San Dieguito River Park JPA 2000) identifies a significant cumulative visual impact due to landform alteration and the El Camino Real Bridge/Road Widening ~~Replacement~~ Project (City of San Diego 2015a) identifies cumulative visual impacts due to blocked views. The project would not result in visual degradation of the same nature or magnitude that could add to these particular visual cumulative impacts. **Thus, the proposed project would not make a cumulatively considerable contribution to a significant long-term cumulative visual impact.**

8.3.8 TRAFFIC, ACCESS, AND CIRCULATION

As outlined in Section 5.8, a short-term significant traffic impact would occur during construction activities along Via de la Valle, El Camino Real, and local freeway segments. This impact would be temporary, lasting only the duration of the project construction. Hauling material for disposal would occur onsite and would not contribute to a cumulative traffic impact. Wetlands maintenance would also require use of the congested two-lane segments of El Camino Real and Via de la Valle and result in a significant temporary impact related to local roadways.

If construction or maintenance trips associated with the project were to occur simultaneously with other cumulative projects that either add traffic, require lane closures, or change the traffic flow in the immediate area, most specifically the adjacent El Camino Real Bridge/Road Widening ~~Replacement~~ Project, ~~widening of Via de la Valle (anticipated 2018), or~~the I-5 North Coast Corridor Project, or widening of Via de la Valle, it is possible that the resulting changes in traffic volumes and roadway capacities could combine to create greater congestion and traffic impacts. It is difficult to anticipate if cumulative projects would overlap because of unknown timing of project construction schedules; however, it is possible that some portion of the projects would overlap. For example, the El Camino Real Bridge/Road Widening ~~Replacement~~ Project is anticipated to be constructed over a period of ~~3 years~~30 months (Straughn 2017~~City of San Diego 2015~~) and would have the potential to occur concurrently with some final elements of the proposed project.

Mitigation measures required for the project include Traffic-1, which would include notifying motorists of delays~~, and~~ suggesting earlier alternative routes, and coordinating with the El Camino Real Bridge/Road Replacement Project and/or other local projects if project schedules should overlap. Additional mitigation measures to reduce the traffic congestion were considered, but none were found to be feasible to mitigate the temporary traffic impacts due to construction traffic. The limited number of roads servicing the area creates challenges in identifying feasible mitigation options. **For this reason, implementation of the proposed project would make a**

cumulatively considerable contribution to a temporary significant cumulative traffic impact if adverse traffic impacts from various projects were to occur concurrently. As described above, additional mitigation measures detailed in Section 5.8.5 were found infeasible at a project level. No additional feasible cumulative mitigation measures have been identified to further reduce the cumulative traffic impacts.

8.3.9 AIR QUALITY

Air quality is typically considered a regional issue, as pollutants can travel long distances, regardless of jurisdictional boundaries. For this reason, the cumulative analysis considers regional air quality throughout the SDAB. However, localized air quality impacts can also result from numerous construction projects in a small area.

As detailed in Section 5.9, cumulative air quality analysis focuses on whether a project would result in a cumulatively considerable increase in emissions. By its very nature, air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development within the SDAB, and this regional impact is cumulative rather than attributable to any one source. A project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development projects.

The thresholds are relevant to whether a project's individual emissions would result in a cumulatively considerable incremental contribution to the existing cumulative air quality conditions. A project that produces a significant air quality impact in an area that is out of attainment is considered to significantly contribute to the incremental cumulative air quality impact. Conversely, projects that do not exceed the threshold criteria or can be mitigated to less than criteria threshold levels are considered insignificant contributors and would not substantially add to the overall cumulative impact. Because construction activities would exceed the project-level air quality significance thresholds for PM_{10} emissions, the proposed project would have a cumulatively considerable contribution to the region's air quality and impacts would be significant. However, Mitigation Measure AQ-1, which specifies construction methods to reduce fugitive dust emissions associated with off-road equipment and heavy-duty vehicles, is required for project implementation as detailed in Section 5.9.5, along with standard construction practices listed in Table 3-2 to reduce PM emissions to below a level of significance. **Thus, because emission levels from the proposed project would be mitigated below appropriate thresholds, the project would not make a cumulatively considerable contribution to a significant cumulative air quality impact**.

8.3.10 NOISE

Noise is a localized issue and potential impacts extend only as far as noise from a project is audible. For this reason, cumulative impacts would only result when two projects are in proximity and occurring concurrently. As detailed in Section 5.10, the noise analysis did identify that trail users would be exposed to substantially increased noise levels for short periods of time when grading associated with restoration activities or maintenance is occurring close to the project boundary and users are hiking within proximity to that activity (estimated duration on the

order of minutes), which is considered significant. However, Mitigation Measure Noise-1 mitigates this impact to less than significant. The significant noise impact to trail users would not be substantially worsened by cumulative projects as that impact is extremely localized and would only occur when trail users are very near restoration equipment in active use.

It is possible that another cumulative project could occur during the same timeframe as project construction. For example, the I-5 North Coast Corridor Project, ~~or~~ widening of Via de la Valle, or the El Camino Real Bridge/Road Widening ~~Replacement~~ Project are cumulative projects that would be in proximity to the project and could potentially overlap with the construction period. Though other cumulative projects are anticipated to occur within the general river valley area at some point during restoration activities, it is unlikely that the two projects would occur in such proximity to each other and also within close distance to a residential area that their noise could combine and result in an exceedance of noise level thresholds. While background ambient noise levels might be temporarily increased during simultaneous construction of multiple projects, this increase is not anticipated to be above significant levels at nearby receptors. **Thus, the proposed project would not make a cumulatively considerable contribution to a significant cumulative noise impact.**

8.3.11 CULTURAL RESOURCES

As described in Section 5.11, archaeological resources, if present onsite, could be substantially damaged or destroyed during excavation of the W-19 restoration site or previously undisturbed portion of the disposal site. The potential for damage or destruction of archaeological resources would be considered a significant project impact. Implementation of Mitigation Measure Cultural-1 would reduce proposed project impacts to archaeological resources to less than significant levels through the monitoring and appropriate protection/preservation of any historic resources encountered.

Other projects (listed in Table 8-1) that involve ground disturbance would also have the potential to impact buried cultural resources. Similar to the project, these cumulative projects would also be subject to all federal, state, and local regulations mandating the protection of cultural resources. If cumulative projects identify a potential to impact cultural resources, the impact would typically be mitigated through measures such as site preservation or data recovery. These types of mitigation measures allow the cultural resources data to be protected and preserved to ensure that the critical information necessary to the future study of cultural resource sites and artifacts is not lost or destroyed by the proposed project or other cumulative projects within the study area. For example, the El Camino Real Bridge/Road Widening ~~Replacement~~ Project requires monitoring and implementation of appropriate measures if unknown resources were to be encountered (City of San Diego 2015a). Thus, potential cumulative impacts to historic resources would be expected to be fully avoided, minimized, or mitigated through a variety of methods including those described above, and critical information regarding regional prehistory preserved and/or documented. **For these reasons, the proposed project would not make a cumulatively considerable contribution to cumulative impacts for cultural resources.**

8.3.12 PALEONTOLOGICAL RESOURCES

As identified in Section 5.12, implementation of the project would require disturbance of approximately 27,500 cy of soils that have a moderate to high resource potential, which would result in a potentially significant impact related to paleontological resources. A similar conclusion was drawn for the El Camino Real Bridge/Road Widening ~~Replacement~~ Project due to new ground disturbance with comparable mitigation (City of San Diego 2015a). Such mitigation, as proposed for the project, the El Camino Real Bridge/Road Widening ~~Replacement~~ Project, and many other cumulative projects requiring CEQA compliance, ensures that any paleontological resources encountered during construction would be adequately treated and the important information retained and documented. This would minimize/mitigate the potential for the project to add to the cumulative loss or destruction of significant paleontological resources. **The proposed project would not make a cumulatively considerable contribution to a cumulatively significant impact related to paleontology.**

8.3.13 PUBLIC SERVICES AND UTILITIES

As detailed in Section 5.13, the proposed project would not result in significant impacts to public services and utilities. Generally, the listed cumulative projects would not result in new construction with substantial increase in demand for utilities or public services. For example, neither the El Camino Real Bridge/Road Widening ~~Replacement~~ Project nor the SCE restoration project identified impacts to public services or utilities. Some cumulative projects would serve to improve or replace old or failing utility infrastructure in the area, such as the Sewer Pump Station 79. Large projects such as the I-5 North Coast Corridor or LOSSAN double-tracking projects would likely require extensive coordination with public service providers due to necessary infrastructure relocations to avoid interrupted service; however, they are not the type of project that necessitate a substantial increase in the long-term demand for public services or utilities. **Because the proposed project would not result in the need for new systems or substantial alterations to existing systems, the project would not make a cumulatively considerable contribution to a cumulative direct or indirect adverse impact to utilities or public services.**

8.3.14 PUBLIC HEALTH AND SAFETY

Section 5.14 identified no significant impacts related to public health and safety. Other cumulative projects, such as the El Camino Real Bridge Replacement, I-5 North Coast Corridor, and LOSSAN double-tracking projects, may also occur within the area in an overlapping timeframe with the project and would also be required to comply with all regulatory safety requirements regarding hazardous materials. The mandatory adherence to regulatory requirements limits potential for cumulative risks associated with the use of hazardous materials and public health and safety.

The proposed project would alter the water flows though San Dieguito Lagoon due to changed hydrology and maintenance of the channels and inlet. The change in hydrology would be combined with the alterations that resulted from the SCE restoration project. However, the effect of the project on flows and water movement is not anticipated to create public health or safety

risks. The EIR/EIS for the SCE restoration project also identified no cumulative impact to public health and safety due to altered water flows.

Thus, the proposed project would not make a cumulatively considerable contribution to a cumulative public health or safety impact.

8.3.15 GREENHOUSE GAS EMISSIONS

A single project is unlikely to have a significant impact on global climate change. However, the cumulative effects of worldwide GHG emissions have been clearly linked to changes in the atmosphere and identified as the main cause of global climate change. For this reason, analysis of GHG emissions from the project, as provided in Section 5.15, is considered a cumulative impact analysis. Section 5.15 provides a complete analysis of GHG emissions for the proposed project. The GHG emissions from construction activities associated with lagoon restoration, materials disposal, or maintenance would not exceed the significance threshold of 900 MT CO_2e per year used for analysis of this project. **Therefore, the project would not generate GHG emissions that may have a significant impact on the environment and the project would not make a cumulatively considerable contribution to a cumulative climate change or GHG impact.**

Specific to sea level rise and extreme events, the project would provide a benefit by maintaining and enhancing tidal exchange with the ocean. This enhancement and ongoing maintenance would increase the ability of the lagoon and river valley to slowly adapt to changes in sea level over time. Additionally, lowered flood elevation would provide resiliency against floods, other extreme events, and sea level rise. **Therefore, regardless of other projects' cumulative contributions to sea level rise or extreme events, the project and its alternatives would not result in a cumulatively considerable contribution to sea level rise.**

CHAPTER 9.0
EFFECTS FOUND NOT TO BE SIGNIFICANT

Section 15128 of the CEQA Guidelines requires that the EIR "contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR." An Initial Study was not prepared for the proposed project; therefore, a brief description of the issue area where effects were found not to be significant is provided in Table 9-1.

Table 9-1
Effects Found Not to Be Significant

Environmental Issue Area	Effects Found Not to Be Significant Rationale
Agricultural Resources	Under City of San Diego CEQA Guidelines, the determination of whether a conversion of agricultural land would be substantial is based not on acreage, but on the economic viability of agriculture on the site and its location relative to other agricultural areas. Because there is no agriculture currently taking place within the lagoon, the project would not impact the economic viability of any agricultural activities moving forward. Conversion of a substantial amount of Farmland Mapping and Monitoring Program-mapped farmland, or a substantial amount of land zoned for agricultural use, would not occur (as shown in Appendix K). The project site does not contain land covered by a Williamson Act contract. No development would occur as part of proposed project implementation, and implementation would not preclude future agricultural uses in adjacent areas.
Mineral Resources	No mineral resource that would be valuable to the region and the residents of California would be lost as a result of this project. This 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. Preliminary testing of subsurface deposits indicates that no known mineral resources would be affected by the proposed project. The restoration of the W-19 site and placement of material on the disposal site would not preclude future extraction of mineral resources from the site or area.
Population and Housing	The proposed project does not include the development of population-generating uses and would also not displace any existing housing, nor would the project displace any people. The open space setting of the project area and disposal site would be maintained.

The remaining issue areas included in Appendix G of the CEQA Guidelines were evaluated in detail in Sections 5.1 through 5.15 of this document.

SDG&E Utility Relocation

As described in Chapter 3 Project Description under Utility Relocation, implementation of the proposed project would require relocation of SDG&E utilities contained within the existing utility corridor that traverses the W-19 restoration site, including a single set of utility poles

carrying a 69-kV0 transmission line and a 12-kV distribution line. As stated in the Project Description, the actions necessary to complete the SDG&E utility relocation were considered as part of the larger proposed project. The proposed project would result in some significant and unavoidable impacts (biology, traffic, noise); however, the actions necessary to complete the utility relocation would not be contributing factors to those significant impacts. While the utility relocation would require elements that generate noise, traffic, and could have minor temporary effects on biological resources, those specific effects are not independently significant and do not contribute to the reason significant impacts have been identified for the proposed project. Thus, the proposed work on SDG&E's electrical facilities as part of the larger project does not have the potential for a significant effect on the environment. The SDG&E utility relocation would not change the less than significant finding for all other topic thresholds.

CHAPTER 10.0
ALTERNATIVES

CEQA requires that a project consider alternatives to a proposed project as a part of its evaluation. This section evaluates alternatives to the proposed San Dieguito Lagoon W-19 Restoration Project that are feasibly capable of reducing or eliminating significant environmental impacts. According to State CEQA Guidelines Section 15126.6(f)(1), factors that may impact feasibility of alternatives include site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, and jurisdictional boundaries (projects with a regionally significant impact should consider the regional context). For the proposed project, alternatives to both the W-19 site restoration as well as materials disposal were evaluated.

Table 10-1 provides a comparison of the following lagoon restoration design alternatives addressed in this chapter:

- Alternative B
- Alternative C
- No Project Alternative

The proposed project, as fully evaluated throughout Chapter 5 of this EIR, was initially evaluated as Alternative A in preliminary design and technical studies.

In addition to alternatives associated with the W-19 restoration, an offsite option for disposal was evaluated. Although there would be an increase in material removed under Alternatives B and C (approximately 9 percent more), as compared to the proposed project, this increase would not result in substantial changes to the materials disposal analysis. Therefore, the offsite disposal alternative could be applied to any of the W-19 build alternatives (including the proposed project) and is addressed separately for each issue area below the restoration alternatives analysis.

10.1 ALTERNATIVES DEVELOPMENT

As discussed in Chapter 4, the proposed San Dieguito Lagoon W-19 Restoration Project is identified as a mitigation opportunity within the PWP/TREP. Specifically, the PWP/TREP considers the proposed project as mitigation that would establish approximately 50 acres of wetland habitat. Alternative B would establish approximately 88 acres of wetland and riparian habitat, 24 acres of coastal sage scrub, and 25 acres of transitional upland habitat. Approximately 99 acres of wetland and riparian habitat, 21 acres of coastal sage scrub, and 18 acres of transitional habitat would be established with Alternative C. Both Alternatives B and C would initially meet mitigation requirements outlined within the I-5 North Coast Corridor PWP/TREP. While both alternatives would initially meet mitigation requirements outlined in the PWP/TREP, sea level rise and storm events could affect or alter initial habitat acreages, as habitats for both alternatives would be designed to allow for natural influences and evolution over time. Alternatives to the proposed project were identified in previous reports, as described below, as

well as from input provided by responsible agencies and interested organizations and individuals. The history of alternatives considered over the course of the project is included in Table 10-1 below.

Table 10-1
Restoration Design Alternatives Considered Throughout Project Development

Name of Alternative		Brief Description	Carried Forward or Eliminated?
Option 1 (from Poseidon Resources 2008 study of W-19 restoration area)	Variation 1	Restore approximately 55 acres (ac) of tidal wetlands west of the utility corridor and 19 ac of brackish wetlands east of the utility corridor. Protect both the saltwater wetlands and freshwater wetlands from flood flows by a berm/dike. Create lateral weir on the upstream end of the freshwater wetlands berm.	Revised in 2013 to become Variation 4 because of substantial sediment deposition in both wetlands.
	Variation 2	Same as above, but with a raised brackish wetlands weir.	Considered further during preliminary engineering. Eliminated due to more sediment deposition in both wetlands than Variation 4.
	Variation 3	Same as above, but with no brackish marsh or weir.	Eliminated in 2013 because of substantially increased sediment deposition in saltwater wetland over other variations.
	Variation 4	Same as above, but with a dike instead of a brackish wetland weir.	**Analyzed in this EIR as the proposed project (Alternative A).**
	Variation 5	Same as above, but with a berm protecting saltwater wetlands and extension of the brackish wetland dike to the utility corridor.	Considered further during preliminary engineering. Eliminated, although no deposition in wetlands resulted in higher water surface elevation upstream, leading to potential flooding of adjacent areas.
Option 2 (created in 2011)	Variation 1	Same saltwater wetlands footprint (55 ac) as Option 1, and a brackish wetlands similar but slightly larger (20 ac) than Option 1, but without protecting berms.	**Analyzed in this EIR as Alternative B.**
	Variation 2	Same as above, but without brackish wetlands.	Eliminated in 2013 because of increased deposition into saltwater wetlands over Variation 1.
	Variation 3	Same as above, but with a dike protecting the brackish wetlands and directing flows into the channel.	Eliminated in 2013 because water flowing around the dike would deposit substantial sediment into the brackish and saltwater marshes and dike would not be consistent with Option 2.
	Variation 4	Same as above, but with the brackish wetlands dike extended to the utility corridor.	Eliminated in 2013 because water encroachment where the dike ends would result in sediment in the saltwater wetlands and dike would not be consistent with option 2.

Name of Alternative	Brief Description	Carried Forward or Eliminated?
Option 3 (created in 2011)	Similar to Option 1 – wetlands protected by berm/dike, but saltwater wetlands area increases to 62 ac by moving the protecting berm to the north. Brackish wetland has the same configuration and area (19 ac) as Option 1.	Eliminated in 2013 because it resulted in an increase in the 100-year water surface elevation upstream of El Camino Real, resulting in potential flooding in adjacent areas.
Option 4	Created to test the idea of moving the saltwater and brackish wetlands next to the river without protection so that any flood flows overtopping the south bank would flow into the established wetlands. This option would result in 64 ac of saltwater wetlands and 19 ac of brackish wetlands.	Eliminated in 2013 because there would be significant sediment deposition throughout established brackish and saltwater wetlands.
Option 5	Provides protected saltwater (50 ac) and brackish wetlands (15 ac) and unprotected saltwater (22 ac) wetlands. If built, unprotected wetlands would provide an opportunity to observe the impact of flooding and sediment on the wetlands. By allowing river flow into wetland areas during relatively low flow storm events, the design would test the ability of created wetlands to evolve over time.	**Analyzed in this EIR as Alternative C.**
Option 6	Similar to Options 1 and 3 – protected saltwater wetlands, with adjustments made to give berm/dike a more natural appearance.	Eliminated in 2013. More natural appearing berm/dike incorporated into Alternatives A and C.

Through the process summarized in Table 10-1, various alternatives and options were evaluated for the proposed project. Alternatives would have different project components, some of which would increase the difficulty of maintaining wetland acreage into the future without resulting in additional impacts (e.g., berms would be designed to overtop during storm events, or wetlands would be directly adjacent to the river). As described for the proposed project, both sea level rise (e.g., higher water elevations) and storm events (e.g., sedimentation from water carried down the San Dieguito River) were considered as part of the analysis for each alternative to identify potential changes in the site over time. The results of these analyses are included in Appendix D and F and could affect the ability of the project to satisfy the long-term requirements for specific agencies if mitigation is tied to maintaining a specific wetland acreage under future conditions. A summary of habitat conversion with sea level rise scenarios modeled for the proposed project and alternatives is included in Table 10-2 below. Sea level rise is evaluated separately from sedimentation due to storm events, since prediction of storm event timing within the sea level rise context is extremely speculative. Predicted loss of wetland acreage due to sedimentation over the next 25-100 years for Alternatives B and C, which is dependent upon the size and frequency of storm events that are highly unpredictable, is included in Table 3 of Appendix F.

Table 10-2
Habitat Conversion with Sea Level Rise[1] for Proposed Project and Alternatives (acres)

Habitat	Proposed Project			Alternative B			Alternative C		
	Initial	SLR 1.5	SLR 5.5	Initial	SLR 1.5	SLR 5.5	Initial	SLR 1.5	SLR 5.5
Brackish Marsh	15.5	13.0	0.0	17.7	15.2	0.0	15.5	13.0	0.0
Riparian	3.2	3.2	0.0	3.3	3.3	0.0	3.2	3.2	0.0
Riparian Enhancement	5.4	3.7	0.0	5.4	3.7	0.0	5.4	3.7	0.0
Brackish/Riparian Subtotal	**24.2**	**19.8**	**0.0**	**26.4**	**22.1**	**0.0**	**24.2**	**19.8**	**0.00**
High Marsh	15.9	7.4	7.5	15.9	7.4	7.4	22.3	6.2	2.3
Mid Marsh	10.7	11.6	10.2	10.7	11.6	10.0	15.1	13.8	5.6
Low Marsh	17.9	7.0	19.1	17.9	7.0	19.2	17.8	11.1	14.5
Mudflat	5.4	20.8	16.9	5.4	20.8	19.0	6.0	27.5	17.5
Subtidal	9.8	20.9	56.8	9.8	20.9	56.8	10.4	21.1	67.7
Wetlands Subtotal	**59.6**	**67.7**	**110.5**	**59.6**	**67.7**	**112.4**	**71.6**	**79.5**	**107.5**
Transitional/Upland	**40.3**	**36.6**	**13.6**	**38.3**	**34.6**	**12.0**	**26.9**	**23.3**	**15.0**
Total	**124.1**	**124.1**	**124.1**	**124.4**	**124.4**	**124.4**	**122.7**	**122.7**	**122.5**

[1] Habitat conversion with SLR scenarios is evaluated separately from sedimentation due to storm events, since prediction of storm event timing within the sea level rise context would render modeling inaccurate. Totals may not sum due to rounding.

10.2 RATIONALE FOR ALTERNATIVE SELECTION

As discussed in Chapter 5, implementation of the proposed project would result in significant and unavoidable impacts to biological resources; traffic, access, and circulation; and noise, all of which are temporary in nature. CEQA Guidelines Section 15021(a)(2) requires that a public agency not approve a proposed project if there are feasible alternatives available that would substantially lessen the project's significant impacts. The alternatives identified in this section represent a reasonable range of variations on the project that are designed to reduce one or more significant impacts of the proposed project. Each issue area analyzed in Chapter 5 is addressed for the alternatives, and results of this comparison are summarized in Table 10-3. As Table 10-3 shows, both Alternatives B and C would reduce the severity of some impacts and increase others, but would not change significance conclusions for any issue area as compared to the proposed project. These alternatives do not substantially lessen the significant impacts associated with the proposed project, although impacts may occur to a slightly lesser extent than the proposed project.

Alternatives B and C would increase the volume of disposal from 1,100,000 cy under the proposed project to 1,200,000 cy under Alternatives B and C. The increase for Alternative B is the result of less need for material onsite, while the increase for Alternative C is the result of the additional excavation to create the riverside wetlands. This increase, while increasing the duration of the construction, would not result in substantial changes to the onsite or offsite disposal options described for the proposed project. Therefore, this section only compares impacts related to the lagoon restoration and maintenance components of the project. The offsite disposal option is addressed following the restoration alternatives analysis.

Table 10-3
Comparison of the Proposed Project and Project Alternatives

Environmental Issue Area	Proposed Project	Alternative B		Alternative C		No Project Alternative	
		Significance Conclusion	Impact Compared to Proposed Project[2]	Significance Conclusion	Impact Compared to Proposed Project[2]	Significance Conclusion	Impact Compared to Proposed Project[2]
Land Use and Recreation	LTS	LTS	Similar	LTS	Similar	LTS	Greater
Hydrology	LTS	LTS	Similar	LTS	Greater	NI	Greater
Coastal Processes and Sediment Delivery	M	M	Greater	M	Greater	NI	Less
Water Quality	LTS	LTS	Similar	LTS	Greater	LTS	Greater
Geology/Soils	LTS	LTS	Less	LTS	Less	NI	Less
Biological Resources	S	S	Similar	S	Similar	NI	Less
Visual Resources	LTS	LTS	Greater	LTS	Greater	NI	Less
Traffic, Access, and Circulation	S	S	Similar	S	Similar	NI	Less
Air Quality	M	M	Greater	M	Greater	NI	Less
Noise	S	S	Less	S	Less	NI	Less
Cultural Resources	M	M	Similar	M	Similar	NI	Less
Paleontological Resources	LTS	LTS	Similar	LTS	Similar	NI	Less
Public Services and Utilities	LTS	LTS	Similar	LTS	Similar	NI	Similar
Public Health and Safety	LTS	LTS	Similar	LTS	Similar	LTS	Greater
Greenhouse Gas Emissions	LTS	LTS	Greater	LTS	Greater	NI	Less

[1] S = Significant and unmitigable; M = Mitigable to less than significant; LTS = Less than significant, NI = No impact
[2] Greater = impact associated with the alternative would be potentially greater than the proposed project.
Less = impact associated with the alternative would be potentially less than the proposed project
= relative reduction of proposed project significant impact, but not to an extent that would change the overall significance conclusion

10.3 ALTERNATIVE B

Under Alternative B, the habitat distribution would be very similar to that of the proposed project. This alternative would create a lower elevation separation between the river and established wetland than under the proposed project, allowing storm flows from the river to flow into the wetland areas more frequently than under the proposed project. Development of this alternative was a result of early coordination with wildlife and regulatory agencies that expressed a desire to see a more "naturally" functioning wetland system that could be influenced by episodic sedimentation and evolve over time.

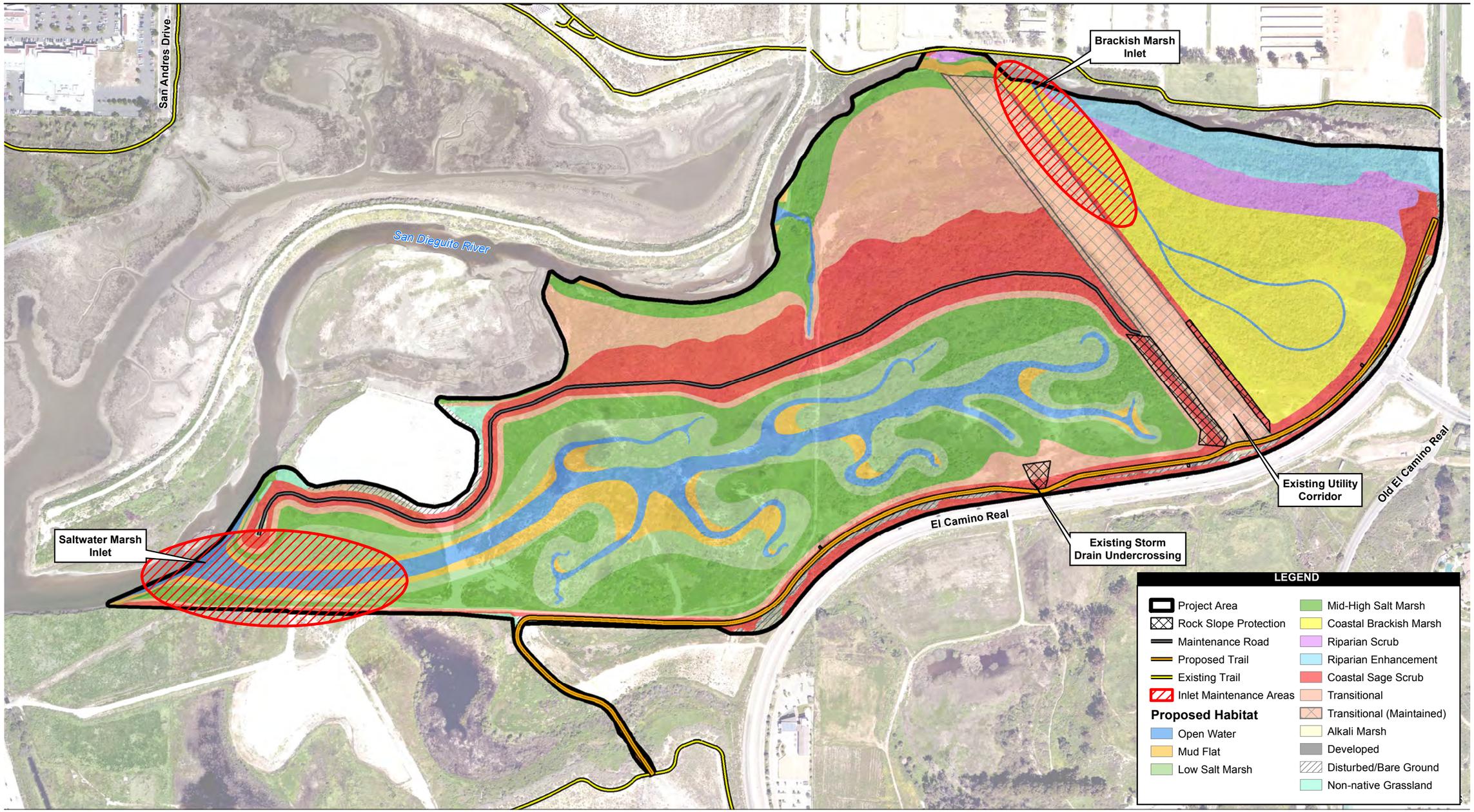
Approximately 60 acres of tidal salt marsh would be established west of the existing utility corridor, with a western tidal connection to the San Dieguito River south of the existing least tern nesting island. A brackish marsh system (including riparian habitat) would be created east of the utility corridor. The proposed upland area would be planted with a mix of transitional and coastal scrub species, but the elevation of the upland would be lower than that identified for the proposed project. Rather than an ultimate elevation of 20 feet, under Alternative B the upland habitat areas would have an elevation of approximately 10 feet and would be overtopped during large storm events. This alternative would be influenced by both tidal exchange and upstream river (fluvial) processes, and would enable the wetland to evolve and change configuration based on river flow. This design approach could provide a system that more closely mimics a natural system, which can shift both habitat distribution and proportions of habitat between wetland and upland over time. This differs from the proposed project, which would establish a system primarily influenced by tidal exchange but would remain relatively protected from fluvial processes (e.g., sedimentation or channel migration) by a berm. Figure 10-1, Alternative B – Habitat Distribution, depicts the approximate boundaries of habitat that would be established under Alternative B. The limits of disturbance for Alternative B are the same as those for the proposed project and are depicted in Figure 3-4.

Elements of Alternative B similar to the proposed project are:

- Restoration of salt marsh wetlands, brackish marsh wetlands, and riparian habitat within W-19 over approximately 2 years (24 months)
- Construction of trail along El Camino Real
- Access provided to NS-13 and inlet areas of established wetlands via DG roads extending between river and salt marsh/brackish marsh wetlands
- Erosion control at utility corridor and stormwater culvert under El Camino Real
- Relocation of the existing electrical line and poles that extend through the W-19 site to the existing utility corridor
- Enhancement of utility corridor with transitional habitat (maintained by SDG&E)
- Same upland location for disposal of excavated material from W-19
- Inlet maintenance of salt marsh and brackish marsh restoration areas within W-19

Elements of Alternative B different than the proposed project are:

- Upland and/or riparian habitat separating river from established wetland areas (both salt marsh and brackish marsh, respectively) established at an elevation of 10 feet instead of 22/20 feet to allow overtopping in large storm events



Source: JPA: Dokken 2015

400 200 0 400 Feet

Scale: 1:4,800 1 inch = 400 feet

Figure 10-1
Alternative B - Habitat Distribution

Path: P:\2012\60274999_SD_W19\06GIS\6.3_Layout\Reports\EIR\Alt_B_Habitats.mxd, 7/18/2018, paul.moreno

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- Disposal of 1,200,000 cy of material instead of 1,100,000 cy due to lower upland habitat elevation requiring less onsite use of material as fill.
- Additional disposal extends construction period by approximately 1 month
- Upland disposal site would have a maximum elevation of 150 feet as compared to 145 feet to accommodate the additional 100,000 cy of material
- No wetlands maintenance in the interior portions of established W-19 wetlands would occur to enable the wetland to be influenced by river processes and evolve over time

Wetlands Maintenance

As described under the proposed project, hydrologic modeling predicted that large storm events (25-year or greater events) would have the potential to result in sediment accumulation, particularly in the salt marsh and brackish marsh inlets, as well as with 50-year of greater events in the interior brackish marsh and in the salt marsh directly west of the utility corridor when storm flows may overtop the corridor. Appendix D shows that sediment accumulation under Alternative B would not be just limited to the two main areas identified under the proposed project. Instead, large areas of the brackish marsh would be covered starting with a 25-year storm event and wide spread deposition would occur in the salt marsh starting with a 50-year event.

Left in place, sediment deposits can change habitat distribution within the wetlands by increasing ground elevation or by reducing the tidal range and/or water elevations within the established areas. Inlet closure due to sediment deposition can also lead to water quality issues associated with reduced circulation and tidal exchange, as well as a reduction in sand delivery to the beach. For this reason and similar to the proposed project, wetlands maintenance would be required after 25-year or larger storm events for Alternative B to remove sediment deposited in wetland inlet areas.

Sediment maintenance activities under Alternative B are different than those under the proposed project. This difference results from a different design approach for this alternative, which does not include construction of protecting berms between the active low flow river channel and the established wetland areas. This modification, which results in a maximum elevation of 10 feet NGVD as opposed to an elevation of 20 feet NGVD within the upland area of the proposed project, was based on resource agency input to allow the wetland/upland habitat distribution to evolve over time based on river dynamics. As a result of this modification, river flows would enter established wetland areas under smaller/more frequent storm events than under the proposed project and would result in larger volumes of sediment deposited within the site. Sediment with the largest grain size would primarily fall out in the inlets and established wetland areas. Some smaller-grained material would remain in suspension longer and travel to the interior of the wetlands. Because habitats are intended to evolve under this alternative, and because adaptive management under this alternative would result in greater impacts to sensitive habitat, adaptive management to maintain habitat within the interior portions of the wetland would not be conducted under Alternative B. Instead, site evolution would be allowed to occur as sediment continues to deposit within the site. Sediment removal activities would be limited to the identified inlet maintenance areas shown in Figure 10-1. Inlet maintenance at both inlets would be conducted under this alternative to continue the tidal exchange to wetlands not blocked by sediment deposits. Some interior maintenance may be necessary to prevent water quality concerns and human health hazards from developing.

The same inlet maintenance methods described for the proposed project would be used under Alternative B. The access and transport routes, as well as placement sites, shown in Figure 3-10 for the proposed project would also be used for this alternative. The number of truck trips and duration of maintenance are shown in Table 10-4.

Table 10-4
Alternative B – Anticipated Maintenance Requirements after Storms of Varying Intensity

Storm Frequency	Inlet Maintenance Areas	Maintenance Volume – Proposed Project (cy)	Maintenance Volume – Alternative B (cy)[1]	Truck Round Trips (8 cy/trip)	Duration (working days)[2]
25-year	**Total**	**5,000**	**2,000**	**250**	**7**
	Salt Marsh Inlet	*1,000*	*1,000*		
	Brackish Marsh Inlet	*4,000*	*1,000*		
50-year	**Total**	**20,000**	**15,000**	**1,875**	**33**
	Salt Marsh Inlet	*1,000*	*1,000*		
	Brackish Marsh Inlet	*19,000*	*14,000*		
100-year	**Total**	**15,000**	**20,000**	**2,500**	**43**
	Salt Marsh Inlet	*1,000*	*1,000*		
	Brackish Marsh Inlet	*14,000*	*19,000*		

cy = cubic yards, cy/trip = cubic yards per trip

[1] As described for the proposed project, maintenance volumes assume 25 percent of deposited material would remain in place and would not be removed.

[2] Activities on the beach would be 2 days less than overall maintenance activities, rates for removal/transport are assumed to be 500 cy per day, working 10 hours per day. Mobilization and demobilization and construction of temporary access roads would require an additional 3 days.

10.4 ENVIRONMENTAL ANALYSES

Land Use and Recreation

Impacts related to land use and recreation would be similar to those discussed in Section 5.1 for the proposed project. Alternative B would not require a variance or deviation from the policies of any applicable land use document, and the project would not conflict with the environmental goals, objectives, and recommendations of those documents. Although the increased amount of sediment placed at the disposal site would require more earthwork than the proposed project, the material would be designed to have a natural appearance in compliance with the Concept Plan. Although the additional material would result in a higher final elevation at the disposal site, placement would still be designed to avoid blocking ocean views in compliance with coastal zone policy. **Impacts related to compatibility with applicable land use documents would not occur (Criteria A and B).**

Alternative B is consistent with the goals and objectives of both the MHPA and MSCP Subarea Plan and has been designed to comply with the applicable restrictions and requirements therein. **Therefore, the project would not conflict with the provisions of the City's Subarea Plan or other approved local, regional, or state habitat conservation plan and a less than significant impact would result from implementation of lagoon restoration activities (Criterion C). Implementation of Alternative B would not physically divide an established community and**

there would be no impact (Criterion D). The new trail discussed for the proposed project in Section 5.1 would also be constructed under Alternative B. The weekday closure of the Dust Devil Nature Trail would extend for approximately an additional month to accommodate the construction activities associated with the excavation and disposal of the increased volume of material compared to the proposed project. **Impacts related to conflicts with recreational uses would be similar to the proposed project and would be less than significant (Criterion E).**

Under Alternative B, sediment removal from the restored W-19 inlet would be required following large storm events. The duration of these maintenance activities is anticipated to be less than that under the proposed project as there would be no maintenance in the interior of the wetland. **As described for the proposed project, inlet maintenance and beach placement of the sediment would not result in impacts related to land use and recreation (Criteria A, B, C, and D).** Placement of this material on nearby beaches, as described for the proposed project, would result in the temporary closure of those areas during construction. However, the duration of material placement would be relatively brief and adjacent beach areas would remain accessible to beachgoers. **Impacts to recreation would be less than significant (Criterion E).**

Hydrology

Hydraulic modeling conducted for the proposed project found that tidal flow velocities, both immediately upstream of the ocean inlet and at the entrance to the SCE wetlands would be the same under the proposed project and Alternative B (Appendix D) as shown in Table 10-5. These velocities represent an increase in flow through the lagoon as a result of changes to the river channel and tidal prism. Table 10-6 shows the tidal flow velocities at the entrance to the wetlands.

Alternative B would reduce the tidal range in the SCE restored wetlands, to the same extent as the proposed project. Both peak flood and ebb velocities are lower than 2 fps and therefore are not high enough to result in scour or to measurably change shoaling patterns in the inlets to those wetland areas. Changes to tidal prism and tidal inundation frequency under Alternative B would be similar to those described under the proposed project. **Therefore, although Alternative B would substantially alter the existing drainage pattern of the W-19 restoration site, these changes would not cause substantial scour or erosion, including in SCE restored wetlands (Criterion C).**

Table 10-5
Alternatives B and C – Tidal Flow Velocities (fps) Upstream of the Ocean Inlet Compared to the Proposed Project

Site Name	Peak Flood Tidal Flow			Peak Ebb Tidal Flow		
	Existing	Proposed Project/ Alternative B	Alternative C	Existing	Proposed Project/ Alternative B	Alternative C
Highway 101	3.60	4.03	4.02	-2.99	-3.13	-3.09
Railroad Bridge	2.18	2.38	2.37	-1.65	-1.77	-1.75
Jimmy Durante Boulevard	1.95	2.24	2.21	-1.11	-1.22	-1.20
I-5 West	0.77	1.24	1.23	-0.58	-0.78	-0.79

Table 10-6
Alternatives B and C – Tidal Flow Velocities (fps) at
Entrance to Wetlands Compared to the Proposed Project

Wetland Name	Peak Flood Tidal Flow			Peak Ebb Tidal Flow		
	Existing	Proposed Project Alternative B	Alternative C	Existing	Proposed Project/ Alternative B	Alternative C
W-1 (SCE Wetland)	1.91	1.95	1.97	-0.91	-0.96	-1.01
W-4/W-16 (SCE Wetland)	1.39	1.33	1.29	-1.03	-0.86	-0.54
W-19	N/A	0.64	0.65	N/A	-0.31	-0.25

Note: See Figure 2-2 for SCE Wetland locations.

Because the upland habitat area established under Alternative B is lower than under the proposed project (10 feet rather than 20 feet), this area would be overtopped more frequently and under smaller storm events. However, flooding elevations would still be lower than under existing conditions (Appendix D). **No increases in flow rate or volume of runoff that would result in flooding onsite or offsite would occur, and there would be no impacts to flood conditions (Criterion D).**

As described under the proposed project, implementation of Alternative B would not result in an increase in impervious surfaces, and impacts would not occur (Criterion A). Hydrologic connectivity between groundwater and the lagoon may increase as a result of this alternative, and impacts related to aquifer recharge would not occur (Criterion B). Implementation of Alternative B would not result in increased risk of damage from seiche, mudflow, or tsunami, and no impacts would occur (Criterion E).

Coastal Processes and Sediment Delivery

Tidal modeling for Alternative B identified similar increases in tidal prism and sand entrainment as those discussed in Section 5.3 for the proposed project (Appendix D). The increased tidal prism would increase the amount of sand entrained at the inlet by approximately 25 percent as compared to no-project conditions, resulting in an additional 2,100 cy of sand annually trapped near the inlet instead of conveyed to the beach, based on predicted sedimentation rates. **While the anticipated annual amount of entrained sand is modest, given the deficit conditions in the Oceanside littoral cell, a significant impact to coastal processes would result (Criterion A).**

Sediment transport modeling predicted that sediment delivery to the beach would be less under various storm events with implementation of Alternative B compared to the proposed project. As shown in Table 10-7, the model generally predicts that sediment would be captured within the W-19 restoration site, and less sediment would be transported to the coast under post-project conditions, under all storm events. In these scenarios, some sediment would settle at or near the restoration site, but some sediment would settle in other locations along the route. Under the proposed project, larger, higher velocity 100-year storm events would result in surplus sediment delivery to the beach. However, under Alternative B, even during 100-year storm events, a deficit would occur.

Table 10-7
Comparison of Changes in Sediment Delivery to the Littoral Zone

Event		Existing Delivery (kcy)	Delivery Post-Restoration (kcy)	Change in Sediment Delivery (kcy)	Anticipated Inlet Sediment Volumes (kcy)	Anticipated Adaptive Maintenance Volumes (kcy)	Net Change in Sediment Delivery (kcy)
10-yr	Proposed Project	25	23	-2	None	None	-2
	Alternative B	25	20	-5	None	None	-5
	Alternative C	25	22	-3	None	None	-3
25-yr	Proposed Project	142	127	-25	5	None	-20
	Alternative B	142	101	-41	2	None	-39
	Alternative C	142	122	-20	5	None	-15
50-yr	Proposed Project	321	312	-9	20	10	+21
	Alternative B	321	258	-63	15	None	-48
	Alternative C	321	298	-23	20	5	+2
100-yr	Proposed Project	407	433	+26	15	45	+86
	Alternative B	407	370	-37	20	None	-17
	Alternative C	407	420	+13	10	20	+43

kcy = thousands of cubic yards

The ultimate deficit or surplus delivery that would occur to the coastline under each scenario is provided in the far right column of Table 10-7. This column reflects the net change, post-project, also considering sediment conveyed to the coast via inlet maintenance after a 25-year or greater storm event. No maintenance in the interior of the site would occur under Alternative B. Inlet maintenance would reduce the net deficit in sediment delivery to the coastline, as shown below, but would not completely compensate for the decreased sediment delivery to the littoral zone during storm events.

Reductions in sediment being carried down the river during episodic storm events would also result in a long-term net loss of river sediment delivery to the coast. Over the assumed storm series used for the fluvial hydraulic modeling, a 256,000-cy net reduction in sediment volume reaching the Jimmy Durante Boulevard Bridge was predicted as the result of Alternative B. This reduction is substantially more than the proposed project. Maintenance over that time is anticipated to total approximately 15,000 cy (Appendix H), resulting in a net reduction to sediment delivery to the coast totaling approximately 241,000 cy. **Post-restoration, river sediments destined for the beach and littoral cell would therefore decrease, and a significant impact would result (Criterion B).**

As part of maintenance under Alternative B, accumulated sediment would be removed from the W-19 inlet locations after severe storm events to maintain tidal exchange and circulation and minimize the development of public health hazards (e.g., vector breeding areas). Sediment would not be removed from the interior of the wetlands under Alternative B, leaving more deposited sediment in place and reducing volumes transported to the beach during maintenance events. Sediment removed from the inlets would be transported to the coast and placed on beach sites currently used for the SCE restoration project, although project-specific permits would be obtained for the proposed project. Material placed within these sites would then be allowed to disperse through the littoral zone and would partially offset sand losses due to the project within the Oceanside littoral cell. **Effects within the littoral cell due to W-19 sediment placement on**

the beach during maintenance activities would be beneficial to the littoral zone, and impacts would be less than significant (Criterion A). Material placement as part of maintenance would not decrease delivery of sand to the littoral zone, and no impacts would occur (Criterion B).

Mitigation Measure Coastal Processes-1 identified for the proposed project would reduce impacts due to reductions in littoral sediments from increased tidal prism and sand entrainment in the lagoon inlet. Due to more substantial decreases in fluvial sediment delivery associated with Alternative B, Mitigation Measure Coastal Processes-2 would be revised to provide a total of 241,000 cy over six beach nourishment events, for a total placement volume of approximately 40,000 cy per event. This volume would require the sand to be placed on the beach south of the river and increase the duration from 3 weeks to over 4 months every 10 years. The remainder of the mitigation measure would remain applicable. Recreational access to the beach placement sites would be interrupted for a substantially longer period of time for each placement event under Alternative B than the proposed project. The temporary turbidity that results from beach placement as sediment is suspended in the water column would occur more for a longer period of time due to the increased time necessary for the higher volume of sand to be placed. As described for the proposed project, biological impacts to invertebrates on the beach, grunion, and bird species would increase in severity due to the higher volume of material placed over a period of 4 months compared to 3 weeks. The significant and unavoidable traffic impact identified for the proposed project due to congestion on local roadways currently at capacity would remain significant and would worsen under Alternative B due to the extended construction timeframe. Similarly, the significant and unavoidable noise impact associated with the material placement at the southern site would also worsen and remain significant under Alternative B. Construction emissions associated with air quality and GHG impacts would increase compared to the proposed project. The time period of a potentially dangerous situation from the presence of construction equipment on the beach would be extended under Alternative B relative to the proposed project. With the exception of traffic and noise as described above, all impacts associated with implementation of Mitigation Measures Coastal Processes-1 and 2 would be less than significant.

With implementation of mitigation measures, impacts to coastal processes and sediment delivery would be reduced to less than significant (Criteria A and B). Similar to the proposed project, implementation of Mitigation Measures Coastal Processes-1 and 2 would result in significant impacts to traffic, access, and circulation and noise.

Water Quality

As described under the proposed project, construction activities associated with Alternative B have the potential to impact lagoon water quality through the release of pollutants associated with construction activities. Following construction, however, tidal prism would increase approximately 30 percent under Alternative B (Appendix D). This would improve water circulation throughout the lagoon, shortening water residence times to the same extent as the proposed project and increasing the flushing of sediment from the ocean inlet, reducing the tendency of the inlet to close. As described for the proposed project, sediment deposition within the established W-19 inlets following large storm events would require maintenance to remove the sediment and place it on nearby beaches. One of the triggers for these maintenance events

would be an increase in residence time, which would create potentially stagnant water. Therefore, inlet maintenance would help restore post-storm event water quality conditions. Transport of removed sediment from the lagoon to the beach placement sites would occur via land-based equipment, minimizing turbidity impacts within the restoration area. Following the placement of material on the beach, there may be short-term turbidity in the nearshore zone as wave action distributes the sediment. However, this area is typically relatively turbid due to wave action, and material placed would be beach-suitable and therefore of relatively large grain size that would settle out quickly. Turbidity impacts, if noticeable, would be of short duration and would dissipate quickly. **Alternative B would not result in a violation of water quality standards or waste discharge requirements or degradation of beneficial uses in adjacent water bodies, and impacts would be less than significant (Criterion A).**

Construction of Alternative B would be similar to that of the proposed project. BMPs would be implemented and project features included in the project to minimize erosion and sedimentation into the river and downstream SCE wetlands. **Alternative B would not substantially degrade water quality in adjacent restoration projects by increasing sedimentation or generate pollutions in violation of such standards, and impacts would be less than significant (Criterion B).**

Implementation of Alternative B would expand tidal exchange to the east portion of the lagoon complex and would increase the tidal prism of the lagoon by approximately 30 percent compared to existing conditions. Residence times under Alternative B would be roughly similar to those described for the proposed project. This decrease in residence time within the SCE wetlands represents an improvement in water circulation within the lagoon. **Alternative B would not alter circulation patterns in adjacent restoration projects (including the SCE wetlands) in a way that inhibits mixing or promotes stagnation, and no impacts would occur (Criterion C).**

Geology/Soils

Similar to the proposed project, berms and channel slopes included in Alternative B would be installed per applicable design and engineering standards, including safety related to long-term seepage, rapid drawdown, or earthquake. The proposed new trail would be the only publicly accessible portion of the project, and no major surface modifications would be required as part of trail construction. Tidal velocities under Alternative B are anticipated to be very similar to those under the proposed project, and no additional scour would occur. **Therefore, the risk of scour exposing the undergrounded utilities in the riverbed is similar to that described for the proposed project. Geologic hazards to people or structures would be less than significant under Alternative B (Criterion A).**

Similar to the proposed project, soils will be damp and would be relatively resistant to wind erosion during construction of Alternative B. Additionally, compliance with BMPs and permit regulations related to water erosion would be required during construction as described for the proposed project. Though additional material would require disposal, compaction and contouring of disposed material would occur and erosion-control vegetation would be planted within the project area and the disposal site, with shorter-term erosion control measures implemented until vegetation is

established. **Therefore, erosion-related impacts under Alternative B would be less than significant (Criterion B).**

Embankment fills, including upland areas and open water flow channels, would be derived from adjacent excavations. In areas receiving new fills, surface settling would occur due to compression in existing surficial soil and new fill material. Upland areas would be lower under Alternative B than the proposed project (10 feet rather than 20 feet), but manufactured slopes, berms, or other features within the restoration area and disposal site would still conform to recommendations described in the geotechnical reports (Geocon 2011, 2012). **Impacts related to hazards from geologic instability under Alternative B would be less than significant (Criterion C).**

The scale and frequency of inlet maintenance following storm events would be similar under Alternative B to those required for the proposed project; however, under Alternative B, interior wetlands maintenance would not occur. This could result in slightly slower water velocities, which would decrease the erosion risk along channels in the restoration area. The reestablishment of vegetation following sediment deposition would facilitate bank stability as well. **Therefore, impacts related to sediment maintenance and the placement of that sediment on the beach would be less than significant (Criterion B). Impacts related to geologic hazards or geologic instability would also be less than significant (Criteria A and C).**

Biological Resources

As Alternative B does not include changes to the design or construction in the disposal site and haul routes from those described for the proposed project, impacts to resources in the disposal site and haul routes would be identical to those described for the proposed project. Therefore, only changes in impacts to biological resources in the W-19 site are described in this section.

Sensitive Riparian and Natural Vegetation Communities

Permanent Direct Impacts

The proposed post-restoration acreages of the W-19 site by vegetation community or cover type are described in Table 10-8. Similar to the proposed project, Alternative B would result in a permanent post-restoration gain of wetland acreage, and a loss of upland vegetation, mostly from the replacement of coyote bush scrub with wetland habitats. In addition, the gain in wetland habitat would result in a decrease of bare ground/disturbed habitats/ornamental. Due to the design approach of this alternative to establish a wetland system that could be influenced by river processes and evolve over time, wetland established as part of project implementation would not necessarily remain intact and could evolve into transitional and/or upland over time due to sedimentation during severe storm events.

Table 10-8
Alternative B – Permanent Impacts to Vegetation Communities and Cover Types in W-19[1]

Vegetation Community or Cover Type	Wetland/Upland Tier Value[2]	Existing in W-19 Site (Acres)	Post Restoration (Acres)	Net Change in Acres
Wetlands and Riparian				
Alkali Marsh	Salt Marsh	2.4	0.0	-2.4
Brackish Marsh	Salt Marsh/ Freshwater Marsh	0.2	17.1	+16.9
Disturbed Wetland	Disturbed Wetland	0.3	0.0	-0.3
Freshwater Marsh	Freshwater Marsh	0.2	0.0	-0.2
Salt Marsh (Mid-High)[3]	Salt Marsh	8.8	27.4	+18.6
Low Salt Marsh	Salt Marsh	0	17.7	+17.7
Mudflat	Salt Panne	1.2	6.1	+4.9
Open Water	--	0.5	10.6	+10.1
Riparian		8.2	9.3	+1.1
Native Riparian	*Riparian Forest/ Riparian Scrub*	5.6	9.3[3]	+3.7
Nonnative Riparian	--	2.6	0.0	-2.6
Wetlands and Riparian Subtotal		***21.8***	***88.2***	***+66.4***
Uplands				
Coastal Sage Scrub	II	1.9	23.6	+21.7
Coyote Bush Scrub	--	41.1	0.0	-41.1
Nonnative Grassland	IIIB	11.1	0.6	-10.5
Saltbush Scrub	--	9.5	0.0	-9.4
Tree Tobacco	--	0.4	0	-0.4
Transitional	--	4.3	25.2	+20.9
Uplands subtotal		***68.3***	**49.4**	**-18.9**
Cover Types				
Bare Ground/Disturbed[4]	IV	51.9	**3.3**[2]	-48.6
Developed[5]	--	0.2	1.4[3]	+1.2
Cover Types Subtotal		***52.1***	***4.7***	***-47.4***
Grand Total		**142.2**	**142.4**	**+0.1**

[1] Totals may not sum due to rounding.
[2] Wetland/Upland Tier values that are not categorized by the Land Development Code Biology Guidelines (City of San Diego 2012) are blank.
[3] Includes approximately 2.1 acres of disturbed salt marsh/mulefat scrub.
[4] Includes 1 acre of proposed trail.
[5] Includes existing plus 1.5 acres of maintenance road proposed at the top of the berm.

Habitat distributions and permanent direct impacts to vegetation communities under Alternative B are similar to those described for the proposed project, with the exception of the amount of brackish marsh and coastal sage scrub established by the proposed project. Alternative B would establish approximately 17.1 acres of brackish marsh, while the proposed project would establish 14.9 acres. Alternative B would establish approximately 23.6 acres of coastal sage scrub, while the proposed project would establish 25.6.

Despite the differences discussed above between the proposed project and Alternative B, direct permanent impacts to vegetation communities as a result of Alternative B are similar to those from the proposed project. Like the proposed project, Alternative B would establish substantially more wetlands and sensitive habitats than currently exist. As seen in Table 10-8, the higher value wetlands and coastal sage scrub habitats would increase in acreage, while the lower value (or no

assigned value) upland and bare ground habitats would decrease in acreage. Furthermore, the 2.6-acre reduction of nonnative/riparian habitat would be converted to another high value wetland habitat, as the acreage of coastal salt marsh increases greatly in the W-19 site. Alternative B proposes a permanent post-restoration increase in, and enhancement of, sensitive habitat and would not result in a substantial adverse impact on any Tier I, Tier II, Tier IIIA, or Tier IIIB habitats. **Permanent adverse direct impacts to sensitive vegetation communities would be less than significant (Criterion B).**

Temporary Direct Impacts

Construction of Alternative B would result in temporary impacts to vegetation communities as a result of grading operations, riparian enhancement, and open water enhancement.

Direct temporary impacts are identical to those discussed for the proposed project. Temporary impacts include impacts from grading, riparian enhancement, and open water enhancement. **Grading and enhancement activities would result in a temporary impact to approximately 80 acres of wetlands and/or Tier I, II, IIIA, or IIIB habitats. Therefore, direct temporary impacts to sensitive vegetation communities would be significant (Criterion B).**

Indirect Impacts

Indirect impacts from Alternative B are the same as those discussed for the proposed project. The extent of indirect impacts varies by species and biological resource. Potential indirect impacts that may result from Alternative B include changes in hydrology, exotic and predator species, and fugitive dust. The implementation of water quality BMPs as described in Section 5.4 would prevent construction-generated dust, sedimentation, and runoff into areas outside of the limits of construction. **Permanent indirect impacts to sensitive vegetation communities, including the potential for invasive species introduction, would be less than significant (Criteria B and H).**

Flora

Alternative B would result in identical temporary, permanent, and indirect impacts to these special-status plant species as discussed for the proposed project in Section 5.6. **Therefore, temporary impacts to special-status plant species from Alternative B would not occur (Criterion A). Permanent and indirect impacts on special-status plant species from Alternative B would be less than significant (Criterion A).**

Fauna

Alternative B would result in permanent and temporary impacts to existing vegetation communities. As with the proposed project, many of these vegetation communities represent suitable habitat that supports various sensitive species. The following sections discuss direct permanent and direct temporary and indirect impacts to special-status wildlife species.

Permanent Direct Impacts

Direct permanent impacts to suitable habitat for special-status species are summarized in Table 10-9. Direct permanent impacts to coastal California gnatcatcher habitat from Alternative B in the disposal site would be the same as those described for the proposed project.

Table 10-9
Alternative B – Existing and Post-Restoration Habitats for Listed Wildlife Species Habitat in the W-19 Site[1,2,3]

Species	Habitat Suitability	Habitat Type[3]	Existing Habitat (Acres)	Proposed Project - Post-Restoration Habitat (Acres)	Alternative B - Post-Restoration Habitat (Acres)
Light-footed Ridgway's rail	Nesting/Foraging	Brackish Marsh	0.2	14.9	17.1
		Salt Marsh (Mid-High)	8.8	27.4	27.4
		Low Salt Marsh	0	17.7	17.7
		Freshwater Marsh	0.2	0	0.0
		Total Nesting/ Foraging	**9.2**	**60.0**	**62.2**
	Foraging	Mudflat	1.2	6.1	6.1
		Total Foraging	**1.2**	**6.1**	**6.1**
California least tern	Foraging	Open Water	0.5	10.6	10.6
		Total Foraging	**0.5**	**10.6**	**10.6**
Least Bell's vireo	Nesting/Foraging	Riparian	5.6	9.2	9.3
		Nonnative Riparian	2.6	0	0.0
		Total Nesting/ Foraging	**8.2**	**9.2**	**9.3**
Coastal California gnatcatcher[1]	Nesting/Foraging	Coastal Sage Scrub	1.9	25.6	23.6
		Coyote Bush Scrub	41.1	0	0.0
		Total Nesting/ Foraging	**43**	**25.6**	**23.6**
Belding's savannah sparrow	Nesting	Salt Marsh (Mid-High)	8.8	27.4	27.4
		Total Nesting	**8.8**	**27.4**	**27.4**
	Foraging	Salt Marsh (Mid-High)	8.8	27.4	27.4
		Low Salt Marsh	0	17.7	17.7
		Mudflat	1.2	6.1	6.1
		Total Foraging	**10.0**	**51.2**	**51.2**

[1] Impacts to coastal California gnatcatcher habitat in the disposal site and haul routes are listed in Table 5.6-11, and described in Section 5.6.
[2] Totals may not sum due to rounding.
[3] Nesting habitat is considered suitable for both breeding and foraging activities, while habitat identified as "Foraging" is not expected to support breeding activities.

Compared to the proposed project, Alternative B results in slightly more acreage of brackish marsh and would provide additional nesting/foraging habitat for light-footed Ridgway's rail and Belding's savannah sparrow over the proposed project. Detailed discussion of direct permanent impacts to federal- and state-listed species follows.

Light-footed Ridgway's Rail

Light-footed Ridgway's rail nesting and foraging habitat would increase under Alternative B. Direct permanent impacts to nesting and foraging habitat for this species are similar to the proposed project, with the exception that Alternative B would establish 2.2 additional acres of brackish marsh, which is suitable nesting/foraging habitat. Therefore, Alternative B would result in slightly more benefit to the light-footed Ridgway's rail than the proposed project. **Permanent adverse impacts to light-footed Ridgway's rail with implementation of Alternative B would not occur (Criterion A).**

California Least Tern

Habitat modifications for the California least tern resulting from Alternative B would be the same as those discussed for the proposed project. **Permanent adverse impacts to California least tern from implementation of Alternative B would not occur (Criterion A).**

Least Bell's Vireo

Alternative B would create slightly more riparian habitat than the proposed project. As a result, the overall quality of suitable habitat for least Bell's vireo would increase. **Permanent adverse impacts to least Bell's vireo under Alternative B would be less than significant (Criterion A).**

Coastal California Gnatcatcher

Alternative B would result in similar habitat modifications for coastal California gnatcatcher as the proposed project. A total of 23.6 acres of coastal sage scrub would be established in the W-19 site (Table 10-9). This is slightly lower than the amount of coastal sage scrub post-restoration described for the proposed project (25.6 acres).

As with the proposed project, there would be a decrease of suitable breeding and foraging habitat for coastal California gnatcatcher in the W-19 site. However, as with the proposed project, Alternative B would increase suitable breeding and foraging habitat for the gnatcatcher in the disposal site, as well as increase the quantity, quality, and continuity of breeding and foraging habitat for this species. In addition, the planting palette for the proposed transitional area could potentially include some coastal sage scrub species, and could provide suitable habitat for coastal California gnatcatcher. **Therefore, impacts to coastal California gnatcatcher from project implementation would not occur (Criterion A).**

Belding's Savannah Sparrow

Alternative B would establish the same acreage of suitable habitat for Belding's savannah sparrow as the proposed project. **Therefore, as with the proposed project, permanent impacts**

to Belding's savannah sparrow with implementation of Alternative B would be less than significant (Criterion A).

Non-listed Special-Status Species

Alternative B would result in the same post-restoration habitat acreages as the proposed project, with the exception of 2.2 additional acres of brackish marsh, and 2 fewer acres of coastal sage scrub to be established under Alternative B. Therefore, permanent direct impacts to non-listed special-status species from Alternative B would be the same as those described for the proposed project. **Habitat reductions for the northwestern San Diego pocket mouse and San Diego black-tailed jackrabbit would occur from the loss of upland habitat; however, impacts to these special-status species would be less than significant (Criterion A). Impacts to other non-listed special-status species would not occur.**

Temporary Direct Impacts

Temporary impacts to wildlife species in the BSA, or with high potential to occur in the BSA, are characterized by impacts to their habitat. The primary concern for temporary loss of habitat is reduced availability of food and shelter for resident and migratory species that rely on the lagoon.

The foraging and nesting habitats for federal- and state-listed species that would be temporarily impacted in the W-19 site are described in Table 10-10.

Light-footed Ridgway's Rail

Alternative B would result in similar impacts as the proposed project to nesting/foraging habitat for the light-footed Ridgway's rail, although slightly more foraging habitat would be affected (0.5 acre under Alternative B versus 0.2 acre for the proposed project). **Thus, as described under the proposed project, the displacement of the federal-listed light-footed Ridgway's rail from the W-19 site into adjacent habitat under Alternative B would result in a less than significant impact on a listed species (Criterion A).**

California Least Tern

As described in Section 5.6, the least tern is not expected to use the foraging habitat in the BSA because it is low quality. Additionally, foraging habitat is available nearby as described under the proposed project. **Therefore, the temporary displacement of California least tern that may use the W-19 site for foraging into nearby foraging habitat is not likely, and impacts to the federal-listed California least tern under Alternative B would not result in a substantial adverse impact on a listed species. Impacts would not be significant (Criterion A).**

Least Bell's Vireo

Construction of Alternative B would directly temporarily impact least Bell's vireo nesting and foraging habitat identically to the proposed project (Table 10-10). **Therefore, as described under the proposed project**, **Alternative B would not result in a substantial adverse impact to the federal-listed least Bell's vireo, and impacts would be less than significant (Criterion A).**

Table 10-10
Alternative B – Direct Temporary Impacts to Listed Species' Habitat in the W-19 Site[1]

Species	Habitat Suitability	Habitat Type[2]	Existing Habitat (Acres)[2]	Proposed Project – Habitat Temporary Impacts (Acres)	Alternative B – Habitat Temporary Impacts (Acres)
Light-footed Ridgway's rail	Nesting/Foraging	Brackish Marsh	0.2	0.2	0.2
		Salt Marsh (Mid-High)	8.8	8.1	8.1
		Freshwater Marsh	0.2	0.0	0.2
		Total Nesting/ Foraging	**9.2**	**8.3**	**8.5**
	Foraging	Mudflat	1.2	0.2	0.5
		Total Foraging	**1.2**	**0.2**	**0.5**
California least tern	Foraging	Open Water	0.5	0.1	0.2
		Total Foraging	**0.5**	**0.1**	**0.2**
Least Bell's vireo	Nesting/Foraging	Riparian	5.6	5.5	5.5
		Nonnative Riparian	2.6	2.6	2.6
		Total Nesting/ Foraging	**8.2**	**8.1**	**8.1**
Coastal California gnatcatcher	Nesting/Foraging	Coastal Sage Scrub	1.9	0.2	0.2
		Coyote Bush Scrub	41.1	40.4	41.1
		Total Nesting/ Foraging	**43.0**	**40.6**	**41.3**
Belding's savannah sparrow	Nesting/Foraging	Salt Marsh (Mid-High)	8.8	8.1	8.1
		Total Nesting	**8.8**	**8.1**	**8.1**
	Foraging	Salt Marsh (Mid-High)	8.8	8.1	8.1
		Mudflat	1.2	0.2	0.5
		Total Foraging	**10.0**	**8.3**	**8.6**

[1] Totals may not sum due to rounding; existing habitat areas represent habitat within the BSA only, and do not take into account adjacent habitat that exists throughout the lagoon and San Dieguito River Park.
[2] Nesting habitat is considered suitable for both breeding and foraging activities, while habitat identified as "Foraging" is not expected to support breeding activities.

Coastal California Gnatcatcher

Alternative B would temporarily impact slightly more acreage than the proposed project (41.3 acres versus 40.6 acres in the proposed project). **As with the proposed project, temporary adverse impacts to the federal- listed coastal California gnatcatcher under Alternative B would be less than significant (Criterion A).**

Belding's Savannah Sparrow

Impacts to Belding's savannah sparrow nesting habitat would be nearly identical (0.3 acre greater) to those under proposed project. **Therefore, as described for the proposed project, temporary direct impacts to the state-listed Belding's savannah sparrow under Alternative B would be less than significant (Criterion A).**

Non-listed Special-Status Species

Alternative B would result in temporary impacts to non-listed special-status species identical to those described for the proposed project. A temporary substantial adverse impact, either directly or through habitat modifications, would result for San Diego black-tailed jackrabbit and northwestern San Diego pocket mouse. **Therefore, temporary impacts to non-listed special-status mammal species from implementation of Alternative B would be significant (Criterion A).**

Indirect Impacts

Alternative B would result in identical indirect impacts to special-status wildlife species as discussed for the proposed project. There is potential for temporary indirect noise impacts to wildlife species as a result of construction activities. An increase in ambient noise levels could disrupt behaviors that play an important role in the reproduction of listed and non-listed species. **Therefore, indirect impacts to special-status wildlife species from Alternative B would be significant (Criterion A).**

Jurisdictional Waters and Wetlands

Direct permanent and temporary impacts to jurisdictional resources would result from Alternative B. As with the proposed project, construction of Alternative B would result in direct temporary impacts to both federal and state jurisdictional waters and wetlands due to grading. Alternative B would temporarily impact most of the approximately 17.04 acres of jurisdictional area present in the W-19 site from grading and other construction activities. These impacts would include short-term vegetation removal and grading. **Direct temporary impacts to jurisdictional resources from Alternative B would be significant (Criterion C).** Post-restoration, the same acreage of mudflat, low marsh, and mid-high marsh would be created under Alternative B as under the proposed project, resulting in an increase in jurisdictional resources under both federal and state definitions. **Therefore, Alternative B would not result in permanent adverse impacts to jurisdictional resources (Criterion C).**

Indirect impacts to jurisdictional resources under Alternative B would be the same as those described for the proposed project, including changes in hydrology and the introduction of exotic species. **Therefore, indirect impacts would be less than significant (Criterion C).**

Wildlife Corridors

Impacts to wildlife corridors from Alternative B would be similar to those discussed for the proposed project. For the temporary construction period, the majority of the W-19 site, disposal site, and haul routes would be impacted by direct and indirect impacts described in the sections above. **Temporary impacts to wildlife corridors would be significant (Criterion D).** Alternative B would be implemented within the same limits of disturbance as the proposed project. Therefore, Alternative B would not permanently result in interfering substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, including linkages identified in the MSCP Plan,

or impede the use of native wildlife nursery sites. **Permanent adverse impacts to wildlife corridors from Alternative B would not occur (Criterion D).**

Wetlands Maintenance

Any maintenance events under Alternative B are expected to cause fewer impacts than under the proposed project because they would not include interior wetlands maintenance. These impacts would also be anticipated to occur only a few times a century. PDFs described for initial project construction would serve to minimize impacts to species that may occupy established wetlands at the time of maintenance, as well as species that are known to utilize the beach placement sites, as discussed in the SCE EIR/EIS (USFWS/San Dieguito River Park JPA 2000). **Temporary and permanent impacts from wetlands maintenance activities would be less than significant (Criterion A).**

Wetlands maintenance activities are expected to use heavy machinery similar to that described the proposed project, and similar noise impacts would occur. **Therefore, indirect impacts to special-status animal species from noise generated by wetlands maintenance are expected to be the same as those described for initial construction, and would be significant (Criterion A).**

As maintenance for Alternative B does not include maintenance of the interior wetlands, impacts from Alternative B maintenance would be less than those expected for the proposed project. However, temporary disturbance of sensitive communities and jurisdictional resources at the W-19 inlet would still be necessary to conduct maintenance, which could disturb wetland communities not impacted by the storm. **Therefore, temporary impacts would be significant (Criteria B and C).** These maintenance activities, however, would improve the quality of sensitive habitat within the lagoon. **Permanent impacts to sensitive species and jurisdictional resources would not occur (Criteria B and C).**

In addition, wetlands maintenance includes the placement of material dredged from the W-19 inlet onto beaches designated for material placement, as described under the proposed project. Impacts would be similar to those identified for the proposed projects. **Temporary and permanent impacts from material placement during wetlands maintenance would be less than significant (Criteria B and C).**

Maintenance activities would result in construction that would be restricted to daytime hours and would occur only in focused areas within the W-19 site. Activity would last for relatively short durations, and would not remove established habitat. Wildlife would continue to be able to move through the site during more active nighttime. **Temporary impacts to wildlife corridors would be less than significant and permanent impacts would not occur (Criterion D).**

Policies and Ordinances

As described for the proposed project, **Alternative B and associated maintenance are in keeping with the goals and objectives of the MHPA, and do not conflict with the provisions of the MSCP. Impacts related to policies and ordinances would not occur (Criteria E, F, and G).**

Visual Resources

The area impacted by Alternative B would be very similar to that impacted by the proposed project; therefore, the views and sensitive viewers of the project would be the same as those discussed in Section 5.7. The construction methods used for Alternative B would be the same as for the proposed project. Temporary construction activities would be visible across the W-19 site and the disposal site, and the site itself would appear visually different as the vegetation was cleared and landforms altered. The temporary visual change would only last through the duration of construction, approximately 2½ years with the addition of 1 month relative to the proposed project. The visible construction work would be limited to the W-19 and disposal sites, which compose only a relatively small portion of the overall river valley and lagoon setting. **Thus, because of the temporary nature and limited extent of the visual disruption, the short-term visual impact would be less than significant (Criterion B).**

Under Alternative B, the habitat distribution would be very similar to that under the proposed project, including a mixture of tidal salt marsh, freshwater marsh, riparian habitat, transitional upland, and coastal scrub species. This distribution is shown in the visual simulation prepared for Alternative B in Figure 10-2, Alternative B – KOP 1 – View from Coast to Crest Trail - Horse Park Segment. The reestablished habitats would create a similar aesthetic to the existing open and natural setting that currently exists throughout the restoration site, and the character of the river valley would remain consistent and intact. **Long-term visual impacts under Alterative B would be less than significant (Criteria A, B, C, D, and E).** Rather than an ultimate elevation of 20 feet, under Alternative B, the upland habitat areas would have an elevation of approximately 10 feet, as depicted in Figure 10-2. An elevation of 10 feet is approximately the elevation of the existing ground; therefore, the vegetated slopes of the established site would blend in with the surrounding habitats. Thus, the slopes would not appear as an out-of-scale or visually conflicting element within the river valley viewscape. **The elevational changes and landform modifications would be less visually noticeable than the proposed project and the impact would be less than significant (Criterion F). No new sources of light would result (Criterion G).**

Because of the increased amount of material removed under Alternative B, from 1,100,000 cy under the proposed project to 1,200,000 cy under Alternative B, the disposal site final elevation would be slightly higher than under the proposed project (150 feet as compared to 145 feet). Similar to the proposed project, the elevated disposal site would not create an element of visual contrast or appear out of scale or out of context with the surrounding area. Revegetation would provide a more uniform and consistent aesthetic than with the current sporadic areas of vegetation intermixed with exposed soil, and the contouring and revegetation of the site with coastal sage scrub would allow the entire site to visually blend with the existing vegetated hillsides and surrounding areas. The increased height of the site would not be above the sight line of El Camino Real and would not block motorists' scenic views of the coast. The grading design would undulate the material across the site with the intent of avoiding elevations that could block coastal views from El Camino Real. Even with the additional raised elevation of the site as compared to the proposed project, the elevation of the disposal site would avoid the potential to block any panoramic ocean views. **The visual impact would be potentially noticeable and increased as compared to the proposed project, but would remain less than significant (Criteria A, B, C, D, and F).**

Inlet maintenance activities, including placement of material on local beaches under Alternative B, would be similar to the proposed project, but with varying amounts of material removal dependent upon the storm event. Visual changes at the beach placement sites would be temporary and infrequent, as would visual changes at the restoration site. Additionally, construction activities on the beach would be similar in nature to those that currently occur for SCE restoration maintenance activities. Placement of the increased volume of sand every 10 years under Alternative B will extend the duration of beach construction, and of associated visual disturbances, by approximately 14 weeks. **However, these changes would still be temporary and infrequent, and would not modify the overall visual condition of the area. Impacts would be less than significant (Criteria A, B, C, D, and F).**

Traffic, Access, and Circulation

Implementation of Alternative B would result in the hauling of 1,200,000 cy as compared to 1,100,000 cy of sediment under the proposed project. The number of truck trips required and the duration of materials hauling would increase by approximately 9 percent; however, these trips would occur via the onsite haul routes to the disposal site and would not affect area roadways. **Similar to the impact identified for the proposed project, construction trips to the site would cause temporary impacts in relation to existing traffic load and congested freeway segments that would be significant (Criteria B and C). All other traffic impacts associated with project construction would be less than significant, and no permanent impacts would occur (Criteria A, D, E, F, G, H, and I).**

As shown in Table 10-4, trip generation as a result of wetlands maintenance under Alternative B would be less than the proposed project because this alternative does not involve maintenance in the interior of the established wetlands. Under Alternative B, trucks would transport this material to beach placement sites via the same routes described under the proposed project. Even with reduced trips as described above, the traffic generation would still be substantial in relation to existing traffic loads. **Therefore, similar to the proposed project, implementation of maintenance activities would result in a significant traffic impact under this alternative (Criterion B).**

As described for the proposed project, implementation of traffic-related standard construction practices and Mitigation Measure Traffic-1 would reduce traffic-related impacts; however, impacts would remain significant. Traffic impacts associated with Alternative B construction would persist for an additional month as compared to the proposed project. Additional mitigation measures to reduce the traffic congestion on impacted roadway segments from both initial project construction and maintenance were considered, but none were found feasible to mitigate the temporary impacts of these activities. **Therefore, impacts to traffic, although temporary in nature, would remain significant and unmitigable for both initial construction (Criteria B and C) and maintenance activities (Criterion B).**

Air Quality

Because Alternative B involves the transportation of an extra 100,000 cy of sediment, annual average emissions levels are slightly higher for this alternative than for the proposed project. Daily emissions, however, would be the same for all alternatives because the same construction

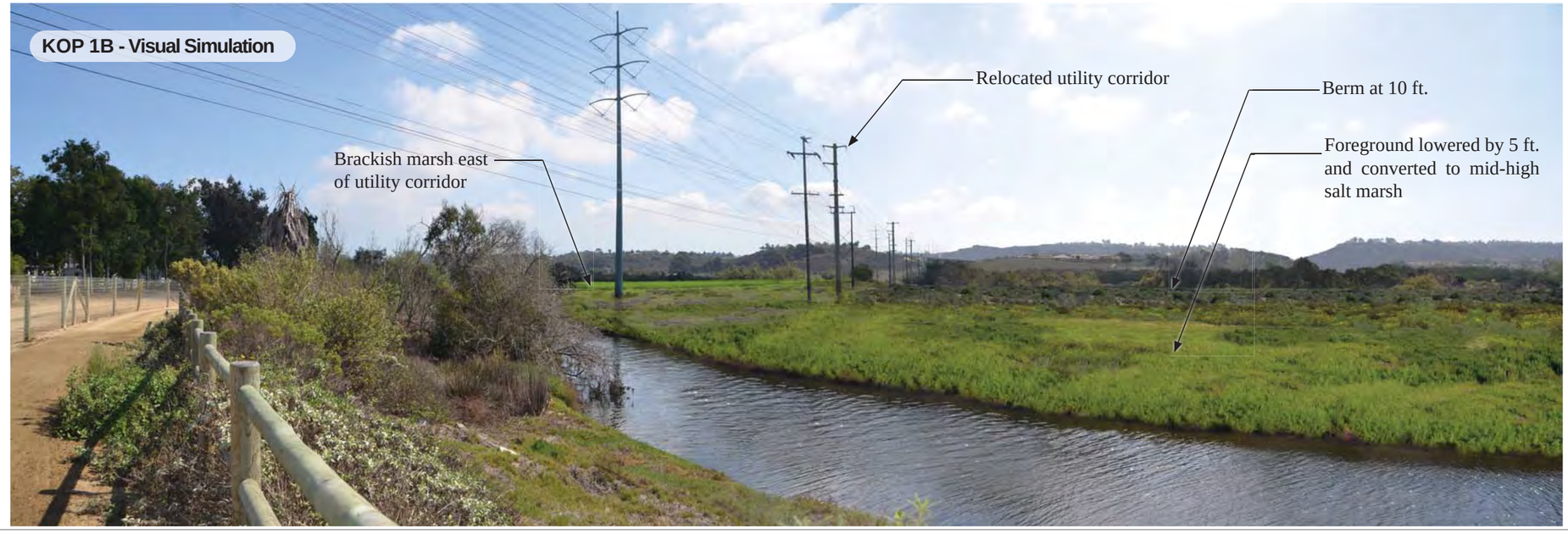

Figure 10-2
KOP 1 – View from Coast to Crest Trail - Horse Park Segment
Alternative B

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activities would be occurring. As shown in Tables 10-11 and 10-12, construction-related emissions of ROG, NO_X, CO, and $PM_{2.5}$ would not exceed the screening level thresholds and would not violate air quality standards or contribute substantially to an existing or projected air quality violation. However, construction-generated PM_{10} emissions would exceed applicable mass emission thresholds as described for the proposed project. Therefore, construction of Alternative B could violate an ambient air quality standard or contribute substantially to an existing violation. **A significant air quality impact would result (Criteria B and E). Additionally, because construction activities would exceed the project-level air quality impact thresholds for PM_{10} emissions, Alternative B would have a cumulatively considerable contribution to the region's air quality (Criterion C).**

Table 10-11
Alternatives B and C – Daily Construction Emissions

Emission Source	Criteria Pollutant Emissions (pounds/day)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Proposed Project	**17.73**	**199.54**	**94.67**	**332.23**	**37.26**
Alternative B	17.73	199.54	94.67	**332.23**	**37.26**
Daily Thresholds	**75**	**250**	**550**	**100**	**55**
Exceed Thresholds?	**No**	**No**	**No**	**Yes**	**No**

CO = carbon monoxide; NO_X = oxides of nitrogen; PM_{10} = particulate matter equal to or less than 10 micrometers in diameter; $PM_{2.5}$ = particulate matter equal to or less than 2.5 micrometers in diameter; ROG = reactive organic gases
Source: Modeled by AECOM 2016

Table 10-12
Alternatives B and C – Average Annual Construction Emissions

Emission Source	Criteria Pollutant Emissions (tons/year)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Proposed Project	**0.91**	**10.24**	**4.94**	**15.03**	**1.87**
Alternative B	**0.97**	**10.99**	**5.30**	**16.26**	**2.00**
Annual Thresholds	**15**	**40**	**100**	**15**	**10**
Exceed Thresholds?	**No**	**No**	**No**	**Yes**	**No**

CO = carbon monoxide; NO_X = oxides of nitrogen; PM_{10} = particulate matter equal to or less than 10 micrometers in diameter; $PM_{2.5}$ = particulate matter equal to or less than 2.5 micrometers in diameter; ROG = reactive organic gases
Source: Modeled by AECOM 2016

As described under the proposed project, Mitigation Measure AQ-1 would be implemented under Alternative B. Implementation of this measure would ensure construction activities minimize criteria pollutant emissions. Measure AQ-1 includes fugitive dust control requirements such as applying water in sufficient quantities to prevent the generation of visible dust plumes, reestablishing ground cover as quickly as possible after ground disturbance, utilizing a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the project site, and maintaining effective cover over exposed areas.

Once Mitigation Measure AQ-1 is implemented, neither daily emissions nor annual average emissions would exceed screening level thresholds, violate air quality standards, or contribute substantially to an existing or projected air quality violation. **Impacts would be less than significant with mitigation (Criteria B, C, and E). As described under the proposed project, Alternative B would not conflict with or obstruct implementation of the applicable air**

quality plan, and impacts would be less than significant (Criterion A). Additionally, the distance between emission-generating activities and sensitive receptors is large enough that impacts from exposure to pollutants and odors would be less than significant (Criteria D and F).

Maintenance under Alternative B involves varying levels of sediment and days of activity. These levels are either higher or lower than under the proposed project depending on the storm frequency of 25, 50, or 100 years. Tables 10-13 and 10-14 summarize the maximum daily emissions and annual emissions associated with maintenance Alternative B.

Table 10-13
Alternative B – Estimated Daily Maintenance Emissions

Storm Frequency	Criteria Pollutant Emissions (pounds/day)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Proposed Project Maximum Daily	**3.15**	**47.11**	**15.18**	**4.70**	**1.45**
Alternative B Maximum Daily	**2.82**	**38.03**	**12.99**	**1.47**	**1.26**
Daily Thresholds	**75**	**250**	**550**	**100**	**55**
Exceed Thresholds?	**No**	**No**	**No**	**No**	**No**

CO = carbon monoxide; NO_X = oxides of nitrogen; PM_{10} = particulate matter equal to or less than 10 micrometers in diameter; $PM_{2.5}$ = particulate matter equal to or less than 2.5 micrometers in diameter; ROG = reactive organic gases
Source: Modeled by AECOM 2016

Table 10-14
Alternative B – Estimated Annual Maintenance Emissions

Storm Frequency	Criteria Pollutant Emissions (tons/year)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Proposed Project Annual Emissions	**0.18**	**2.41**	**0.82**	**0.16**	**0.10**
Alternative B Annual Emissions	**0.06**	**0.82**	**0.28**	**0.03**	**0.03**
Annual Thresholds	**15**	**40**	**100**	**15**	**10**
Exceed Thresholds?	**No**	**No**	**No**	**No**	**No**

CO = carbon monoxide; NO_X = oxides of nitrogen; PM_{10} = particulate matter equal to or less than 10 micrometers in diameter; $PM_{2.5}$ = particulate matter equal to or less than 2.5 micrometers in diameter; ROG = reactive organic gases
Source: Modeled by AECOM 2016

As shown in Tables 10-12 and 10-13, criteria pollutant emissions would not exceed any daily or annual emission thresholds under Alternative B. **Therefore, maintenance activities would not violate an ambient air quality standard or contribute substantially to an existing violation (Criterion B).**

Noise

Implementation of Alternative B would result in an increase in the amount of material transported to the disposal site as compared to the proposed project (1,200,000 cy compared to 1,100,000 cy) and would occur in generally the same footprint using similar construction equipment. Thus, the noise generated by lagoon restoration would be very similar to the proposed project, with slightly longer construction duration. Thus, similar significant noise impacts to CTC Trail users would result during lagoon restoration under Alternative B (Criterion A). **Mitigation Measure Noise-1, which requires public notices regarding increased noise**

levels as described in Section 5.10, would be required under Alternative B and would reduce impacts to less than significant (Criterion A).

The noise levels associated with the disposal would be the same as described for the proposed project and would be less than significant (Criteria A, B, C, and D). Material removed during maintenance activities under Alternative B would be less than the proposed project, as material would only be removed from the inlets and not the interior wetlands. Therefore, Alternative B would require a shorter beach placement duration and number of haul trips. This would reduce the duration of noise generation on the beach placement sites and therefore lessen the severity of the noise impacts under this alternative. **Placement would generate the same noise levels as described for the proposed project, however, and would therefore still result in significant and unavoidable noise impacts to local residential properties on the beach (Criterion A).** Mitigation Measures Noise-2 through Noise-4, which would establish a noise complaint protocol and reduce aggregate noise levels, would be implemented as described for the proposed project. Implementation of these measures would not reduce the noise impact at local residential receptors to below a level of significance. While lessened relative to the proposed project, the noise impact due to material placement on the beach would remain significant and unavoidable.

Cultural Resources

As with the proposed project, grading activities associated with Alternative B have the potential to encounter previously unidentified potentially significant archaeological resources in stable undisturbed sediments. **The potential for physical impact to or destruction of archaeological resources or unanticipated human remains would be considered a potentially significant impact (Criteria~~on~~ A and C).** Implementation of Mitigation Measure Cultural-1, which requires construction monitoring and establishes communication and notification protocols as described in Section 5.11, would reduce impacts to archaeological resources or human remains to less than significant. **Similar to the proposed project, implementation of Alternative B would result in no impact to existing built environment resources within the potential impact area of the W-19 restoration area (Criterion A). Implementation of Alternative B would have no impact to existing religious or sacred uses within the potential impact area (Criterion B) ~~and there is no evidence indicating the possible presence of human remains within the W-19 restoration area, so no impacts would occur (Criterion C)~~.** Material placement and wetlands maintenance activities would not impact previously undisturbed settlement and would not have impacts related to cultural resources.

Paleontological Resources

Implementation of Alternative B would result in a slight increase in the amount of material excavated as compared to the proposed project (1,200,000 as compared to 1,100,000). However, all excavation would take place within an area underlain by later Quaternary alluvial sediments. As described in Section 5.12, this geologic unit is considered to have low paleontological resource sensitivity. Additionally, material placement and wetlands maintenance activities would not impact previously undisturbed settlement and would not have impacts related to paleontological resources. **Therefore, paleontological impacts under Alternative B would be less than significant (Criteria A and B).**

Public Services and Utilities

Similar to the proposed project, implementation of Alternative B would not result in increased demand for the utilities within the project area. Although implementation of Alternative B would result in the use of power/energy and water during construction similar to the proposed project, those uses would be temporary and would not exceed a typical level of use for construction projects. Relocation of the SDG&E electrical lines would occur as proposed. **Therefore, impacts to public services and utilities under Alternative B would be less than significant (Criteria A, B, and C).**

Public Health and Safety

The area impacted and the resulting actions as proposed under Alternative B would be very similar to the proposed project. **Alternative B would use similar construction methods with standard fire safety construction practices and no permanent structures would be built that could increase potential of accidental fire ignition or increased risk of wildland fire (Criterion A).** Similar to the proposed project, construction equipment would travel on local roads during restoration and maintenance activities and the number of trips would vary slightly between the proposed project and Alternative B, dependent on the volume of material being removed. **However, as described for the proposed project, these trips would not obstruct or hinder the ability of those roads to serve as evacuation or emergency routes (Criterion B). Alternative B would not affect areas or materials outside of those evaluated for the proposed project; thus, potential for exposure risk related to hazards material sites or hazardous materials would be less than significant as described for the proposed project (Criteria C and D).**

Similar to the proposed project, Alternative B would be designed for the provision of adequate circulation of water throughout the established wetland and marsh habitats and to allow for tidal circulation within the tidal wetland system, which would create unfavorable habitats for mosquitoes. However, Alternative B proposes fewer maintenance activities after storm events than the proposed project and is designed to allow for site evolution as sediment continues to deposit within the site. Over time, this natural evaluation of the W-19 site may result in some areas where water could pond or become stagnant. The reduced amount of maintenance under Alternative B may result in a slightly increased chance of mosquito breeding conditions over time as compared to the proposed project. As described for the proposed project, vector control methods could be applied in a manner similar to nearby and adjacent areas currently being treated by County of San Diego Vector Control, such as aerial larvicide applications to prevent substantial increases in the exposure of humans to vectors. **The overall condition of the lagoon complex ~~however, would have improved water flow and tidal circulations that would reduce the potential for mosquito breeding conditions~~would not have a substantial increase in vector breeding conditions to the extent that could significantly increase human exposure to vectors. ~~and~~ Alternative B would result in a less than significant impact related to human exposure to vectors (Criterion E).**

The placement of materials on the beach would be subject to the same public safety requirements as described for the proposed project. **Analysis of recreational safety as detailed for the**

proposed project would be applicable to Alternative B and shows a less than significant impact would occur related to recreational safety (Criterion F).

Greenhouse Gas Emissions

As shown in Table 10-15, construction emissions would total 4,729 MT CO_2e over the construction period for Alternative B. The amortized construction-related emissions would be approximately 189 MT CO_2e per year, which is slightly greater than the proposed project construction-related emissions of 177 MT CO_2e per year (Table 5.15-1).

Maintenance of the W-19 inlets would be required after large storm events (25-year event or larger) to remove accumulated material, and these activities would result in GHG emissions. Emissions from off-road equipment and trucks hauling material to the beach were estimated for 25-, 50- and 100-year events. Although maintenance emissions could be amortized over the estimated storm frequency, the total maintenance emissions are presented in Table 10-16 for the sake of conservative analysis.

Table 10-15
Alternative B and C – Construction-Related GHG Emissions (MT CO_2e)

Year	Total
Mobilization	18
Haul Roads	35
Clear and Grub	104
Topsoil	104
Grading	3,985
Trail Improvements	308
Cleanup	26
Demobilization	18
Revegetation	132
Total	4,729
Amortized Construction Emissions	189

MT CO_2e = metric tons of carbon dioxide equivalent
Note: Totals may not add due to rounding.
Additional details available in Appendix Q.
Source: Modeled by AECOM in 2016

Table 10-16
Alternative B – Maintenance-Related GHG Emissions (MT CO_2e)

Storm Frequency	Total Maintenance	Amortized Construction	Total Maintenance and Amortized Construction
25-Year	14	189	203
50-Year	80	189	269
100-Year	105	189	294
Significance Threshold	N/A	N/A	900
Exceeds Threshold?	N/A	N/A	NO

MT CO_2e = metric tons of carbon dioxide equivalent
Note: Totals may not add due to rounding.
Additional details available in Appendix Q.
Source: Modeled by AECOM in 2016

As shown in Table 10-16, the total maintenance and amortized construction GHG emissions for any storm frequency for Alternative B would not exceed the threshold of 900 MT CO_2e per year. **Therefore, Alternative B would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment and impacts would be less than significant (Criterion A).**

All sediment would be disposed of onsite and would not be exported as "waste," therefore, Alternative B would be consistent with the General Plan and the CAP. Alternative B would be consistent with policies adopted and/or recommended by the AB 32 Scoping Plan, SANDAG 2015 RTP/SCS (Regional Transportation Plan/Sustainable Communities Strategy. SANDAG 2015) and Climate Action Strategy, and City of San Diego General Plan and CAP. **Therefore, under Alternative B, impacts related to GHG emissions would be less than significant (Criteria A and B).**

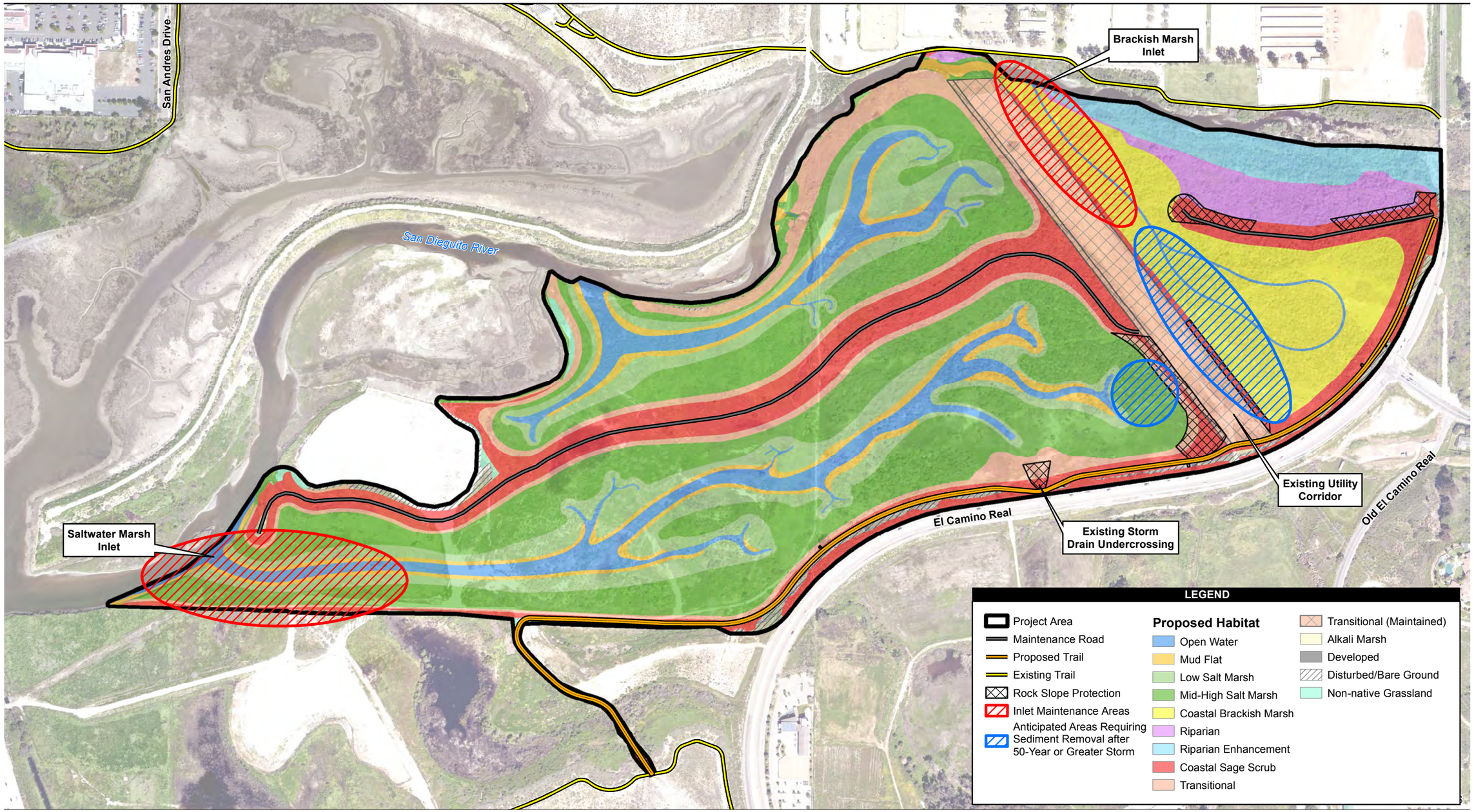
10.5 ALTERNATIVE C

Under Alternative C, the habitat distribution would consist of two separate tidal channel systems, one directly adjacent to the San Dieguito River, and one separated from the river by a vegetated berm. A deliberate design feature of Alternative C includes restoration of salt marsh adjacent to the active low flow river channel, which would allow the salt marsh to be directly influenced by river dynamics and evolve over time. The purpose of this design is to allow the natural dynamics of the river to dictate the site and modify elevations and habitats naturally over time. To allow this evolution, adaptive management to maintain habitat would not be conducted within the portion of the wetland adjacent to the river under Alternative C.

Approximately 70 acres of tidal salt marsh would be established west of the existing utility corridor, with approximately one-third of that (22 acres) located adjacent to the river and two-thirds (47 acres) protected by the vegetated berm. The protected portion of the site would have a western tidal connection to the San Dieguito River south of the existing least tern nesting island just like Alternatives A and B. The portion of the site adjacent to the river would connect to the river east of the nesting site, but would be anticipated to evolve over time as storm flows from the river overtopped the site. A brackish marsh system (including riparian habitat) would be created east of the utility corridor. The proposed upland area would be planted with a mix of transitional and coastal scrub species, and would be at an elevation of 20 feet, similar to that identified for the proposed project. Alternative C would provide systems representative of both the proposed project and Alternative B; the area protected by the vegetated berm would be primarily tidally influenced (similar to the proposed project) while the area adjacent to the river would be influenced both by tidal and fluvial processes and could evolve over time (similar to Alternative B). Figure 10-3, Alternative C – Habitat Distribution, depicts the approximate boundaries of habitat that would be established under Alternative C. The limits of disturbance for Alternative C are similar to those for the proposed project and are depicted in Figure 3-4.

Elements of Alternative C similar to the proposed project are:

- Restoration of salt marsh wetlands, brackish marsh wetlands, and riparian habitat within W-19 over approximately 2 years (24 months)



Source: JPA: Dokken 2015

400 200 0 400 Feet

Scale: 1:4,800 1 inch = 400 feet

Figure 10-3
Alternative C - Habitat Distribution

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- Construction of trail along El Camino Real
- Access provided to NS-13 and inlet areas of established wetlands via DG roads extending between river and salt marsh/brackish marsh wetlands
- RSP at utility corridor, both ends of brackish marsh berm and outlet of stormwater culvert under El Camino Real
- Relocation of the existing electrical line and poles that extend through the W-19 site to the existing utility corridor
- Enhancement of utility corridor with transitional habitat (maintained by SDG&E)
- Same upland location for disposal of excavated material from W-19
- Maintenance of salt marsh and brackish marsh restoration area inlets and interior areas within W-19 (only within the portion of the salt marsh located behind the protective upland berm)

Elements of Alternative C different than the proposed project are:

- Two separate areas of salt marsh would be created west of the existing utility corridor, one separated from the river by upland habitat established at an elevation of 20 feet as protection from large storm events, and one located directly adjacent to the river channel to allow it to be influenced by river processes and enable it to evolve over time.
- Export 1,200,000 cy of material for disposal instead of 1,100,000 cy due to added excavation to create riverside salt marsh.
- Additional excavation and disposal extends construction period by approximately 1 month.
- Upland disposal site would have a maximum elevation of 150 feet as compared to 145 feet.
- No wetlands maintenance in the portions of the established salt marsh located directly adjacent to the San Dieguito River, which would then enable the wetland to be influenced by river processes and evolve over time.

Wetlands Maintenance

Hydraulic modeling predicts that some sedimentation would occur under Alternative C, as discussed for the proposed project, in the portion of the salt marsh protected from storm flows by a berm. Sedimentation would occur at a much higher rate in the portion of tidal wetlands located directly adjacent to the San Dieguito River under this alternative (Appendix D). In this area, sediment accumulation would bury most of the site (heavy sedimentation would occur after a 25-year storm or greater), and other areas of the site would be eroded as a new river channel develops during/after severe storm events (river channel alterations likely after a 50--year storm event or larger). Similar to the proposed project, maintenance would be required after large storm events (25-year event or greater) to remove accumulated sediment from the restored inlet connections within the site. Maintenance areas are shown in Figure 10-3. These maintenance activities would reduce large-scale conversion of habitat and/or water quality impairments in most of the established wetland areas on the south side of the protective berm. Maintenance within the portion of the wetland adjacent to the river would not occur under this alternative in order to allow the site to evolve based on river dynamics. The anticipated volume of sediment that would be removed from the inlets after a range of storm events is shown in Table 10-17 below. As described under the proposed project, changes in river dynamics during a 100-year storm event would result in reduced excavation volumes following a 100-year storm as

compared to a 50-year storm. Access routes, transport routes, and placement sites for the proposed project (shown in Figure 3-10) would also be used for this alternative.

Table 10-17
Alternative C – Anticipated Inlet Maintenance Requirements after Storms of Varying Intensity

Storm Frequency	Maintenance Area	Maintenance Volume – Proposed Project (cy)	Maintenance Volume – Alternative C (cy)[1]	Truck Round Trips (8 cy/trip)	Duration (working days)[2]
25-year	**Total**	**5,000**	**6,000**	**750**	**15 days**
	Salt Marsh Inlet	*1,000*	*1,000*		
	Brackish Marsh Inlet	*4,000*	*5,000*		
50-year	**Total**	**20,000**	**20,000**	**2,500**	**43 days**
	Salt Marsh Inlet	*1,000*	*2,000*		
	Brackish Marsh Inlet	*19,000*	*18,000*		
100-year	**Total**	**15,000**	**10,000**	**1,250**	**23 days**
	Salt Marsh Inlet	*1,000*	*2,000*		
	Brackish Marsh Inlet	*14,000*	*8,000*		

cy = cubic yards, cy/trip = cubic yards per trip
[1] Maintenance volumes assume 25 percent of deposited material would remain in place and would not be removed.
[2] Activities on the beach would be 2 days less than overall maintenance activities; rates for removal/transport are assumed to be 500 cy per day, working 10 hours per day. Mobilization and demobilization and construction of temporary access roads would require an additional 3 days.

In the interior portions of the salt marsh west of the utility corridor, modeling predicts that sediment accumulation would occur after a 100-year storm as a result of storm flow overtopping the utility corridor, although at smaller volumes than under the proposed project. Deposition within the interior of the established brackish marsh is also predicted as a result of severe storm events (50-year event or greater). Because the precise location of this deposition is difficult to predict, field monitoring and analysis would be conducted following storms of this severity to identify deposition areas and depths. The same criteria that would trigger inlet maintenance, as described under "W-19 Inlet Maintenance" earlier in this section, would be applied to determine if sediment maintenance is necessary. Overall volumes of sediment anticipated to be removed under 50- and 100-year storms are shown in Table 10-18.

Table 10-18
Alternative C – Anticipated Interior Wetland Sediment Maintenance Required

Storm Frequency	Maintenance Volume – Proposed Project (cy)	Maintenance Volume – Alternative C (cy)[1]	Truck Round Trips (8 cy/trip)	Duration (working days)[2]
50-year	10,000	5,000	625	13
100-year	45,000	20,000	2500	43

cy = cubic yards, cy/trip = cubic yards per trip
[1] Maintenance volumes assume 25 percent of deposited material would remain in place and would not be removed.
[2] Activities on the beach would be 2 days less than overall maintenance activities; rates for removal/transport are assumed to be 500 cy per day, working 10 hours per day. Mobilization and demobilization, and construction of temporary access roads would require an additional 3 days.

Land Use and Recreation

The analysis presented for Alternative B would also be applicable for Alternative C. **Impacts related to compatibility with applicable land use documents would not occur (Criteria A and B). This alternative would not conflict with the provisions of the City's Subarea Plan; MHPA; or other approved local, regional, or state habitat conservation plan and a less than significant impact would result from implementation of lagoon restoration activities (Criterion C). Implementation of Alternative C would not physically divide an established community and there would be no impact (Criterion D), and impacts related to recreational uses would be similar to the proposed project and would be less than significant (Criterion E).**

The analysis presented for Alternative B maintenance would also be applicable to Alternative C. **Therefore, as described under the proposed project, inlet maintenance and other adaptive maintenance activities would not result in impacts related to land use and recreation (Criteria A, B, C, and D). Impacts to recreation would be less than significant (Criterion E).**

Hydrology

Hydraulic modeling conducted for the restoration project found that tidal flow velocities upstream of the ocean inlet would be similar under all three build alternatives. Implementation of Alternative C would result in an increased tidal flow velocity upstream of the ocean inlet as compared to existing conditions, as shown in Table 10-5.

As shown in Table 10-6, tidal flow velocities at the W-1 wetland entrance would be slightly higher under Alternative C than under both existing conditions and the other build alternatives (Appendix D). At the W-4 and W-16 wetland inlets (shown in Figure 2-2), and at the entrance to the restored W-19 inlet, Alternative C would result in similar tidal flow velocities to the other build alternatives. Overall, however, the implementation of Alternative C would have little impact on the entrance velocity of the SCE restoration wetland basins (Appendix D). Alternative C would slightly reduce the tidal range in the SCE restored wetlands, but both peak flood and ebb velocities are lower than 2 fps and therefore are not high enough to measurably change shoaling patterns in the inlets to those wetland areas.

Changes to tidal prism and tidal inundation frequency under Alternative C would be similar to those described under the proposed project. **Therefore, although the proposed project would substantially alter the existing drainage pattern of the W-19 restoration site, these changes would not cause substantial scour or erosion, including in SCE restored wetlands (Criterion C).**

Similar to the proposed project, Alternative C has upland habitat areas that would protect the majority of the wetlands from damage due to flooding. Under this alternative, however, approximately 1/3 of the tidal salt marsh would be located next to the river outside of the protective berm. This area would not be protected from flooding and would evolve over time; however, flooding elevations would still be lower than under existing conditions (Appendix D).

No increases in flow rate or volume of runoff that would result in flooding onsite or offsite would occur, and there would be no impacts to flood conditions (Criterion D).

As described under the proposed project, implementation of Alternative C would not result in an increase in impervious surfaces, and impacts would not occur (Criterion A). Hydrologic connectivity between groundwater and the lagoon may increase as a result of this alternative, and impacts related to aquifer recharge would not occur (Criterion B). Implementation of Alternative B would not result in increased risk of damage from seiche, mudflow or tsunami, and no impacts would occur (Criterion E).

Coastal Processes and Sediment Delivery

The increase in tidal prism associated with implementation of Alternative C would result in similar increases in littoral sand entrained in the lagoon inlet as that predicted for the proposed project and Alternative B. **While the anticipated annual amount of entrained sand is modest, given the deficit conditions in the Oceanside littoral cell, a significant impact to coastal processes would result (Criterion A).**

Sediment transport modeling predicted increased reductions in sediment delivery to the coast under various storm events with implementation of Alternative C compared to the proposed project. As shown in Table 10-7, the model generally predicts additional sediment would be captured within the W-19 restoration site, primarily within the salt marsh wetlands located adjacent to the river, and less sediment would be transported to the coast under post-project conditions, under storm events of 100-year magnitude or less. In these scenarios, some sediment would settle at or near the restoration site, but some sediment would settle in other locations along the route. Like the proposed project, in larger, higher velocity 100-year events, a surplus of sediment would be transported toward the inlet under post-project conditions compared to existing conditions. However, the surplus under Alternative C would be less than the proposed project.

The ultimate deficit or surplus delivery that would occur to the coastline under each storm scenario is provided in the far right column of Table 10-7. This column reflects the net change, post-project, also considering sediment conveyed to the coast via inlet maintenance after a 25-year or greater storm event. Adaptive maintenance would occur under Alternative C in the portion of the salt marsh protected by the berm, but would not be implemented in the portion of the wetland adjacent to the river. Maintenance would reduce the net deficit in sediment delivery to the coastline, but would not completely compensate for the decreased sediment delivery to the littoral zone during some episodic storm events.

Reductions in sediment being carried down the river during episodic storm events would also result in a long-term net loss of river sediment delivery to the coast, which is represented by the use of the 100-year storm series in the modeling completed for the project. Over the assumed storm series used for the fluvial hydraulic modeling performed by the Corps, a 101,000-cy net reduction in sediment volume reaching the Jimmy Durante Boulevard Bridge was predicted as the result of Alternative C, a substantial increase over the proposed project. Maintenance over that time was assumed to total approximately 30,000 cy (Appendix H), resulting in a net reduction to sediment delivery to the coast totaling approximately 71,000 cy. **Post-restoration,**

long-term river sediment supplies destined for the beach and littoral cell would therefore decrease, and a significant impact would result (Criterion B).

As part of maintenance within W-19 under Alternative C, accumulated sediment would be removed after severe storm events to maintain tidal exchange, circulation, and habitat distribution and avoid the development of public health hazards (e.g., vector breeding areas). Sediment removal would be limited to areas within the portion of the wetland protected by the berm. Material from the site would be transported to the coast and placed on beach sites currently used for the SCE project, although project-specific permits would be obtained. Material placed within these sites would then be allowed to disperse through the littoral zone and would partially offset sand losses due to the project within the Oceanside littoral cell. **Effects within the littoral cell due to W-19 wetlands maintenance would be beneficial to the littoral zone and impacts would be less than significant (Criterion A). Material placement as part of maintenance would not decrease delivery of sand to the littoral zone, and no impacts would occur (Criterion B).**

Mitigation Measure Coastal Processes-1 identified for the proposed project would reduce impacts due to reductions in littoral sediments from increased tidal prism and sand entrainment in the lagoon inlet. Due to more substantial decreases in fluvial sediment delivery associated with Alternative C, Mitigation Measure Coastal Processes-2 would be revised to provide a total of 71,000 cy over six beach nourishment events, for a total placement volume of approximately 11,800 cy per event. This volume would require the duration of placement activities to increase from 3 weeks to approximately 6 weeks every 10 years. The remainder of the mitigation measure would remain applicable. Though not as substantial an increase in volume or duration as compared to Mitigation Measure Coastal Processes-1 necessary under Alternative B, this mitigation measure under Alternative C would be approximately double the required volume per placement event as compared to the proposed project. Similar to the discussion under Alternative B, recreational access to the beach placement sites would be interrupted for a longer period of time for each placement event under Alternative C than the proposed project. The temporary turbidity that results from beach placement would last for a longer period of time due to the increased time necessary for the higher volume of sand to be placed. Also, biological impacts to invertebrates on the beach, grunion, and bird species would increase in severity due to the higher volume of material placed over a longer period of time relative to the proposed project. Similar to Alternative B, the significant and unavoidable traffic impact identified for the proposed project due to congestion on local roadways currently at capacity would remain significant and would worsen under Alternative C due to the extended construction timeframe. Additionally, the significant and unavoidable noise impact associated with the material placement at the southern site would also worsen and remain significant under Alternative C. Construction emissions associated with air quality and GHG impacts would increase compared to the proposed project. The time period of a potentially dangerous situation from the presence of construction equipment on the beach would be extended under Alternative C relative to the proposed project. With the exception of traffic and noise as described above, all impacts associated with implementation of the Coastal Processes mitigation measures would be less than significant.

With implementation of the mitigation measure, impacts to coastal processes and sediment delivery would be reduced to less than significant (Criteria A and B). Similar to the

proposed project, implementation of Mitigation Measures Coastal Processes-1 and 2 would result in significant impacts to traffic, access, and circulation and noise.

Water Quality

The analysis presented for Alternative B would also be applicable to Alternative C. Alternative C would include both inlet and interior maintenance to help ensure that post-restoration water quality conditions would persist even after sediment is deposited by storm events. **Alternative C would not result in a violation of water quality standards or waste discharge requirements or degradation of beneficial uses in adjacent water bodies, and impacts would be less than significant (Criterion A).**

Construction of Alternative C would be similar to that of the proposed project. BMPs would be implemented and project features included in the project to minimize erosion and sedimentation into the river and downstream SCE wetlands. **Alternative C would not substantially degrade water quality in adjacent restoration projects by increasing sedimentation or generate pollutions in violation of such standards, and impacts would be less than significant (Criterion B).**

Implementation of Alternative C would expand tidal exchange to the east portion of the lagoon complex and would increase the tidal prism of the lagoon by approximately 30 percent compared to existing conditions. Residence times under Alternative C would be roughly similar to those described for the proposed project, with the exception of the unprotected wetland portion of Alternative C, which would experience higher residence times than under the proposed project or Alternative B. As shown in Table 10-19, however, the SCE wetlands would still experience a decrease in residence times from existing conditions, which represents an increase in water circulation within the lagoon. **Alternative C would not alter circulation patterns in adjacent restoration projects (including the SCE wetlands) in a way that inhibits mixing or promotes stagnation, and no impacts would occur (Criterion C).**

Table 10-19
Summary of Residence Time (in Days)

Location	Existing Conditions		Proposed Project/ Alternative B		Alternative C	
	Dredged	Shoaled	Dredged	Shoaled	Dredged	Shoaled
W-1 (SCE Wetland)	7.7	18.7 (9.8*)	5.7	8.9	6.7	8.8
W4 (SCE Wetland)	6.8	8.9	5.8	7.9	5.9	7.9
W-16 (SCE Wetland)	6.8	8.9	5.8	7.9	5.8	7.9
W-19	N/A	N/A	7.78	21.7	8.8 (protected portion)	21.7 (protected portion)
					12.5 (unprotected portion)	>25.0 (unprotected portion)

N/A – not applicable
*The residence time would be 9.8 days without the bounce back during the neap tide.
Source: Moffatt & Nichol 2015; site locations are shown in Figure 2-2

Geology/Soils

The analysis presented for Alternative B regrading geologic hazards and erosion would also be applicable to Alternative C. Tidal flows under Alternative C would be slightly slower than those under Alternative B and would incrementally reduce the risk of scour exposing undergrounded utilities in the riverbed. **Therefore, geologic hazards to people or structures would be less than significant under Alternative C (Criterion A). Erosion-related impacts under Alternative C would be less than significant (Criterion B).**

Similar to the other alternatives, surface settling in newly placed fill would occur under Alternative C. Upland areas would maintain the same 20-foot height analyzed under the proposed project, and manufactured slopes, berms, or other features within the restoration area and disposal site would conform to recommendations described in the geotechnical reports (Geocon 2011, 2012). **Impacts related to hazards that result from geologic instability under Alternative C would be less than significant (Criterion C).**

The scale and frequency of inlet maintenance following storm events would be similar as those required for the proposed project; however, under Alternative C, interior wetlands maintenance would not occur to the same extent. This could result in slightly slower water velocities, which would decrease the erosion risk along channels in the restoration areas not maintained. **Impacts related to sediment maintenance and the placement of that sediment on the beach would be the same as or less than those described for the proposed project, and erosion impacts would be less than significant (Criterion B). Impacts related to geologic hazards or geologic instability would be less than significant (Criteria A and C).**

Biological Resources

As Alternative C does not include changes to the design or construction in the disposal site and haul routes from those described for the proposed project, impacts to resources in the disposal site and haul routes would be identical to those described for the proposed project. Therefore, only changes in impacts to biological resources in the W-19 site are described in this section.

Sensitive Riparian and Natural Vegetation Communities

Permanent Direct Impacts

Permanent impacts to the W-19 site include restoration of wetland, riparian, and upland vegetation communities. The proposed post-restoration acreages of the W-19 site by vegetation community or cover type are described in Table 10-20.

Alternative C would result in a permanent post-restoration gain of wetland acreage, and a loss of upland vegetation, mostly from the replacement of coyote bush scrub with wetland habitats. In addition, the gain in wetland habitat would result in a decrease of bare ground/disturbed habitats/ornamental.

Table 10-20
Alternative C – Permanent Impacts to Vegetation Communities and Cover Types in W-19[1]

Vegetation Community or Cover Type	Wetland/Upland Tier Value[2]	Existing in W-19 Site (Acres)	Post Restoration (Acres)	Net Change in Acres
Wetlands and Riparian				
Alkali Marsh	Salt Marsh	2.4	0.0	-2.4
Brackish Marsh	Salt Marsh/ Freshwater Marsh	0.2	14.9	+14.7
Disturbed Wetland	Disturbed Wetland	0.3	0.0	-0.3
Freshwater Marsh	Freshwater Marsh	0.0	0.0	0.0
Low Salt Marsh	Salt Marsh	0.2	17.8	+17.6
Salt Marsh (Mid-High)[3]	Salt Marsh	8.8	38.7	+29.9
Mudflat	Salt Panne	1.2	6.7	+5.5
Open Water	--	0.5	11.4	+10.9
Riparian		8.2	9.3	+1.1
Native Riparian	*Riparian Forest/ Riparian Scrub*	*5.6*	9.3[4]	+3.7
Nonnative Riparian	--	*2.6*	0.0	-2.6
Wetlands and Riparian Subtotal		***21.8***	***98.8***	***+77.0***
Uplands				
Coastal Sage Scrub	II	1.9	20.5	+18.6
Coyote Bush Scrub	--	41.1	0.0	-41.1
Nonnative Grassland	IIIB	11.1	0.5	-10.6
Saltbush Scrub	--	9.5	0.0	-9.5
Tree Tobacco	--	0.4	0	-0.4
Transitional	--	4.3	17.5	+13.2
Uplands Subtotal		***68.3***	***38.5***	***-29.8***
Cover Types				
Bare Ground/ Disturbed/Ornamental[5]	IV	51.9	**3.3**[2]	-48.6
Developed[6]	--	0.2	1.6[3]	+1.4
Cover Types Subtotal		***52.1***	***4.9***	***-47.2***
Grand Total		**142.2**	**142.2**	**0.0**

[1] Totals may not sum due to rounding.
[2] Wetland/Upland Tier values that are not categorized by the Land Development Code Biology Guidelines (City of San Diego 2012, revised April 2012) are blank.
[3] Includes approximately 2.1 acres of disturbed salt marsh/mulefat scrub
[4] Includes 4.9 acres of riparian enhancement.
[5] Includes 1 acre of proposed trail.
[6] Includes existing plus 1.5 acres of maintenance road proposed at the top of the berm.

Post-restoration habitat distributions/permanent direct impacts to vegetation communities under Alternative C differ from the proposed project mainly from the creation of additional wetlands communities north of the berm, west of the utility corridor. Under the proposed project, this area north of the berm is primarily proposed as transitional habitat and coastal sage scrub. As such, Alternative C would establish 38.7 acres of mid-high salt marsh, as opposed to 27.4 acres. Alternative C would also establish slightly more low marsh and mudflat (6.7 acres for Alternative C versus 6.1 acres for the proposed project) associated with the additional tidal channels. Alternative C would establish these additional wetlands at a cost to transitional and coastal sage scrub habitats established under the proposed project. A total of 25.2 acres of transitional habitat would be

established in the proposed project, some of which would be north of the berm, west of the utility corridor. Because Alternative C would establish additional tidal wetlands in that area, approximately 17.5 acres of transitional habitat would be established in the W-19 site. Similarly, the proposed project would establish 25.6 acres of coastal sage scrub, and Alternative C would establish 20.5 acres of coastal sage scrub.

Despite the differences discussed above between the proposed project and Alternative C, direct permanent impacts to vegetation communities as a result of Alternative C are similar to those from the proposed project. Like the proposed project, Alternative C would establish substantially more wetlands and sensitive habitats than currently exist. As seen in Table 10-20, the higher value wetlands and coastal sage scrub habitats would increase in acreage, while the lower value (or no assigned value) upland and bare ground habitats would decrease in acreage. Furthermore, the 2.6-acre reduction of nonnative/riparian habitat would be converted to another high value wetland habitat, as the acreage of coastal salt marsh increases greatly in the W-19 site. The project proposes a permanent post-restoration increase in, and enhancement of, sensitive habitat and would not result in a substantial adverse impact on any Tier I, Tier II, Tier IIIA, or Tier IIIB habitats. **Permanent direct adverse impacts to sensitive vegetation communities would be less than significant (Criterion B).**

Temporary Direct Impacts

Construction of Alternative C would result in temporary impacts to vegetation communities as a result of grading operations, riparian enhancement, and open water enhancement. Temporary impacts to the W-19 site by vegetation community within the site are described in Table 10-21.

Direct temporary impacts listed in Table 10-21 are similar to those discussed for the proposed project. Temporary impacts include impacts from grading, riparian enhancement, and open water enhancement. **Grading and enhancement activities would result in a temporary impact to approximately 80 acres of wetlands and Tier I, II, IIIA, or IIIB habitats. Therefore, direct temporary impacts to sensitive vegetation communities would be significant (Criterion B).**

Indirect Impacts

Indirect impacts from Alternative C are the same as those discussed for the proposed project. **Permanent indirect impacts to sensitive vegetation communities, including the potential for invasive species introduction, would be less than significant (Criteria B and H).**

Flora

Alternative C would result in identical temporary, permanent, and indirect impacts to these special-status plant species as discussed for the proposed project in Section 5.6. **Therefore, temporary impacts to special-status plant species from Alternative B would be significant (Criterion A). Adverse permanent and indirect impacts on special-status plant species from Alternative C would be less than significant (Criterion A).**

Table 10-21
Alternative C – Temporary Impacts to Vegetation Communities and Cover Types in the W-19 Site[1]

Vegetation Community or Cover Type	Wetland/Upland Tier Value[2]	Temporary Impacts (Acres)
Wetlands and Riparian		
Alkali Marsh	Salt Marsh	2.3
Brackish Marsh	Salt Marsh/Freshwater Marsh	0.2
Disturbed Wetland	Disturbed Wetland	0.3
Freshwater Marsh	Freshwater Marsh	0.2
Mid-High Salt Marsh	Salt Marsh	7.9
Mudflat	Salt Panne	0.5
Open Water	--	0.1
Riparian	Riparian Forest/Riparian Scrub	5.5
Nonnative Riparian	Riparian Forest/Riparian Scrub	2.6
Wetlands and Riparian Subtotal		***19.6***
Uplands		
Coastal Sage Scrub	II	0.2
Coyote Bush Scrub	--	41.1
Nonnative Grassland	IIIB	10.6
Saltbush Scrub	--	9.4
Transitional	--	4.1
Tree Tobacco	--	0.4
Uplands Subtotal		***65.8***
Cover Types		
Bare Ground/Disturbed/Ornamental	IV	49.6
Developed	--	0
Cover Types Subtotal		***49.6***
Grand Total[2]		**135.0**

[1] Totals may not sum due to rounding.
[2] Wetland/Upland Tier values that are blank are not categorized by the Land Development Code Biology Guidelines (City of San Diego 2012).

Fauna

Alternative C would result in permanent and temporary impacts to existing vegetation communities. As with the proposed project, many of these vegetation communities represent suitable habitat that supports various sensitive species. The following sections discuss direct temporary, direct permanent, and indirect impacts to special-status wildlife species.

Permanent Direct Impacts

Direct permanent impacts to suitable habitat for special-status species are summarized in Table 10-22.

Overall, Alternative C has similar direct permanent effects as those described for the proposed project, but would be more beneficial to wetlands species such as the light-footed Ridgway's rail and Belding's savannah sparrow due to the greater acreage of wetlands that would be established. Alternative C results in more acreage of mudflat, low marsh, and mid-high marsh,

which would provide additional nesting/foraging habitat for these species over the proposed project. Detailed discussion of direct permanent impacts to federal- and state-listed species follows.

Table 10-22
Alternative C – Existing and Post-Restoration Habitats for Listed Wildlife Species Habitat in the W-19 Site[1,2,3]

Species	Habitat Suitability	Habitat Type	Existing Habitat (Acres)[2]	Proposed Project - Post-Restoration Habitat (Acres)	Alternative C - Post-Restoration Habitat (Acres)
Light-footed Ridgway's rail	Nesting/Foraging	Brackish Marsh	0.2	14.9	14.9
		Salt Marsh (Mid-High)	8.8	27.4	38.7
		Low Salt Marsh	0	17.7	17.8
		Freshwater Marsh	0.2	0	0.0
		Total Nesting/Foraging	**9.2**	**60.0**	**71.4**
	Foraging	Mudflat	1.2	6.1	6.7
		Total Foraging	**1.2**	**6.1**	**6.7**
California least tern	Foraging	Open Water	0.5	10.6	11.4
		Total Foraging	**0.5**	**10.6**	**11.4**
Least Bell's vireo	Nesting/Foraging	Riparian	5.6	9.2	9.3
		Nonnative Riparian	2.6	0	0.0
		Total Nesting/Foraging	**8.2**	**9.2**	**9.3**
Coastal California gnatcatcher[1]	Nesting/Foraging	Coastal Sage Scrub	1.9	25.6	20.5
		Coyote Bush Scrub	41.1	0	0.0
		Total Nesting/Foraging	**43**	**25.6**	**20.5**
Belding's savannah sparrow	Nesting	Salt Marsh (Mid-High)	8.8	27.4	38.7
		Total Nesting	**8.8**	**27.4**	**38.7**
	Foraging	Salt Marsh (Mid-High)	8.8	27.4	38.7
		Low Salt Marsh	0	17.7	17.8
		Mudflat	1.2	6.1	6.7
		Total Foraging	**10.0**	**51.2**	**63.2**

[1] Impacts to coastal California gnatcatcher habitat in the disposal site and haul routes are listed in Table 5.6-11, and described in Section 5.6.
[2] Totals may not sum due to rounding.
[3] Nesting habitat is considered suitable for both breeding and foraging activities, while habitat identified as "Foraging" is not expected to support breeding activities.

Light-footed Ridgway's Rail

Direct permanent impacts to nesting and foraging habitat for this species are similar to the proposed project, with the exception that Alternative C would establish additional acres of low marsh and mid-high marsh as compared to the proposed project. Therefore, Alternative C results in more benefit to the light-footed Ridgway's rail than the proposed project. **Adverse permanent impacts to light-footed Ridgway's rail with implementation of the proposed project would not occur (Criterion A).**

California Least Tern

Permanent direct impacts to the California least tern resulting from Alternative C would be similar to those discussed for the proposed project. Direct permanent impacts would result from the increase of available suitable foraging habitat in the W-19 site. This includes an increase from 0.5 acre of open water to 11.4 acres as opposed to 10.6 acres of suitable open water habitat established by the proposed project. The increase in available suitable foraging habitats would also result in an improvement of the condition of foraging habitat. **Adverse permanent impacts to California least tern from implementation of Alternative C would not occur (Criterion A).**

Least Bell's Vireo

As with the proposed project (Table 5.6-6), Alternative C would result in a gain of 1.1 acres of riparian habitat. **Adverse permanent impacts to least Bell's vireo from implementation would be less than significant (Criterion A).**

Coastal California Gnatcatcher

Alternative C results in similar permanent direct impacts to coastal California gnatcatcher as the proposed project. **Therefore, as with the proposed project, adverse permanent impacts to coastal California gnatcatcher from implementation of Alternative C would be less than significant (Criterion A).**

Belding's Savannah Sparrow

Because Alternative C would establish additional tidal channels and associated wetlands north of the berm and west of the utility corridor, more suitable nesting and foraging habitat for this species would be established. Alternative C would establish 38.7 total acres of suitable nesting habitat, and 63.2 total acres of suitable foraging habitat, as compared to the proposed project, which would establish 27.4 total acres of suitable nesting habitat and 51.2 total acres of suitable foraging habitat. **Therefore, as with the proposed project, adverse permanent impacts to Belding's savannah sparrow with implementation of Alternative C would be less than significant (Criterion A).**

Non-listed Special-Status Species

Although differences in habitats would be established between the implementation of Alternative C and the proposed project, these differences do not affect habitat described for non-listed special-status species. Therefore, permanent direct impacts to non-listed special-status species from Alternative B would be similar to those described for the proposed project. **Habitat reductions for the northwestern San Diego pocket mouse and San Diego black-tailed jackrabbit would occur from the loss of upland habitat; however, adverse permanent impacts to these special-status species would be less than significant. Impacts to other non-listed special-status species would not occur (Criterion A).**

Temporary Direct Impacts

Temporary impacts to wildlife species in the BSA, or with high potential to occur in the BSA, are characterized by impacts to their habitat. The primary concern for temporary loss of habitat is reduced availability of food and shelter for resident and migratory species that rely on the lagoon.

The foraging and nesting habitats for federal- and state-listed species that would be temporarily impacted in the W-19 site are described in Table 10-23.

Table 10-23
Alternative C – Direct Temporary Impacts to Listed Species' Habitat in the W-19 Site[1]

Species	Habitat Suitability[2]	Habitat Type	Existing Habitat (Acres)[2]	Proposed Project - Habitat Temporary Impacts (Acres)	Alternative C - Habitat Temporary Impacts (Acres)
Light-footed Ridgway's rail	Nesting/Foraging	Brackish Marsh	0.2	0.2	0.2
		Salt Marsh (Mid-High)	8.8	8.1	8.1
		Freshwater Marsh	0.2	0	0.2
		Total Nesting/Foraging	**9.2**	**8.3**	**8.5**
	Foraging	Mudflat	1.2	0.2	0.5
		Total Foraging	**1.2**	**0.2**	**0.5**
California least tern	Foraging	Open Water	0.5	0.1	0.1
		Total Foraging	**0.5**	**0.1**	**0.1**
Least Bell's vireo	Nesting/Foraging	Riparian	5.6	5.5	5.5
		Nonnative Riparian	2.6	2.6	2.6
		Total Nesting/Foraging	**8.2**	**8.1**	**8.1**
Coastal California gnatcatcher	Nesting/Foraging	Coastal Sage Scrub	1.9	0.2	0.2
		Coyote Bush Scrub	41.1	40.4	41.1
		Total Nesting/Foraging	**43**	**40.6**	**41.3**
Belding's savannah sparrow	Nesting	Salt Marsh (Mid-High)	8.8	8.1	8.1
		Total Nesting	**8.8**	**8.1**	**8.1**
	Foraging	Salt Marsh (Mid-High)	8.8	8.1	8.1
		Mudflat	1.2	0.2	0.5
		Total Foraging	**10**	**8.3**	**8.6**

[1] Totals may not sum due to rounding.
[2] Nesting habitat is considered suitable for both breeding and foraging activities, while habitat identified as "Foraging" is not expected to support breeding activities.

Light-footed Ridgway's Rail

The light-footed Ridgway's rail analysis presented for Alternative B would be the same for Alternative C. **The displacement of the federal-listed light-footed Ridgway's rail from the W-19 site into adjacent habitat would result in a less than significant adverse impact on a listed species (Criterion A).**

California Least Tern

Direct temporary impacts to foraging habitat for the California least tern from Alternative C would be identical to the proposed project (0.1 acre). **Impacts to the federal-listed California least tern would not result in a substantial adverse impact on a listed species, and impacts would be less than significant (Criterion A).**

Least Bell's Vireo

The least Bell's vireo analysis presented for Alternative B would be the same for Alternative C. **Because least Bell's vireo is migratory in nature and the quality of suitable habitat onsite is marginal**, **Alternative C would not result in a substantial adverse impact to the federal-listed least Bell's vireo, and impacts would be less than significant (Criterion A).**

Coastal California Gnatcatcher

The coastal California gnatcatcher analysis presented for Alternative B would be the same for Alternative C. **The displacement of the federal-listed coastal California gnatcatcher from the W-19 site would not result in a substantial adverse impact on a listed species and impacts would be less than significant (Criterion A).**

Belding's Savannah Sparrow

The coastal California gnatcatcher analysis presented for Alternative B would be very similar to that for Alternative C. Impacts to mudflats would be slightly higher under Alternative C than under the proposed project. **Because Belding's savannah sparrow were not detected within the W-19 site during focused surveys, substantial adverse impacts to the state-listed Belding's savannah sparrow would not occur, and impacts would be less than significant (Criterion A).**

Non-listed Special-Status Species

Alternative C would result in temporary impacts to non-listed special-status species identical to those described for the proposed project. **Substantial temporary adverse impacts to the northwestern San Diego pocket mouse and San Diego black-tailed jackrabbit would occur, and impacts would be significant (Criterion A). Impacts to other non-listed special status species would be less than significant.**

Indirect Impacts

Alternative C would result in identical indirect impacts to special-status wildlife species as discussed for the proposed project. There is potential for temporary indirect noise impacts to wildlife species as a result of construction activities. An increase in ambient noise levels could disrupt behaviors that play an important role in the reproduction of listed and non-listed species. **Therefore, indirect impacts to special-status wildlife species from Alternative C would be significant (Criterion A).**

Jurisdictional Waters and Wetlands

Direct permanent and temporary impacts to jurisdictional resources are the same as discussed for Alternative B. **Direct temporary impacts to jurisdictional resources from Alternative C would be significant (Criterion C).** Because Alternative C would create approximately 0.6 acre of mudflat and 13.4 acres of mid-high marsh more than the proposed project, Alternative C would establish additional jurisdictional resources under both federal and state definitions. **Therefore, Alternative C would not result in permanent adverse impacts to jurisdictional resources (Criterion C).**

Indirect impacts to jurisdictional resources under Alternative C would be the same as those described for the proposed project, including changes in hydrology and the introduction of exotic species. **Therefore, indirect impacts would be less than significant (Criterion C).**

Wildlife Corridors

Impacts to wildlife corridors from Alternative C would be similar to those discussed for the proposed project. **Temporary impacts to wildlife corridors would be significant (Criterion D). Permanent adverse impacts to wildlife corridors from Alternative C would not occur (Criterion D).**

Wetlands Maintenance

The analysis of wetlands maintenance as described for Alternative B would also apply to Alternative C. **Temporary and permanent impacts from wetlands maintenance activities would be less than significant (Criterion A).**

Wetlands maintenance activities would require the use of heavy machinery, and the temporary disturbance of established vegetation communities and wetlands at the inlet to the W-19 site. Temporary disturbance of sensitive communities and jurisdictional resources at the W-19 inlet would be necessary to conduct maintenance, which could disturb wetland communities not impacted by the storm. **Therefore, temporary impacts would be significant (Criteria B and C).** These maintenance activities, however, would improve the quality of sensitive habitat within the lagoon. **Permanent impacts to sensitive species and jurisdictional resources would not occur (Criteria B and C).**

Wetlands maintenance activities are expected to use heavy machinery similar to that described the proposed project, and similar noise impacts would occur. **Therefore, indirect impacts to special-status animal species from noise generated by wetlands maintenance are expected to be the same as those described for initial construction, and would be significant (Criterion A).**

Wetlands maintenance includes the placement of material dredged from the W-19 inlet and interior onto beaches designated for material placement, and impacts would be similar to those described under the proposed project. **Therefore, temporary and permanent impacts from material placement during wetlands maintenance would be less than significant (Criteria B and C).**

Maintenance activities would be restricted to daytime hours and would occur only in focused areas within the W-19 site. Activity would last for relatively short durations and would not remove established habitat. Wildlife would continue to be able to move through the site during more active nighttime. **Temporary impacts to wildlife corridors would be less than significant and permanent impacts would not occur (Criterion D).**

Policies and Ordinances

As described for the proposed project, **Alternative C and associated maintenance are in keeping with the goals and objectives of the MHPA, and do not conflict with the provisions of the MSCP. Impacts related to policies and ordinances would not occur (Criteria E, F, and G).**

Visual Resources

The visual analysis presented for Alternative B would also be applicable to Alternative C. **Thus, because of the temporary nature and limited extent of the visual disruption, the short-term visual impact is considered less than significant (Criterion B).**

Under Alternative C, the habitat distribution would vary somewhat from the proposed project, including two separate tidal channel systems as can be seen in the visual simulation prepared for Alternative C in Figure 10-4, Alternative C – KOP 1 – View from Coast to Crest Trail - Horse Park Segment. **Similar to the proposed project, the character of the river valley would remain consistent and intact and the long-term visual impact under Alterative C would be less than significant (Criteria A, B, C, D, and E).** Elevations throughout the site would be a combination of those proposed under the proposed project and Alternative B. The proposed upland area would be at an elevation of 20 feet, similar to that identified for the proposed project. The elevational changes are within the same general range of those discussed both for the proposed project and Alternative B and the vegetated slopes would allow the established site to blend in with the surrounding habitats and it would not appear as an out-of-scale or visually conflicting element within the river valley viewscape. **The elevational changes and landform modifications would be similar to the proposed project and the impact would be less than significant (Criterion F). No new sources of light would result (Criterion G).**

The analysis provided for Alternative B would be the same for Alternative C regarding the additional raised elevation of the site as compared to the proposed project. **The visual impact would be noticeable and increased as compared to the proposed project, but would be less than significant (Criteria A, B, C, D, and F).**

The analysis presented for Alternative B regarding beach placement would also be applicable to Alternative C. **The analysis of visual impact would be the same as the proposed project and the impact would be less than significant (Criteria A, B, C, D, and F).**

Traffic, Access, and Circulation

The analysis presented for Alternative B regarding trip generation would also be applicable to Alternative C. **Similar to the impact identified for the proposed project, construction trips to the site would cause temporary impacts in relation to existing traffic load, and congested**

Figure 10-4
KOP 1 – View from Coast to Crest Trail - Horse Park Segment
Alternative C

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freeway segments would be significant under this alternative (Criteria B and C). All other traffic impacts associated with project construction would be less than significant, and no permanent impacts would occur (Criteria A, D, E, F, G, H, and I).

As shown in Table 10-17, above, trip generation as a result of wetlands inlet maintenance under Alternative C is slightly greater than that generated under the proposed project after the 25-year, the same after the 50-year and less after the 100-year storm. Under Alternative C, trucks would transport this material to beach placement sites via the same routes described under the proposed project. **Through truck trips would be vary slightly from the proposed project under Alternative C, implementation of maintenance activities would result in a significant temporary traffic impact, similar to that described for the proposed project (Criterion B).**

As described for the proposed project, implementation of traffic-related standard construction practices and Mitigation Measure Traffic-1 would reduce traffic-related impacts; however, impacts would remain significant. Traffic impacts associated with Alternative C construction would persist for an additional month as compared to the proposed project. Additional mitigation measures to reduce the traffic congestion on impacted roadway segments from both initial project construction and maintenance were considered, but none were found feasible to mitigate the temporary impacts of these activities. **Therefore, temporary impacts to traffic would remain significant and unmitigable for both initial construction (Criteria B and C) and maintenance activities (Criterion B).**

Air Quality

Because Alternative C involves the excavation and transportation of an extra 100,000 cy of sediment, annual average emissions levels are slightly higher for this alternative than for the proposed project. The analysis, calculations, and conclusions presented for Alternative B would also be applicable to Alternative C.

As described for the proposed project and Alternative B, **construction of Alternative C could result in a significant air quality impact (Criteria B, C, and E);** however, Mitigation Measure AQ-1 would also be implemented under Alternative C. **Impacts would be less than significant with mitigation (Criteria B, C, and E).**

As described under the proposed project, Alternative C would not conflict with or obstruct implementation of the applicable air quality plan, and impacts would be less than significant (Criterion A) and exposure to pollutants and odors would be less than significant (Criteria D and F).

Maintenance of Alternative C involves varying levels of sediment and days of activity. These levels are higher or lower depending on the storm frequency of 25, 50, or 100 years. Table 10-24 summarizes the maximum daily emissions associated with maintenance of the proposed project and Alternative C. Table 10-25 summarizes the projected annual emissions associated with maintenance of Alternative C.

Table 10-24
Alternative C – Estimated Daily Maintenance Emissions

Storm Frequency	Criteria Pollutant Emissions (pounds/day)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Proposed Project Maximum Daily	**3.15**	**47.11**	**15.18**	**4.70**	**1.45**
Alternative C Maximum Daily	3.12	46.21	15.08	1.71	1.38
Daily Thresholds	**75**	**250**	**550**	**100**	**55**
Exceed Thresholds?	**No**	**No**	**No**	**No**	**No**

CO = carbon monoxide; NO_X = oxides of nitrogen; PM_{10} = particulate matter equal to or less than 10 micrometers in diameter; $PM_{2.5}$ = particulate matter equal to or less than 2.5 micrometers in diameter; ROG = reactive organic gases
Source: Modeled by AECOM 2016

Table 10-25
Alternative C – Estimated Annual Maintenance Emissions

Storm Frequency	Criteria Pollutant Emissions (tons/year)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Proposed Project Annual Emissions	**0.18**	**2.41**	**0.82**	**0.16**	**0.10**
Alternative C Annual Emissions	0.09	1.25	0.43	0.05	0.04
Annual Thresholds	**15**	**40**	**100**	**15**	**10**
Exceed Thresholds?	**No**	**No**	**No**	**No**	**No**

CO = carbon monoxide; NO_X = oxides of nitrogen; PM_{10} = particulate matter equal to or less than 10 micrometers in diameter; $PM_{2.5}$ = particulate matter equal to or less than 2.5 micrometers in diameter; ROG = reactive organic gases
Source: Modeled by AECOM 2016

As shown in Tables 10-24 and 10-25, criteria pollutant emissions would not exceed any daily or annual emission thresholds. **Therefore, maintenance of Alternative C would not violate an ambient air quality standard or contribute substantially to an existing violation (Criterion B).**

Noise

The analysis presented for Alternative B would also be applicable to Alternative C regarding construction noise and would result in similar significant noise impact to CTC Trail users. **Mitigation Measure Noise-1, which requires public notices regarding increased noise levels as described in Section 5.10, would be required under Alternative C and would reduce impacts to less than significant (Criterion A).**

While materials disposal could have a longer duration due to the increased volume of material excavated, the noise levels associated with the disposal would be the same as described for the proposed project and would be less than significant (Criteria A, B, C, and D).

Material removed during maintenance activities under Alternative C would be less than the proposed project as less interior wetlands maintenance would occur and thus would require a shorter construction duration and number of haul trips. This would reduce the duration of noise generation on the beach placement sites and therefore lessen the severity of the noise impacts under this alternative. **Placement would generate the same noise levels as described for the proposed project, however, and would therefore still result in significant and unavoidable**

noise impacts to local residential properties on the beach (Criterion A). Mitigation Measures Noise-2 through Noise-4, which would establish a noise complaint protocol and reduce aggregate noise levels, would be implemented as described for the proposed project. However, implementation of these measures would not reduce the noise impact at local residential receptors to below a level of significance. The noise impact due to material placement on the beach would remain significant and unavoidable.

Cultural Resources

As with the proposed project, implementation of Alternative C grading activities for the proposed project has the potential to encounter previously unidentified potentially significant archaeological resources or buried human remains in stable undisturbed sediments. **The potential for physical impact to or destruction of archaeological resources or unanticipated human remains would be considered a potentially significant impact (Criteria~~on~~ A and C).** Measure Cultural-1, which requires construction monitoring and establishes communication and notification protocols as described in Section 5.11, would reduce impacts to archaeological resources and human remains to less than significant. **Alternative C would also have no impact on existing religious or sacred uses within the potential impact area (Criterion B)~~ and there is no evidence indicating the possible presence of human remains within the W-19 restoration area (Criterion C)~~.** Material placement and wetlands maintenance activities would not impact previously undisturbed settlement and would not have impacts related to cultural resources.

Paleontological Resources

Implementation of Alternative C would result in a slight increase in the amount of material excavated as compared to the proposed project (1,300,000 cy as compared to 1,200,000 cy). However, material placement as described for Alternative B, Alternative C would also not impact previously undisturbed settlement and would not have impacts related to paleontological resources. **Therefore, paleontological impacts would be less than significant under Alternative C (Criteria A and B).**

Public Services and Utilities

The analysis presented for Alternative B would also be applicable to Alternative C regarding public services and utilities. **Therefore, impacts to public services and utilities under Alternative B would be less than significant (Criteria A, B, and C).**

Public Health and Safety

The area impacted and the resulting actions as proposed under Alternative C would be very similar to the proposed project and the analysis presented for Alternative B is also applicable to Alternative C. **Alternative C would use similar construction methods with standard fire safety construction practices and no permanent structures would be built that could increase potential of accidental fire ignition or increased risk of wildland fire (Criterion A). Local trips would not obstruct or hinder the ability of those roads to serve as evacuation or**

emergency routes (Criterion B). Potential for exposure risk related to hazard material sites or hazardous materials would be less than significant as described for the proposed project (Criteria C and D).

Similar to Alternative B, Alternative C proposes fewer maintenance activities than the proposed project and would allow some wetland areas to be directly influenced by river dynamics and evolve over time. The reduced amount of maintenance under Alternative C may result in a slightly increased chance of mosquito breeding conditions over time as compared to the proposed project. As described for the proposed project, vector control methods could be applied in a manner similar to nearby and adjacent areas currently being treated by County of San Diego Vector Control, such as aerial larvicide applications to prevent substantial increases in the exposure of humans to vectors. **The overall condition of the site, ~~however, would have improved water flow and tidal circulations that would reduce the potential for mosquito breeding conditions~~ would not have a substantial increase in vector breeding conditions to the extent that could significantly increase human exposure to vectors. ~~and~~ Alternative C would result in a less than significant impact related to human exposure to vectors (Criterion E).**

Analysis of recreational safety as detailed for the proposed project would be applicable to Alternative C and shows that there would be a less than significant impact related recreational safety (Criterion F).

Greenhouse Gas Emissions

As detailed for Alternative B and shown in Table 10-15, construction emissions would total 4,729 MT CO_2e over the construction period for Alternative C, which is slightly greater than the proposed project.

During maintenance activities, emissions from off-road equipment and trucks hauling material to the beach were estimated for 25-, 50- and 100-year events. Although maintenance emissions could be amortized over the estimated storm frequency, the total maintenance emissions are presented in Table 10-26 to allow for conservative analysis.

Table 10-26
Alternative C – Maintenance-Related GHG Emissions (MT CO_2e)

Storm Frequency	Total Maintenance	Amortized Construction	Total Maintenance and Amortized Construction
25-Year	35	189	224
50-Year	135	189	324
100-Year	160	189	349
Significance Threshold	N/A	N/A	900
Exceeds Threshold?	N/A	N/A	NO

MT CO_2e = metric tons of carbon dioxide equivalent
Note: Totals may not add due to rounding.
Additional details available in Appendix Q.
Source: Modeled by AECOM in 2016

As shown in Table 10-26, the total maintenance and amortized construction GHG emissions for any storm frequency for Alternative C would not exceed the threshold of 900 MT CO_2e per year. Similar to the proposed project, Alternative C would remove over 1 mcy of soil from the W-19 site. All sediment material would be disposed of onsite and would not be exported as "waste"; therefore, Alternative C would be consistent with the General Plan and the CAP. Alternative C would be consistent with policies adopted and/or recommended by the AB 32 Scoping Plan, San Diego Forward: The Regional Plan (2015) and Climate Action Strategy, and City of San Diego General Plan and CAP. **Therefore, impacts related to GHG emissions under Alternative C would be less than significant (Criteria A and B).**

10.6 NO PROJECT ALTERNATIVE

Under the No Project Alternative, no restoration of the W-19 site would occur and the additional wetlands proposed by the W-19 project would not be established on the site to complement adjacent restoration projects. Regional coastal wetlands would be restored somewhere else (i.e., another estuary that is not identified here) as mitigation for the North Coast Corridor and El Camino Real Bridge/Road Widening ~~Replacement~~ projects. The JPA could pursue restoration in the future through alternative partnerships or approaches, although no alternative funding for such restoration has been identified at this time.

Although it is possible that the project site could be restored to wetlands by the JPA or another entity in the future, it is assumed for this No Project Alternative analysis that vegetation on the site would continue to be dominated by disturbed scrub and nonnative grasslands, and invasive species within existing riparian areas would continue to encroach along the river. It is assumed that SDG&E would continue to maintain vegetation along the existing utility corridor to facilitate operations and maintenance of the various utilities traversing the site. Since no excavation of material would occur under the No Project Alternative, no material would require disposal. While a trail connection would not be constructed along El Camino Real between the Dust Devil Nature Trail and CTC Trail, the addition of trails in the site would not be precluded. Similarly, relocation of the electrical line traversing the W-19 site would not be required if the proposed project is not implemented. The City of San Diego has plans identifying relocation of the electrical line as part of an undergrounding program that would move the line into existing and proposed street segments, although specific timing for implementation of that program has not been set. Either the City or SDG&E could therefore pursue relocation in the future if desirable.

Land Use and Recreation

Under the No Project Alternative, lagoon restoration, material placement, and sediment maintenance would not occur. **While the positive effects of beneficial reuse would not occur under this alternative, the continuation of existing conditions as a result of the No Project Alternative would result in less than significant impacts associated with land use and recreation (Criteria A, B, C, D, and E).**

Hydrology

The No Project Alternative would not create hydrologic connectivity and function within the project site as the three build alternatives would. Instead, the project area would remain as

upland with sheet flow and small channels extending into the site. Existing hydraulic constrictions in the lagoon would persist and existing maintenance activities, including those associated with the SCE restoration project, would continue as under existing conditions. **Although these benefits of the restoration project would not be realized, impacts related to hydrology would also not occur (Criteria A, B, C, D, and E).**

Coastal Processes and Sediment Delivery

No materials would be dredged or excavated that would need to be disposed of or used for littoral cell nourishment under the No Project Alternative. The shoreline and littoral system would remain unaffected by sand placement that could occur under the project. **No disruption of the littoral system or increase in risks of damage to coastal structures would occur and no impacts would result from the No Project Alternative (Criteria A and B).**

Water Quality

Under the No Project Alternative, the project site would remain as upland and no changes related to water quality would occur. Benefits to water quality associated with the restoration project, including increased tidal prism and increased circulation, would also not occur. **Although these benefits of the restoration project would not be realized, impacts related to water quality would also not occur compared to existing conditions (Criteria A, B, and C).**

Geology/Soils

Under the No Project Alternative, the proposed wetland restoration would not occur. No earthwork would take place and no structures would be constructed. The relocation of the westernmost SDG&E power line could be undertaken by others and would be analyzed separately if pursued. Under the No Project Alternative, the project site would be subject to the same seismic phenomena as under existing conditions and would not increase risks associated with such phenomena. **Therefore, no impacts to geology and soils would occur under the No Project Alternative (Criteria A, B, and C).**

Biological Resources

This alternative would not modify existing habitat types within the W-19 site or create additional wetlands. Under this alternative, wetlands maintenance activities would also not occur following storm events. Temporary construction impacts would not occur, including the risk of invasive species introduction. No special-status plant or animal species detected within the project area would be directly impacted, nor would any sensitive habitat, and the amount of jurisdictional waters and wetlands would not change. **Impacts would not occur (Criteria A, B, C, and H).** However, the benefits to these biological resources associated with the three build alternatives would also not be realized. **The W-19 site, disposal site, and beach placement sites would continue to function as wildlife corridors to the same extent they do under existing conditions. Impacts would not occur (Criterion D). Land uses and habitat function within the sites would continue as they are now. Similar to the proposed project, no conflicts with applicable policies and plans would occur (Criteria E, F, and G).**

Visual Resources

Under the No Project Alternative, it is assumed vegetation on the site would continue to be dominated by disturbed scrub and nonnative grasslands, and invasive species within existing riparian areas would continue to grow densely along the river. Over time, the river channel would likely become less visible as the invasive habitat infringes farther into the riparian areas. There would be no construction activity or landform modification throughout the site. The disposal site would remain in its current visual condition. No new visually noticeable features, including utility relocation or new trail would result. **Thus, substantial visual changes would not occur and the visual character of the river valley would remain consistent and intact and there would be no impact under the No Project Alterative (Criteria A, B, C, D, E, F, and G).**

Traffic, Access, and Circulation

Under the No Project Alternative, no lagoon restoration and no maintenance activities would occur; therefore, no construction-related trips would occur. Additionally, no materials would need to be transported for disposal or beneficial reuse. **Impacts related to traffic, access, and circulation would not occur (Criteria A, B, C, D, E, F, G, H, and I).**

Air Quality

Under the No Project Alternative, restoration, material placement, and maintenance following storm events would not occur. Therefore, no increase would occur in emission-generating activities under the No Project Alternative. **No air quality impacts would occur (Criteria A, B, C, D, E, and F).**

Noise

Under the No Project Alternative, there would be no restoration, disposal, or maintenance activities that would require construction activities or any other new noise source. **Thus, no noise impacts would result from the No Project Alternative (Criteria A, B, C, and D).**

Cultural Resources

Under the No Project alternative, no ground disturbance or alteration of existing cultural resources would occur and there would be no potential for impacts to cultural resources (Criteria A, B, and C).

Paleontological Resources

Under the No Project alternative, no excavation would occur and there would be no potential for impacts to paleontological resources (Criteria A and B).

Public Services and Utilities

Under the No Project Alternative, construction and restoration would not occur, and no change would occur to utility systems or service demands. Relocation of the SDG&E electrical lines would not occur with selection of the No Project Alternative. Instead, either the City of San Diego or SDG&E could pursue relocation/undergrounding in the future, as described in the No

Project Alternative project description above. **Impacts related to public services and utilities would not occur (Criteria A, B, C, D, and E).**

Public Safety and Hazardous Materials

Under the No Project Alternative, the site would continue to be dominated by disturbed scrub and nonnative grasslands within a Very High Fire Hazard Severity Zone. The current conditions, which may potentially serve as mosquito or vector breeding sites during times of ponded or stagnant water situations, would continue. **While the No Project Alternative would not worsen the potential breeding conditions and would have a less than significant impact related to an increase in human exposure to vectors (Criterion E), the alternative would not result in a lessened potential for vector breeding opportunity ~~relative to the proposed project and Alternatives B and C~~. No other impacts related to public safety and hazardous materials would occur (Criteria A, B, C, D, and F).**

Greenhouse Gas Emissions

Under the No Project Alternative, restoration, material placement, and sediment maintenance following storm events would not occur. Therefore, no increase would occur in emission-generating activities under the No Project Alternative, and GHG emissions would not occur. **No impacts would occur (Criteria A, B, C, D, E, and F).**

10.7 OFFSITE MATERIALS DISPOSAL OPTION

An alternative to disposing of the excavated material onsite is being evaluated as a feasible option within the proposed project or build alternatives. Instead, excavated material would be exported to various locations offsite. The excavated material has too much fine sand content to be suitable for disposal at Miramar Landfill. Based on preliminary soil investigations, sediment characteristics are suitable for use as fill for regional infrastructure or development projects, or for disposal at private disposal sites (Appendix C). However, at the time of this document's release, development or disposal sites with the necessary capacity have not been identified within 1 mile of the project site.

Given the small likelihood of an appropriate project occurring nearby, and the prohibitive cost of disposal at private sites (up to $1000/truck load), excavated material would need to be marketed to individual projects under construction at the appropriate time. While specific locations that would utilize the material are not known, assumptions can be made that travel routes to the freeway would extend along El Camino Real to Via de la Valle or Del Mar Heights Road and then extend north or south along the I-5 freeway corridor to the ultimate destination. Disposal of the full amount of project-generated sediment via this option would result in approximately 100,000 to 150,000 truck round trips to various construction sites within the region (Appendix C). The excavated material has too much fine sand content to be suitable for disposal at Miramar Landfill. The combination of the smaller truck and additional time required for the longer soil transport trips under this alternative would approximately double the duration of the grading/hauling phase and extend the overall construction period from approximately 2½ to 4

years. The cost of hauling the material over the greater distance would significantly increase the cost of the project and likely make the project infeasible.

Land Use and Recreation

The transport of material offsite would not modify the purpose or long-term results of the restoration project. The material would still be removed as planned from within the W-19 site and would not be placed on the disposal site. No landform alteration of the disposal site would result and it would remain in its current condition. The long-term restoration would not be affected by the disposal of the material offsite. Because the projects that would utilize fill transported from W-19 would occur with or without the project, the use of material for offsite purposes would not affect land uses or land use decisions.

The use of material for offsite purposes, such as fill for infrastructure or other development, would occur regardless of the availability of material generated during implementation of the proposed project. Therefore the proposed project would not determine or affect land use or land use decisions. **Thus, there would not be an impact related to land use and recreation from the offsite material disposal option (Criteria A, B, C, D, and E).**

Hydrology

The transport of sediment offsite would not modify the hydrologic changes that would result from lagoon restoration and maintenance. The additional haul trucks used to transport the material offsite using existing roadways would not affect hydrology. **Thus, there would not be an impact related to hydrology or sediment transport from the offsite material disposal option (Criteria A, B, C, and D).**

Coastal Processes and Sediment Delivery

The additional haul trucks used to transport the material offsite using existing roadways would not affect coastal processes. **Thus, there would not be an impact related to coastal processes and sediment delivery from the offsite material disposal option (Criteria A and B).**

Water Quality

The transport of sediment offsite would not modify the water quality effects that would result from lagoon restoration and maintenance. The excavation operations and landform modification would remain as proposed and the long-term results would be the same. The disposal site would remain in its current condition with no change to the existing setting. The additional haul trucks used to transport the material offsite using existing roadways would not affect water quality. **Thus, there would not be an impact related to water quality from the offsite material disposal option (Criteria A, B, and C).**

Geology/Soils

The transport of sediment offsite would not modify the effects of lagoon restoration and maintenance on geology and soils. The disposal site would remain in its current condition with no change to the existing setting. The additional haul trucks used to transport the material offsite using existing roadways would not affect geology/soils. **Therefore, no impacts to geology/soils would occur (Criteria A, B, and C).**

Biological Resources

The transport of sediment offsite would not modify the effects to biological resources that would result from lagoon restoration and maintenance. However, the construction period would be substantially lengthened from 2½ to 4 years under this option. The extended construction time required to complete the wetland restoration would worsen the temporary significant and unavoidable biological impacts as described for the proposed project.

Because no material would be placed on the disposal site under this option, removal of existing vegetation at the disposal site would not occur and species occurring on the disposal site would not be disturbed. The disposal site would instead remain in its current condition and no impacts would occur in relation to the disposal site.

Therefore, due to the extended construction time period, temporary significant and unavoidable impacts to biological resources would be greater under the offsite disposal option (Criteria A, B, C, D, E, F, G, and H).

Visual Resources

Under the offsite disposal option, material would be transported via haul trucks to the disposal location. The transport of materials offsite would not modify the amount of material removed from the site and would cause no visual effect on the project site. However, the temporary visual impacts of the project, including construction equipment located throughout the W-19 site, would be substantially worsened as the construction period would be extended from 2½ to 4 years if material were to be hauled offsite for disposal.

The haul trucks used to transport the material offsite would be standard dump truck type vehicles that are common on roads, and the increased volume of these types of vehicles on area roadways during the construction period would not cause a substantial visual change. If material were hauled offsite, it would not be placed on the disposal site and that area would remain in its current state with no increase in elevation or landform alteration, resulting in reduced visual changes as compared to onsite disposal. **Offsite disposal would result in a less than significant visual impact (Criteria A, B, C, D, E, F, and G).**

Traffic, Access, and Circulation

Under the offsite disposal alternative, peak hour trip generation would be approximately 177 PCEs, as compared to 41 PCEs for the onsite disposal alternative. Total trip generation per 10-

hour construction day would be approximately 1,629 PCEs, as compared to 269 PCEs for onsite disposal. Because the duration of this traffic generation would be limited to the period of construction, it would not exceed community plan allocations. **Impacts would be less than significant (Criterion A).**

Routes to the freeway for distribution to specific sites are assumed to extend along either El Camino Real and Via de la Valle or El Camino Real and Del Mar Heights Road to I-5. It is assumed that the truck trips would then continue either north or south on I-5 Although the specific route that would be taken is unknown, analysis assumed all traffic would be routed to the two-lane section of Via de la Valle and El Camino Real north of the site. This allows for a conservative analysis and a comparison with the proposed project. Utilization of this route would exceed the existing roadway capacity, to a far greater extent than under the proposed project. Impacts related to maintenance activities would be the same as those described for the proposed project and would exceed existing roadway capacity. **Impacts would be significant (Criterion B).**

As described for the proposed project, freeway segments within the study area currently operate at poor levels in peak directions during peak hours. Implementation of the offsite disposal alternative would increase the V/C ratios by 0.008 or 0.012 on many of the freeway segments currently operating at LOS F. **Impacts would be significant (Criterion C).**

Impacts of the offsite disposal alternative would be identical to those of the proposed project for the remainder of traffic significance thresholds. **Impacts would not occur (Criteria D, E, F, G, H, and I).**

Implementation of traffic-related standard construction practices and Mitigation Measure Traffic-1 would reduce these impacts; however, impacts would remain significant. Additional mitigation measures to reduce the traffic congestion on impacted roadway segments from both initial project construction and maintenance were considered, but none were found feasible to mitigate the temporary impacts of these activities. **Therefore, impacts to traffic would remain significant and unmitigable for both initial construction (Criteria B and C) and maintenance activities (Criterion B).**

Air Quality

The Air Quality Technical Study (Appendix M) describes the anticipated emission of various pollutants from implementation of an offsite disposal option. These calculations show that emission of some criteria pollutants would be higher with an offsite disposal alternative, while some would be lower. **Regardless of disposal option selected, less than significant impacts to air quality would occur (Criteria A, B, C, D, E, and F).**

Noise

Under the offsite disposal option, material would be transported via haul trucks to the disposal location. It is unknown at this time where those disposal locations would be and the routes that would be used to access the locations. It is assumed that the haul trucks would use larger regional

roads, such as I-5 or other state routes or highways, to travel to the destination. Large vehicle traffic is common on these roads. Depending on the ultimate destination for the material, the travel routes could avoid smaller residential type roads that could be affected by large construction vehicle noise. Regardless, the need for fill material and associated noise impacts of delivering that material would be disclosed in that to-be-determined project CEQA analysis. **Thus, it is anticipated that less than significant noise impacts would result from the offsite material disposal option (Criteria A, B, C, and D).**

Cultural Resources

The hauling of material offsite for disposal would cause no change in the proposed excavation or landform modifications and no additional ground disturbance would result. Haul routes would be via existing roadways. **Thus, there would be no potential for impacts to cultural resources (Criteria A, B, and C).**

Paleontological Resources

The hauling of material offsite for disposal would cause no change in the proposed excavation or landform modifications and no additionally excavation would result. Haul routes would be via existing roadways. **Thus, there would be no potential for impacts to paleontological resources (Criteria A and B).**

Public Services and Utilities

Under the offsite disposal option, material would be transported via haul trucks to the disposal location and the actions associated with the lagoon restoration or maintenance would not be altered. Relocation of the SDG&E electrical lines would occur as proposed. Hauling material offsite would not result in a need for new or altered utility systems or public services. **Impacts related to public services and utilities would not occur (Criteria A, B, C, D, and E).**

Public Health and Safety

The Preliminary Environmental Study Report (Geocon 2011) found that all reported pesticide concentrations in the onsite shallow soils indicate the soil could be exported offsite if need be without restriction; however, additional testing may be required depending on the destination and receiving entity. Thus, any material removed from the site for offsite disposal must be found suitable for disposal or reuse. **With this requirement in place, the offsite disposal alternative would not pose a threat specific to exposure of hazardous materials (Criteria A, C, and D).** As described for the lagoon restoration, I-5 is designated as a primary transportation route for emergency evacuations (OES 2014). Haul trucks would travel along local roadways, potentially including I-5 or other designated evacuation routes. These larger regional roadways currently experience heavy truck travel, and the volume of truck trips associated with material disposal on a daily basis would not cause substantial interference with roadway operations. **Thus, offsite disposal activities would not obstruct or hinder the ability of the local transportation network and designated roads to serve emergency purposes or as evacuation routes if an emergency were to occur (Criterion B). The transport of material offsite for reuse or**

disposal would not have an effect on human exposure to vectors (Criterion E). Offsite disposal would not affect recreation safety (Criterion F).

Greenhouse Gas Emissions

If offsite disposal is required, excavated soil must be transported to offsite locations, increasing the potential overall construction duration to approximately 4 years compared to the proposed project. The Air Quality Technical Study (Appendix M) describes the anticipated emission of various pollutants from implementation of an offsite disposal option. These calculations show that, regardless of restoration alternative selected, offsite disposal of project-generated sediment would not exceed the threshold of 900 MT CO_2e per year. **Impacts would be less than significant (Criteria A and B).**

10.8 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA Guidelines Section 15126.6(e)(2) requires that an EIR identify an environmentally superior alternative. If the No Project Alternative is determined to be the environmentally superior option, another alternative among those analyzed must be identified as the environmentally superior alternative.

The No Project Alternative would result in the fewest number of significant environmental impacts all of which are temporary in nature (Table 10-3) and could be considered environmentally superior for this reason. However, implementation of the No Project Alternative would result in the continued deterioration of the habitats, vegetation communities, and hydrologic conditions within the W-19 site. No wetland acreage would be established under the No Project Alternative, which would render the No Project Alternative inconsistent with the overall purpose of the project and this alternative would not achieve any of the project objectives (Section 3.2). Thus, the following discussion provides identification of an environmentally superior alternative among the three project alternatives.

Among the action alternatives, the proposed project is identified as the Environmentally Superior Alternative. The proposed project requires the smallest volume of material removal and disposal (100,000 cy less than Alternatives B and C), which generally results in a lesser degree of impact. Many of the impacts identified for the project and alternatives are short-term impacts that would cease at the end of the construction period and as the new wetlands establish; thus, the proposed projects' smaller volume of material removal would abbreviate the construction period and result in the shortest temporal impacts among the alternatives. The proposed project would cause a substantially smaller reduction in sediment delivery to the littoral zone as compared to Alternatives B and C. The residency time of water in the wetland system would be less with the proposed project, specifically compared to the unprotected wetland areas of Alternative C. Slightly more sensitive habitat would be impacted during construction of Alternatives B and C; however, the biological impacts are generally similar to the proposed project. Visual impacts would be less for the proposed project as the volume of material placed on the disposal site would be 100,000 cy less than Alternatives B and C, so the resulting elevational increase would be less. Traffic impacts would vary slightly during different phases of the alternatives with more trips occurring during the prolonged construction period of Alternatives B and C, while more

truck trips would be associated with wetlands maintenance under the proposed project. Air quality impacts associated with the proposed project would be slightly less than the other alternatives due to a reduced amount of excavation and transport of material. Similarly, GHG emissions would be less for the proposed project than Alternatives B and C.

Both Alternatives B and C would lessen the significant and unavoidable noise impact at the southern beach placement site due to a smaller volume of material requiring beach placement associated with wetlands maintenance activities. Because the wetlands maintenance activities would not occur to the same extent as the proposed project, Alternatives B and C could result in slightly slower water velocities, which would decrease the erosion risk along channels in the restoration area. However, mitigation measures associated with sand placement over the project life would offset those smaller maintenance volumes. Additionally, tidal flows under Alternative C would be slightly slower than those under Alternative B and would incrementally reduce the risk of scour exposing undergrounded utilities in the riverbed.

While these impacts would be lessened by Alternatives B and C, these alternatives would also produce more severe impacts for several topic areas as described above. Additionally, as noted in Chapter 3, project objectives include establishing habitat that can satisfy mitigation needs for transportation projects, and represent a sustainable system resilient to sea level rise. Alternatives B and C may not satisfy mitigation needs due to the predicted loss of wetland habitat over time, as described in Appendices D and F, and may therefore be unable to meet the project objectives to the same extent as the proposed project.

CHAPTER 11.0
MITIGATION, MONITORING, AND REPORTING PROGRAM

CEQA (Pub. Res. Code Section 21081.6), requires that an MMRP be adopted upon certification of an EIR to ensure that the mitigation measures are implemented. The MMRP specifies what the mitigation is, the entity responsible for monitoring the program, and when in the process it should be accomplished. This MMRP is designed to ensure compliance with Pub. Res. Code Section 21081.6 during implementation of mitigation measures. In addition to mitigation measures identified in Chapter 5 of this EIR, a series of PDFs have been incorporated into the project to avoid or minimize impacts as part of the restoration approach to project implementation. These PDFs represent a commitment by the project proponent to construct the project in an environmentally sensitive way, and therefore are also included in this MMRP.

The MMRP table below, Table 11-1, lists the required mitigation measures and monitoring efforts, timing, and responsible party necessary to ensure that the measures are properly implemented. All project-specific mitigation measures identified in the EIR/EIS are stated herein.

Table 11-1
Mitigation Required by the Mitigation, Monitoring, and Reporting Program

Mitigation Measure Number	Mitigation Measure	Timeframe of Mitigation	Implementation Responsibility	Monitoring, Enforcement, and Reporting Responsibility
Coastal Processes and Sediment Delivery				
Coastal Processes-1	To mitigate for the loss of sand from the coastal sediment budget due to increased entrainment of material in the San Dieguito River inlet, the W 19 project will deepen the sand trap created and maintained by SCE in the river channel bottom. The larger sand trap will be located between Camino Del Mar and the railroad within Area 2 of the designated dredge area for SCE, as shown in Figure 5.3-2. The approximate boundaries of the existing sand trap and proposed area of the sand trap to be deepened are shown in Figure 5.3-3. The larger sand trap will capture the additional sand entrained in the river mouth as a result of the proposed project.	During and post-construction	Contractor	JPA
Coastal Processes-2	The W-19 project will implement a beach nourishment program within the vicinity of the river inlet. The program will utilize the same placement sites as those used for W-19 wetlands maintenance (also the SCE permitted placement sites) and will: • Place 5,000 cy of imported sand on the material placement sites within 1 year of the completion of the construction of W-19. • Place an additional 5,000 cy of imported sand	During maintenance	Contractor	JPA

Mitigation Measure Number	Mitigation Measure	Timeframe of Mitigation	Implementation Responsibility	Monitoring, Enforcement, and Reporting Responsibility
	on the material placement sites every 10 years until a total of 30,000 cy of imported sand is placed over an anticipated 50 years. A total of six placement events would occur and may extend slightly past the 50 years depending on frequency of placement.			
	Traffic, Access, and Circulation			
Traffic-1	Provide advanced notification to motorists that delays and traffic congestion will occur at (a) freeway segments on I-5 and I-805, south of the merge; and (b) arterial roadway sections of Via de la Valle and El Camino Real during the construction period and encourage roadway users to consider other transportation modes or alternative routes during peak hours. This notification may be accomplished through various measures such as information and detour routes included on the project website; traffic details included in notifications sent to local residents; traffic and alternative route information published in local media; and physical traffic control measures, such as temporary signage located at various distances from the impacted areas. <u>Coordinate with the El Camino Real Bridge/Road Widening Project operations or other local projects that also affect traffic to reduce projected traffic, as necessary if project schedules overlap.</u>	Prior to and during construction	Contractor	JPA
	Air Quality			
AQ-1	The following measures shall be implemented by the construction contractor to reduce fugitive dust emissions associated with off-road equipment and heavy-duty vehicles: • Water the grading areas a minimum of twice daily to minimize fugitive dust, as permitted; • Stabilize stockpiles in accordance with City grading ordinance requirements for stabilization of exposed soils to minimize fugitive dust; • All onsite unpaved roads would be stabilized to limit visible emissions to no greater than 20 percent opacity for dust emissions by chemical stabilizers, dust suppressants, and/or watering. • Remove any visible track-out into traveled public streets within 30 minutes of occurrence; • Wet wash the construction access point at the end of each workday if any vehicle travel on unpaved surfaces has occurred; • Provide sufficient perimeter erosion control to prevent washout of silty material onto public roads; • Cover haul trucks or maintain at least 12 inches of freeboard to reduce blow-off during hauling	During construction	Contractor	JPA

Mitigation Measure Number	Mitigation Measure	Timeframe of Mitigation	Implementation Responsibility	Monitoring, Enforcement, and Reporting Responsibility
	on public roads; • Suspend grading operations when wind speeds are high enough to result in dust emissions crossing the property line, despite the application of dust mitigation measures; • Cover/water onsite stockpiles; and • Enforce speed limit of 15 miles per hour on unpaved surfaces. • Exclude the use of brackish water when watering areas to minimize fugitive dust.			
Noise				
Noise-1	Prior to commencement of construction, public notices regarding the potential for temporarily increased noise levels shall be posted along the trail and in parking areas. These notices shall include a schedule of anticipated elevated noise levels and a description of alternate trails available for use.	Prior to construction	Contractor	JPA
Noise-2	During maintenance requiring beach placement, the construction contractor will provide written notification to residents within a 100-foot radius of the beach placement site prior to the start of construction activities. The contractor will establish a telephone hot-line for use by the public to report any perceived substantial adverse noise conditions associated with the construction of the project. If the telephone is not staffed 24 hours per day, the contractor will include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. This hot-line telephone number will be provided in the written notification to nearby residents and posted at the project site during construction in a manner visible to passersby. This telephone number will be maintained until the beach placement activities have concluded.	During maintenance	Contractor	JPA
Noise-3	Throughout the beach placement activities, the contractor will document, investigate, evaluate, and attempt to resolve construction-related noise complaints. The contractor or its authorized agent will: • Use a Noise Complaint Resolution Form to document and respond to each noise complaint; • Contact the person(s) making the noise complaint within 24 hours; • Conduct an investigation to attempt to determine the source of noise related to the complaint; and • Take reasonable measures to reduce the noise at its source.	During maintenance	Contractor	JPA

Mitigation Measure Number	Mitigation Measure	Timeframe of Mitigation	Implementation Responsibility	Monitoring, Enforcement, and Reporting Responsibility
	Cultural Resources			
Cultural-1	I. Prior to Permit Issuance (for projects that include ground disturbance) A. Entitlements Plan Check 1. Prior to issuance of any construction permits, including, but not limited to, the first Grading Permit, Demolition Plans/Permits and Building Plans/Permits, but prior to the first preconstruction (precon) meeting, whichever is applicable, the Project Archaeologist shall verify that the requirements for archaeological monitoring and Native American monitoring have been noted on the applicable construction documents through the plan check process. B. Letters of Qualification Have Been Submitted to Project Archaeologist 1. The project's cultural resources consultant shall submit a letter of verification to Mitigation Monitoring Coordination (MMC) identifying the Principal Investigator (PI) for the project and the names of all persons involved in the archaeological monitoring program, as defined in the City of San Diego Historical Resources Guidelines. If applicable, individuals involved in the archaeological monitoring program must have completed the 40-hour HAZWOPER (Hazardous Waste Operations and Emergency Response)training with certification documentation. 2. MMC would provide a letter to the project's cultural resources consultant confirming the qualifications of the PI and all persons involved in the archaeological monitoring of the project meet the qualifications established in the Historical Resources Guidelines. 3. Prior to the start of work, the project's cultural resources consultant must obtain written approval from MMC for any personnel changes associated with the monitoring program. II. Prior to Start of Construction A. Verification of Records Search 1. The PI shall provide verification to MMC that a site-specific records search	Prior to and during construction	Qualified Archaeologist/ Contractor	JPA

Mitigation Measure Number	Mitigation Measure	Timeframe of Mitigation	Implementation Responsibility	Monitoring, Enforcement, and Reporting Responsibility
	(quarter-mile radius) has been completed. Verification includes, but is not limited to, a copy of a confirmation letter from SCIC, or, if the search was in-house, a letter of verification from the PI stating that the search was completed. 2. The letter shall introduce any pertinent information concerning expectations and probabilities of discovery during trenching and/or grading activities. 3. The PI may submit a detailed letter to MMC requesting a reduction to the quarter-mile radius. B. PI Shall Attend Precon Meetings 1. Prior to beginning any work that requires monitoring; the JPA and Corps shall arrange a precon meeting that shall include the PI, Native American consultant/monitor (where Native American resources may be impacted), Construction Manager (CM) and/or Grading Contractor, Resident Engineer (RE), Building Inspector (BI), if appropriate, and MMC. The qualified archaeologist and Native American monitor shall attend any grading/excavation-related precon meetings to make comments and/or suggestions concerning the archaeological monitoring program with the CM and/or Grading Contractor. a. If the PI is unable to attend the precon meeting, the JPA and Corps shall schedule a focused precon meeting with MMC, the PI, RE, CM or BI, if appropriate, prior to the start of any work that requires monitoring. 2. Identify Areas to Be Monitored a. Prior to the start of any work that requires monitoring, the PI shall submit an Archaeological Monitoring Exhibit (AME) (with verification that the AME has been reviewed and approved by the Native American consultant/monitor when Native American resources may be impacted) based on the appropriate construction documents (reduced to 11 inches x 17 inches) to MMC identifying the areas			

Mitigation Measure Number	Mitigation Measure	Timeframe of Mitigation	Implementation Responsibility	Monitoring, Enforcement, and Reporting Responsibility
	to be monitored, including the delineation of grading/excavation occurring within stable undisturbed sediments. b. The AME shall be based on the results of a site-specific records search as well as information regarding existing known soil conditions (native or formation). 3. When Monitoring Will Occur a. Prior to the start of any work, the PI shall also submit a construction schedule to MMC through the RE indicating when and where monitoring would occur. b. The PI may submit a detailed letter to MMC prior to the start of work or during construction requesting a modification to the monitoring program. This request shall be based on relevant information such as review of final construction documents that indicate site conditions such as depth of excavation and/or site graded to bedrock, etc. that may reduce or increase the potential for resources to be present. III. During Construction A. Monitor(s) Shall Be Present during Grading/Excavation/Trenching 1. The Archaeological Monitor shall be present full time during soil-disturbing and grading/excavation/trenching activities into stable undisturbed sediments that could result in impacts to archaeological resources as identified on the AME. The CM is responsible for notifying the RE, PI, and MMC of changes to any construction activities such as in the case of a potential safety concern within the area being monitored. In certain circumstances, Occupational Safety and Health Administration safety requirements may necessitate modification of the AME. 2. The Native American consultant/monitor shall determine the extent of their presence during soil-disturbing and grading/excavation/trenching activities based on the AME and provide that			

Mitigation Measure Number	Mitigation Measure	Timeframe of Mitigation	Implementation Responsibility	Monitoring, Enforcement, and Reporting Responsibility
	information to the PI and MMC. If prehistoric resources are encountered during the Native American consultant/monitor's absence, work shall stop and the Discovery Notification Process detailed in Section III.B–C and IV.A–D shall commence. 3. The PI may submit a detailed letter to MMC during construction requesting a modification to the monitoring program when a field condition such as modern disturbance post-dating the previous grading/trenching activities, presence of fossil formations, or when native soils are encountered that may reduce or increase the potential for resources to be present. 4. The Archaeological Monitor and Native American consultant/monitor shall document field activity via the Consultant Site Visit Record (CSVR). The CSVRs shall be faxed by the CM to the RE the first day of monitoring, the last day of monitoring, monthly (Notification of Monitoring Completion), and in the case of ANY discoveries. The RE shall forward copies to MMC. B. Discovery Notification Process 1. In the event of a discovery, the Archaeological Monitor shall direct the contractor to temporarily divert all soil-disturbing activities including, but not limited to, digging, trenching, excavating, or grading activities in the area of discovery and in the area reasonably suspected to overlay adjacent resources and immediately notify the RE or BI, as appropriate. 2. The Archaeological Monitor shall immediately notify the PI (unless Monitor is the PI) of the discovery. 3. The PI shall immediately notify MMC by phone of the discovery, and shall also submit written documentation to MMC within 24 hours by fax or email with photos of the resource in context, if possible. 4. No soil shall be exported offsite until a determination can be made regarding the significance of the resource, specifically if			

Mitigation Measure Number	Mitigation Measure	Timeframe of Mitigation	Implementation Responsibility	Monitoring, Enforcement, and Reporting Responsibility
	Native American resources are encountered. C. Determination of Significance 1. The PI and Native American consultant/monitor, where Native American resources are discovered, shall evaluate the significance of the resource. If human remains are involved, follow protocol in Section IV below. a. The PI shall immediately notify MMC by phone to discuss significance determination and shall also submit a letter to MMC indicating whether additional mitigation is required. b. If the resource is significant, the PI shall submit an Archaeological Data Recovery Program that has been reviewed by the Native American consultant/monitor, and obtain written approval from MMC. Impacts to significant resources must be mitigated before ground-disturbing activities in the area of discovery would be allowed to resume. Note: If a unique archaeological site is also a historical resource as defined in CEQA, then the limits on the amount(s) that the project may be required to pay to cover mitigation costs as indicated in CEQA Section 21083.2 shall not apply. c. If the resource is not significant, the PI shall submit a letter to MMC indicating that artifacts would be collected, curated, and documented in the Final Monitoring Report. The letter shall also indicate that that no further work is required. IV. Discovery of Human Remains If human remains are discovered, work shall halt in that area and no soil shall be exported offsite until a determination can be made regarding the provenance of the human remains, and the following procedures as set forth in CEQA Section 15064.5(e), Cal. Pub. Res. Code (Section 5097.98) and State Health and Safety Code (Section 7050.5) shall be undertaken: A. Notification			

Mitigation Measure Number	Mitigation Measure	Timeframe of Mitigation	Implementation Responsibility	Monitoring, Enforcement, and Reporting Responsibility
	1. Archaeological Monitor shall notify the RE or BI as appropriate, MMC, and the PI, if the Monitor is not qualified as a PI. MMC would notify the appropriate Senior Planner in the Environmental Analysis Section (EAS) of the Development Services Department to assist with the discovery notification process. 2. The PI shall notify the Medical Examiner after consultation with the RE, either in person or via telephone. B. Isolate Discovery Site 1. Work shall be directed away from the location of the discovery and any nearby area reasonably suspected to overlay adjacent human remains until a determination can be made by the Medical Examiner in consultation with the PI concerning the provenance of the remains. 2. The Medical Examiner, in consultation with the PI, would determine the need for a field examination to determine the provenance. 3. If a field examination is not warranted, the Medical Examiner would determine with input from the PI whether the remains are, or are most likely to be, of Native American origin. C. If Human Remains Are Determined to Be Native American 1. The Medical Examiner would notify the NAHC within 24 hours. By law, only the Medical Examiner can make this call. 2. The NAHC would immediately identify the person or persons determined to be the Most Likely Descendant (MLD) and provide contact information. 3. The MLD would contact the PI within 24 hours or sooner after the Medical Examiner has completed coordination, to begin the consultation process in accordance with CEQA Section 15064.5(e), the Cal. Pub. Res. Code and California Health and Safety Codes. 4. The MLD would have 48 hours to make recommendations to the JPA and Corps or representative, for the treatment or disposition with proper dignity, of the			

Mitigation Measure Number	Mitigation Measure	Timeframe of Mitigation	Implementation Responsibility	Monitoring, Enforcement, and Reporting Responsibility
	human remains and associated grave goods. 5. Disposition of Native American human remains would be determined between the MLD and the PI, and, if: a. The NAHC is unable to identify the MLD, or the MLD failed to make a recommendation within 48 hours after being notified by the NAHC; OR; b. The JPA and Corps or authorized representative rejects the recommendation of the MLD and mediation in accordance with Cal. Pub. Res. Code 5097.94 (k) by the NAHC fails to provide measures acceptable to the JPA and Corps, then, c. In order to protect these sites, the JPA and Corps shall do one or more of the following: (1) Record the site with the NAHC; (2) Record an open space or conservation easement on the site; (3) Record a document with the County. d. Upon the discovery of multiple Native American human remains during a ground-disturbing land development activity, the JPA and Corps may agree that additional conferral with descendants is necessary to consider culturally appropriate treatment of multiple Native American human remains. Culturally appropriate treatment of such a discovery may be ascertained from review of the site utilizing cultural and archaeological standards. Where the parties are unable to agree on the appropriate treatment measures, the human remains and cultural materials buried with Native American human remains shall be reinterred with appropriate dignity, pursuant to Section 5.c., above. D. If Human Remains Are Not Native American 1. The PI shall contact the Medical Examiner with notification of the historic era context			

Mitigation Measure Number	Mitigation Measure	Timeframe of Mitigation	Implementation Responsibility	Monitoring, Enforcement, and Reporting Responsibility
	of the burial. 2. The Medical Examiner would determine the appropriate course of action with the PI and JPA and Corps staff (Cal. Pub. Res. Code 5097.98). 3. If the remains are of historic origin, they shall be appropriately removed and conveyed to the San Diego Museum of Man for analysis. The decision for interment of the human remains shall be made in consultation with MMC, EAS, any known descendant group, and the San Diego Museum of Man. V. Night and/or Weekend Work A. If Night and/or Weekend Work Is Included in the Contract 1. When night and/or weekend work is included in the contract package, the extent and timing shall be presented and discussed at the precon meeting. 2. The following procedures shall be followed. a. No Discoveries In the event that no discoveries were encountered during night and/or weekend work, the PI shall record the information on the CSVR and submit to MMC via fax by 8 a.m. of the next business day. b. Discoveries All discoveries shall be processed and documented using the existing procedures detailed in Sections III – During Construction, and IV – Discovery of Human Remains. Discovery of human remains shall always be treated as a significant discovery. c. Potentially Significant Discoveries If the PI determines that a potentially significant discovery has been made, the procedures detailed under Section III – During Construction and IV – Discovery of Human Remains shall be followed. d. The PI shall immediately contact MMC, or by 8 a.m. of the next			

Mitigation Measure Number	Mitigation Measure	Timeframe of Mitigation	Implementation Responsibility	Monitoring, Enforcement, and Reporting Responsibility
	business day, to report and discuss the findings as indicated in Section III-B, unless other specific arrangements have been made. B. If Night and/or Weekend Work Becomes Necessary during the Course of Construction 1. The CM shall notify the RE, or BI, as appropriate, a minimum of 24 hours before the work is to begin. 2. The RE, or BI, as appropriate, shall notify MMC immediately. C. All Other Procedures Described Above Shall Apply, as Appropriate. VI. Post-Construction A. Preparation and Submittal of Draft Monitoring Report 1. The PI shall submit two copies of the Draft Monitoring Report (even if negative), prepared in accordance with the Historical Resources Guidelines that describes the results, analysis, and conclusions of all phases of the Archaeological Monitoring Program (with appropriate graphics) to MMC for review and approval within 90 days following the completion of monitoring. It should be noted that if the PI is unable to submit the Draft Monitoring Report within the allotted 90-day timeframe resulting from delays with analysis, special study results, or other complex issues, a schedule shall be submitted to MMC establishing agreed-upon due dates and the provision for submittal of monthly status reports until this measure can be met. a. For significant archaeological resources encountered during monitoring, the Archaeological Data Recovery Program shall be included in the Draft Monitoring Report. b. Recording Sites with State of California Department of Parks and Recreation The PI shall be responsible for recording (on the appropriate State of California Department of Park and Recreation forms-DPR 523 A/B) any significant or potentially significant			

Mitigation Measure Number	Mitigation Measure	Timeframe of Mitigation	Implementation Responsibility	Monitoring, Enforcement, and Reporting Responsibility
	resources encountered during the Archaeological Monitoring Program in accordance with the City's Historical Resources Guidelines, and submittal of such forms to the SCIC with the Final Monitoring Report. 2. MMC shall return the Draft Monitoring Report to the PI for revision or for preparation of the Final Report. 3. The PI shall submit revised Draft Monitoring Report to MMC for approval. 4. MMC shall provide written verification to the PI of the approved report. 5. MMC shall notify the RE or BI, as appropriate, of receipt of all Draft Monitoring Report submittals and approvals. B. Handling of Artifacts 1. The PI shall be responsible for ensuring that all cultural remains collected are cleaned and catalogued. 2. The PI shall be responsible for ensuring that all artifacts are analyzed to identify function and chronology as they relate to the history of the area; that faunal material is identified as to species; and that specialty studies are completed, as appropriate. 3. The cost for curation is the responsibility of the property owner. C. Curation of Artifacts: Accession Agreement and Acceptance Verification 1. The PI shall be responsible for ensuring that all artifacts associated with the survey, testing, and/or data recovery for this project are permanently curated with an appropriate institution. This shall be completed in consultation with MMC and the Native American representative, as applicable. 2. The PI shall include the Acceptance Verification from the curation institution in the Final Monitoring Report submitted to the RE or BI and MMC. 3. When applicable to the situation, the PI shall include written verification from the Native American consultant/monitor indicating that Native American resources			

Mitigation Measure Number	Mitigation Measure	Timeframe of Mitigation	Implementation Responsibility	Monitoring, Enforcement, and Reporting Responsibility
	were treated in accordance with state law and/or applicable agreements. If the resources were reinterred, verification shall be provided to show what protective measures were taken to ensure no further disturbance occurs in accordance with Section IV – Discovery of Human Remains, Subsection 5. D. Final Monitoring Report(s) 1. The PI shall submit one copy of the approved Final Monitoring Report to the RE or BI as appropriate, and one copy to MMC (even if negative), within 90 days after notification from MMC that the draft report has been approved. 2. The RE shall, in no case, issue the Notice of Completion and/or release of the Performance Bond for grading until receiving a copy of the approved Final Monitoring Report from MMC that includes the Acceptance Verification from the curation institution.			
Paleontological Resources				
Paleo-1	A paleontological monitor shall be onsite on a full-time basis during the initial cutting of previously undisturbed deposits of moderate to high paleontological significance (marine terrace deposits) within the disposal site to inspect exposures for contained fossils. (A paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil materials. The paleontological monitor should work under the direction of a qualified paleontologist.) As grading progresses, the qualified paleontologist and paleontological monitor shall have the authority to reduce the scope of the monitoring program to an appropriate level if it is determined that the potential for impacts to paleontological resources is lower than anticipated.	Prior to and during construction	Qualified Paleontologist	JPA

PDF commitments are summarized below in Table 11-2 and include the purpose, timing, and responsibility for implementation of each feature.

Table 11-2
Project Design Features Required by the Mitigation, Monitoring, and Reporting Program

PDF #	Project Design Feature	Purpose	Timing	Implementation Responsibility
PDF-1	Manufactured slopes would be planted and maintained, and drainage would be installed, in order to reduce erosion. Slope irrigation would be limited to the amount required to support vegetation cover and would only be required until vegetation is established.	Reduce potential for erosion of exposed soils.	During construction	Contractor
PDF-2	Until adequate erosion-control vegetation is established on exposed soils, jute mesh fiber rolls or other treatments using only natural materials could be utilized to minimize soil transport by runoff.	Reduce potential for erosion of exposed soils.	During construction	Contractor
PDF-3	Exposed soil at the disposal site would be hydroseeded and/or planted once the material is placed and appropriately compacted.	Reduce potential for erosion of exposed soils.	During construction	Contractor
PDF-4	Recommendations of the geotechnical reports for the project would be incorporated into the design of manufactured slopes, berms, or other features.	Ensure geologic stability of manufactured features.	Engineering and design	Engineer
PDF-5	Simultaneous use of the trails by construction equipment and recreationalists would not be allowed, and the affected segments of the Dust Devil Nature Trail would be closed to public use Monday–Friday, when construction would occur. Trails would only be open on the weekends, when there would be no construction activity. Signs would be placed at the trail heads to notify trail users of these closures.	Minimize public safety hazards due to construction vehicle use of trails.	During construction	Contractor
PDF-6	Restrict public access at sand placement sites during active construction.	Ensure public safety during construction.	During construction	Contractor, in coordination with local lifeguards
PDF-7	Maintain alternative access to beaches adjacent to placement sites and portions of beach access trails not under active construction.	Minimize impact on public access.	During construction	Contractor
PDF-8	Prior to opening areas of beach with placed materials, spread the material and check it for potential hazards (e.g., foreign objects in the sand).	Reduce risks to public health and safety.	During construction	Contractor
PDF-9	Maintain horizontal and vertical access on either side of the active sand placement area as long as public safety is not compromised.	Maintain public beach access.	During construction	Contractor
PDF-10	Temporarily relocate mobile lifeguard towers, if necessary.	Ensure public safety during construction.	During construction	Contractor, in coordination with local lifeguards

PDF #	Project Design Feature	Purpose	Timing	Implementation Responsibility
PDF-11	Place sand to avoid blocking line-of-sight at lifeguard towers. All sight lines from the viewing platforms of the lifeguard towers will be maintained and there will be no interference with views for the lifeguards.	Ensure public safety during construction.	During construction	Contractor, in coordination with local lifeguards
PDF-12	Signage and public education informing trail users and others in the area would be posted prior to the start of construction. Signs would describe the construction activities, schedule, and long-term changes. Signage would be placed at trailheads and other public bulletin locations, such as the Birdwing Open Air Classroom.	Reduce significance of visual change for trail users.	Pre- construction	Contractor
PDF-13	Stake construction areas. Limit construction equipment and vehicles to within these limits of disturbance.	Reduce public safety hazards.	During construction	Contractor
PDF-14	House exposed engines on construction equipment to the greatest extent possible.	Minimize noise impacts.	During construction	Contractor
PDF-15	Contractors shall maintain equipment and vehicle engines in good condition and properly tuned per manufacturers' specifications.	Minimize air quality impacts and greenhouse gas (GHG) emissions.	During construction	Contractor
PDF-16	Prior to initiating construction, identify sensitive "no construction zones" and fence or flag those areas.	Minimize impacts to sensitive habitat areas.	Prior to construction	Qualified biologist/Contractor
PDF-17	Site staging areas and access roads at existing access points and previously disturbed areas, where feasible.	Minimize impacts to intact habitat and reduce site preparation requirements.	Final design	Engineer
PDF-18	Topsoil should be stockpiled in disturbed areas currently lacking native vegetation (disposal site). Stockpile areas would be flagged and confirmed by a qualified biologist.	Reduce/avoid impacts to special-status plant species and native vegetation communities onsite.	During construction	Contractor
PDF-19	Restrict vegetation clearing and grubbing, and material placement, to the extent possible, to outside the special-status bird breeding season (February 1–September 15)	Minimize impacts to sensitive wildlife species and their habitats.	During construction	Contractor

PDF #	Project Design Feature	Purpose	Timing	Implementation Responsibility
PDF-20	Have biological monitor onsite during construction; frequency may vary depending upon activity but could be daily during breeding season or every other week at other time periods. Monitor clearing activities and flush wildlife prior to clearing, as appropriate.	Confirm implementation of biological permit conditions, design features, mitigation measures, and applicable construction specifications.	During construction	Qualified biologist
PDF-21	Stockpile high-quality topsoil from the previously undisturbed portion of the disposal site and from the W-19 site excavation for placement on top of the disposal site and upland areas after soil placement to facilitate planting success.	Aid in successful revegetation.	During construction	Contractor
PDF-22	Incorporate soil amendments in saline soils prior to capping and/or planting, as needed.	Aid in successful revegetation.	During construction	Contractor
PDF-23	Use temporary irrigation of fresh water for planted areas, as required.	Aid in successful revegetation.	During and post construction	Contractor
PDF-24	Prior to clear and grub activities, collect seeds of southwestern spiny rush and southern tarplant individuals onsite, and incorporate that seed into restoration planting seed mixes.	Reduce/avoid impacts to special-status plant species onsite.	Prior to construction	Qualified biologist
PDF-25	No invasive nonnative plant species shall be planted, seeded, or otherwise introduced to habitats adjacent to the project site. No myoporum, eucalyptus, acacia, or any other invasive exotics shall be used. Exotic plant species that should not be used include, at the minimum, those species on Lists A and B of the California Exotic Pest Plant Council's list of "Exotic Pest Plants of Greatest Ecological Concern in California." A qualified biologist shall review any landscape plans before approval.	Reduce/avoid impacts to special-status plant species onsite.	During construction	Contractor
PDF-26	Conduct special-status plant surveys prior to maintenance activities. Any special-status plant species found in the maintenance areas that would be impacted by maintenance activities shall be replanted upon completion of maintenance activities.	Reduce/avoid impacts to special-status plant species onsite.	Prior to maintenance	Qualified biologist

PDF #	Project Design Feature	Purpose	Timing	Implementation Responsibility
PDF-27	Prior to maintenance activities occurring during the breeding season (including material placement), conduct surveys for nesting birds. If species are found, construction activities shall not occur within minimum distances of occupied nests as determined through consultations with the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife.	Reduce/avoid impacts to nesting birds onsite.	Prior to maintenance	Qualified biologist
PDF-28	If maintenance events and resultant beach placement occur between February and August, consult with CDFW to determine expected spawning and hatching period of the California grunion, and provide monitors on the beach during the time of the predicted run. If grunion are observed, delay beach placement until after the predicted run, when monitoring will be repeated, or coordinate with CDFW to identify alternative strategies. If no grunion are observed, proceed with maintenance and placement activities.	Minimize impacts to grunion.	Per consultation with CDFW	Qualified biologist

CHAPTER 12.0
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California State Coastal Conservancy

California Department of Fish and Wildlife

California State Lands Commission

California 22nd District Agricultural Association

Caltrans

City of San Diego

San Diego Association of Governments

San Diego Gas and Electric

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