Appendix B
Biological Resources

DRAFT

Biological Technical Report

Talbert Regional Park Master Plan Project

OCTOBER 2025

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AMSL	Above Mean Sea Level
AOS	American Ornithological Society
BCC	Birds of Conservation Concern
BMP	Best Management Practice
BUOW	Burrowing Owl
CAGN	Coastal California gnatcatcher
CCC	California Coastal Commission
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CMP	Compensatory Mitigation Plan
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
ECOC	Environmental Conservation Online System
EPA	Environmental Protection Agency
FP	Fully Protected Species
FESA	Federal Endangered Species Act
GIS	Geographic Information System
GPS	Geographic Positioning System
HCP	Habitat Conservation Plan
HEP	Habitat Enhancement Plan
HMMP	Habitat Mitigation Monitoring Plan
IPAC	Information for Planning and Consultation
LBVI	Least Bell's vireo
MBTA	Migratory Bird Treaty Act
MM	Mitigation Measure
MPH	Miles per hour
NABA	North American Butterfly Association
NCCP	Natural Community Conservation Plan
OCPD	Orange County Parks Department
OCDPW	Orange County Department of Public Works
OCFCD	Orange County Flood Control District
OHWM	ordinary high-water mark
PDF	proposed project design feature
Project	Talbert Regional Park Master Plan / Restoration Project
RWQCB	Regional Water Quality Control Board
RPM	Relatively Permanent Water
SPPP	Stormwater Pollution Prevention Program

Acronym/Abbreviation	Definition
SSC	California Species of Special Concern
SWFL	Southwestern willow flycatcher
TNW	Traditional Navigable Water
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey
USFWS	U.S. Fish and Wildlife Service
WL	Watch List Species
WRCC	Western Regional Climate Center

1 Introduction

The Talbert Regional Park Master Plan Project (project) is proposed by the Orange County Parks Department (OC Parks) in conjunction with the Orange County Department of Public Works (OCPW) and encompasses management actions and amenities within the approximately 180-acre area (project site) comprising Talbert Regional Park in the City of Costa Mesa, California (Figure 1). The North and South Talbert areas of the Regional Park will collectively be referred to as the project site, or simply the Park.

This biological resources technical report describes the biological conditions of the project site in terms of vegetation/land cover types, flora, wildlife, and wildlife habitats based on biological surveys and focused species surveys conducted in 2019, 2020, 2022, and 2025. This report will serve to document the existing conditions on the project site (for vegetation communities, a 500-foot buffer was included around the project site boundary, hereafter referred to as the study area); provide the results of focused species surveys; quantify potential direct and indirect impacts to biological resources that would result from implementation of the proposed project; discuss those impacts in terms of biological significance in view of federal, state, and local laws and policies; and specify measures to avoid, minimize, and/or mitigate any significant impacts that would occur to biological resources as a result of project implementation.

1.1 Project Description

The proposed project components are fully described in Section 5.1, Proposed Project Components, below.

The Park is divided into six separate plant groups, identified as "zones", and is based upon the progression of plant groups and changing conditions found along the Santa Ana River. The first zone is designated "Intensive Use Area" and the plant material has been selected based on use instead of its origins on the site. The second zone, a "Border Planting" zone is planted with vegetation designed to maintain boundaries and screen the embankment of the Greenville-Banning Channel. Another zone, the "Coastal Strand" consists of gentle slopes and dunes, a habitat largely destroyed by the advance of civilization in the area. The "Native Grassland" zone is the largest zone in the park and provides opportunities for wildlife habitats. An "Alluvial Woodland" zone contains a wide variety of plant and animal life and is the most secluded area in the park. Finally, the "Wetland Zone" consists of the southern 14.8 acres of the Park and contains elements of riparian woodland and mulefat scrub.

The Park also consists of a small active park that allows picnicking and informal recreation, while the trail system allows for observation of natural resources and linkage to other parks up and down stream along the Santa Ana River. Group use within the habitat areas is permitted by guided walks and individual use is facilitated by interpretive signage.

To date, OC Parks has completed the Talbert Regional Park Final Habitat Restoration Plan (Restoration Plan or Plan), a planning document that identifies existing park conditions, and provides recommendations for park restoration and passive recreational use. This Plan addresses natural preservation through non-native plant removal, habitat restoration, passive recreation, and public use of multiple interest areas (Victoria Pond and a BMX bicycle area). Highlights of the Restoration Plan address the water resources of the Park within South Talbert containing elements of riparian woodland and mulefat scrub, and North Talbert along an area referred to as Placentia Drain. OC Parks intends to use a hybrid of select pieces of the three restoration alternatives (minimal,

medium, and maximum touch) detailed in the Restoration Plan, as well as potentially other design ideas that arise during the Master Plan process.

1.2 Project Background

OC Parks proposes to design and implement a Master Plan for the project site, which would create a holistic approach to the restoration and future use within the project site. Various restoration and vegetation management efforts have been implemented at the project site over the past two decades. The following discussion below includes Dudek's knowledge on the project site background and history to date.

The Park, particularly the southern portion, has been used for various mitigation and habitat enhancement efforts over the years by various permittees and stakeholders. Victoria Pond was excavated during the 1980's as an U.S. Army Corps of Engineers (USACE) mitigation project to establish open water. Essentially, the pond is expressed groundwater that has persisted over the past few decades and has created habitat for waterfowl and various wetland and riparian plants.

A 2003 Habitat Enhancement Plan (HEP) was prepared (and implemented to the best of Dudek's knowledge) on 13 acres within the central portion of the southern portion of the Park. This effort did not appear to be associated with any mitigation credits, and was funded by grant money.

Mitigation was carried out within the southern portion of the Park, based on the April 2009 *County issued Plans and Special Provisions for the Construction of Native Habitats within Talbert Nature Preserve* (County 2009). The maintenance and monitoring period began in 2010, and continued for seven years, after which time the effort was reevaluated due to significant loss of willow riparian coverage due to mortality caused by invasive shot hole borer (ISHB). An additional constraint observed during this maintenance and monitoring period was that, while native riparian vegetation communities are present within this region of the park, they primarily consisted of large, mature willows and their clonal stump-sprouts, which likely established prior to the channelization of the Santa Ana River when the area was an active river floodplain. Young saplings of native trees were generally not present, indicating that upper soil growing conditions had changed over time, making establishment of new riparian habitat less suited to present conditions. Aside from likely alterations in hydrology, soil testing illustrated that many portions of the park's soil were hyper-saline, and favored salt marsh species as opposed to freshwater supported riparian species.

In 2017, Orange County Public Works implemented mitigation on Orange County Flood Control District (OCFCD) property abutting the western South Talbert Preserve property line and directly east of the Santa Ana River Channel. Mitigation included establishment of 1.56 acres (1.26 acres required) of non-tidal coastal saltmarsh wetlands from existing disturbed upland habitat. Mitigation was implemented under permits and agreements issued from the California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), California Coastal Commission (CCC) and USACE as described in the *Habitat Mitigation and Monitoring Plan for the Edinger Bridge Replacement Project* (Dudek, 2016). The 5-year establishment mitigation period was completed in 2023. As previously discussed, it appears that soil salinity conditions support this type of vegetation.

2 Project Setting

2.1 Project Location

The project site is located within the City of Costa Mesa in Orange County, California, within the boundaries of Talbert Regional Park that is owned and operated by the County of Orange (County). The proposed project encompasses the northern, southern, and western boundary of Talbert Regional Park and the northwestern section of Canyon Park. The study area, which includes the direct project site boundary plus a 500-foot study area buffer to account for potential indirect impacts, is located on the U.S. Geological Survey (USGS) 7.5-Minute map, Newport Beach quadrangle, Sections 8, 17 and 20, Township 6 South, and Range 10 West. The Principal Meridian of the project is at latitude 33.652176° N; and longitude -117.949693°W. The Park is approximately 1.5 miles west of State Route 55 (SR-55) and 1.0 mile north of SR-1 (Figures 1 and 2).

2.2 Climate

The study area is located within the Peninsular Range, less than 1 mile from the Pacific Ocean. It is in a Mediterranean climate characterized by mild, dry summers and wet winters. Average temperatures near Newport Beach range from approximately 55° Fahrenheit (F) to 68°F, and the area generally receives an average rainfall of less than 11 inches per year (WRCC 2025).

2.3 Soils

According to U.S. Department of Agriculture there are five soil types found in the project area: Bolsa silt loam; Hueneme fine sandy loam; Hueneme fine sandy loam, drained; Myford sandy loam, 9 to 30% slopes, eroded; and Metz loamy sand, moderately fine substratum (Figure 4: Vegetation Communities and Soils) (USDA 2025).

Bolsa silt loam is a poorly drained soil that derived from mixed alluvium and contains silt loam and silty clay loam. Hueneme fine sandy loam is comprised of fine sandy loam and stratified sand to silt loam. Myford sandy loam, 9 to 30% slopes, eroded, is similar to the previous description but often very shallow because of erosion. Metz loamy sand is deep, excessively drained soil formed in alluvial material from mixed, but dominantly sedimentary rocks (USDA 2025).

2.4 Terrain

The topography within the study area is relatively flat and varies from approximately 5 feet above mean sea level (amsl) in the southern portion to approximately 16 feet amsl in the northern portion. The eastern portion of the project site is bordered by a mesa that is approximately 50-80 feet amsl, and the western portion of the project site is bordered by the concrete-lined Santa Ana River and Banning Channel. The study area was historically part of the Santa Ana River floodplain prior to channelization of the Santa Ana River, and is currently indirectly connected to the River through groundwater sources.

2.5 Land Uses

2.5.1 On-Site Land Uses

The study area includes Talbert Regional Park and immediately surrounding areas that are crossed with a network of dirt trails that are open to the public. Multiple areas within the site contain various stages of habitat restoration as part of several non-related projects. The current and proposed land uses on-site would be consistent with the currently designated Public/Institutional General Plan land use mapped for the site (Costa Mesa 2016).

2.5.2 Surrounding Land Uses

Land uses surrounding the study area consist of residential development to the north; the Banning Ranch property, which contains a mix of vacant land and oil production facilities to the south; Fairview Park and residential development to the east; and the Santa Ana River to the west. The site is bisected by Victoria Street, which divides the study area into North Talbert and South Talbert (Figure 2).

3 Methodology

Data regarding biological resources present in the study area were obtained through a review of pertinent literature and field reconnaissance; both are described in detail below.

3.1 Literature Review

Special-status biological resources present or potentially present in the study area were identified through a literature search, conducted in 2019, and updated in 2022 and 2025. The following sources were used during the literature review process

- California Natural Diversity Database (CNDDB) (CDFW 2025) was queried to compile a list of potentially occurring flora and fauna tracked by the CNDDB in the Newport Beach quadrangle and surrounding six quadrangles.
- California Native Plant Society (CNPS) *Inventory of Rare, Threatened and Endangered Plants of California*, 9th online edition (CNPS 2025), was searched to compile a list of potentially occurring special-status plants in the Newport Beach quadrangle and surrounding six quadrangles.
- USFWS Environmental Conservation Online System (ECOS) *Information for Planning and Consultation* (IPAC), (USFWS 2025) was searched to compile a list of potentially occurring federally-listed special-status species known to occur on and immediately adjacent to the Park.
- 2015 Final *Habitat Restoration Plan* for Talbert Regional Park (Moffatt & Nichol et al., 2015).
- 2016 Habitat Mitigation and Monitoring Plan for the Edinger Bridge Replacement Project (Dudek, 2016).

The Central–Coastal Subregion NCCP/HCP (County of Orange 1996) also was also reviewed with respect to regional reserve planning and conservation (Figure 3: Central-Coastal NCC/HCP Area Map).

3.2 Field Reconnaissance

In October 2019, Dudek conducted vegetation mapping, jurisdictional delineation, and biological reconnaissance surveys. The following focused surveys were conducted in 2020: rare plant; burrowing owl (*Athene cunicularia*); coastal California gnatcatcher (*Polioptila californica californica*); least Bell's vireo (*Vireo bellii pusillus*); and southwestern willow flycatcher (*Empidonax traillii extimus*). Botanical reference checks for certain target plant species were conducted prior to focused plant surveys to ensure the surveys were conducting during their respective blooming periods. In May of 2022, Dudek biologists conducted an updated biological reconnaissance of the project site, focusing on proposed improvement and restoration areas, to assess whether vegetation communities and habitat conditions on the project site remained consistent compared to the 2019 biological reconnaissance. Finally, updated focused surveys for rare plants, burrowing owl, least Bell's vireo and southwestern willow flycatcher, coastal California gnatcatcher, as well as focused surveys for Crotch's bumble bee, were conducted in 2025. Table 1 lists the dates, conditions, and focus for each survey.

Table 1. Survey Dates and Conditions

Date	Biologist	Survey Type	Survey Time	Weather Conditions
10/10/2019	TM, ES	Biological Reconnaissance	9:30 A.M. – 3:30 P.M.	69°F - 78°F; 0% - 10% cloud cover; 1-2 mph winds

Table 1. Survey Dates and Conditions

Date	Biologist	Survey Type	Survey Time	Weather Conditions
10/16/2019	TM, ES	Biological Reconnaissance	9:00 A.M. – 4:00 P.M.	66°F - 75°F; 5% - 10% cloud cover; 2-3 mph winds
10/23/2019	TM, ES	Jurisdictional Delineation	9:00 A.M. – 4:00 P.M.	68°F - 75°F; 2% - 5% cloud cover; 1-2 mph winds
10/30/2019	TM, TP	Jurisdictional Delineation	9:15 A.M. – 5:20 P.M.	67°F - 77°F; 0% - 10% cloud cover; 0-4 mph winds
04/13/2020	TM, TP	BUOW Pass 1	06:30 A.M. – 08:00 A.M.	63°F - 65°F; 90% - 90% cloud cover; 0-3 mph winds
05/01/2020	PL, LS	LBVI Pass 1	6:30 A.M. – 11:00 A.M.	64°F - 68°F; 0% - 90% cloud cover; 0-5 mph winds
05/04/2020	TM	CAGN Pass 1	7:00 A.M. – 11:00 A.M.	66°F - 76°F; 0% - 90% cloud cover; 0-1 mph winds
5/12/2020	TM, RS	LBVI Pass 2,	7:00 A.M. – 11:00 A.M.	59°F - 70°F; 0% - 80% cloud cover; 1-2 mph winds
5/15/2020	TM, RS	BUOW Pass 2	7:00 A.M. – 8:00 A.M.	60°F - 65°F; 80% - 80% cloud cover; 0-2 mph winds
05/18/2020	TM	CAGN Pass 2	7:00 A.M. – 10:00 A.M.	64°F; 80% cloud cover; 1-2 mph winds
05/19/2020	KD, JW	Botanical Pass 1 (North Talbert)	8:30 A.M. – 3:00 P.M.	61°F - 70°F; 0% cloud cover; 0-15 mph winds
05/20/2020	KD, RS, JW	Botanical Pass 1 (South South Talbert)	9:00 A.M. – 4:15 P.M.	63°F - 68°F; 0% cloud cover; 1-15 mph winds
05/22/2020	PL, TM	SWFL Pass 1 LBVI Pass 3	7:20 A.M. – 11:00 A.M.	64°F - 72°F; 10% - 90% cloud cover; 1-5 mph winds
06/03/2020	PL, ES	SWFL Pass 2 LBVI Pass 4	7:00 A.M. – 10:45 A.M.	65°F - 73°F; 5% - 10% cloud cover; 0-5 mph winds
06/12/2020	TM	CAGN Pass 3 BUOW Pass 3	7:00 A.M. – 10:00 A.M.	68°F; 0% cloud cover; 1-3 mph winds
06/16/2020	PL, RS	SWFL Pass 3 LBVI Pass 5	6:30 A.M. – 10:00 A.M.	63°F - 68°F; 500% cloud cover; 1-4 mph winds
07/02/2020	PL, RS	SWFL Pass 4 LBVI Pass 6 BUOW Pass 4	6:40 A.M. – 11:00 A.M.	62°F - 67°F; 500% cloud cover; 0-3 mph winds
07/15/2020	PL	SWFL Pass 5 LBVI Pass 7	6:40 A.M. – 10:30 A.M.	65°F - 73°F; 40% - 90% cloud cover; 0-3 mph winds
07/31/2020	PL	LBVI Pass 8	6:30 A.M. – 10:20 A.M.	64°F - 75°F; 0% cloud cover; 0-5 mph winds
08/05/2020	JW	Botanical Reference Check for Tarplant	10:30 A.M. – 11:30 A.M.	71°F; 20% - 70% cloud cover; 0-3 mph winds
08/18/2020	OK, JW, KD, RS	Botanical Pass 2	8:00 A.M. – 3:30 P.M.	72°F - 90°F; 20% cloud cover; 0-5 mph winds
05/06/2022	TM, KN, VG	Biological Reconnaissance Update	9:00 A.M. – 2:45 P.M.	63°F - 69°F; 0% - 90% cloud cover; 2-5 mph winds

Table 1. Survey Dates and Conditions

Date	Biologist	Survey Type	Survey Time	Weather Conditions
4/10/2025	MMu	Burrowing Owl Pass 1	6:30 A.M. – 9:30 A.M.	55°F - 66°F; 30% - 10% cloud cover; 0-3 mph winds
4/22/2025	JE	Rare Plants Pass 1	9:10 A.M – 4:00 P.M.	58°F - 65°F; 0% - 90% cloud cover; 3-14 mph winds
4/23/2025	PL	LBVI Pass 1	5:50 A.M. – 11:00 A.M	54–63°F; 100% cloud cover; 0–3 mph winds
4/24/2025	KN, LB	Crotch's Bumble Bee Pass 1	8:30 A.M. – 1:30 P.M.	60°F - 63°F; 80% - 100% cloud cover; 0-5 mph winds
05/01/2025	AV, MM	Burrowing Owl Pass 2	6:00 A.M. – 10:00 A.M.	60°F - 66°F; 40% - 100% cloud cover; 1-9 mph winds
5/01/2025	TM	CAGN Pass 1	7:30 A.M. – 10:00 A.M.	65-67°F; 100% cloud cover; 1-2 mph winds
5/6/2025	PL	LBVI Pass 2	5:45 A.M.–11:00 A.M.	56–64°F; 100% cloud cover; 0–4 mph winds
5/08/2025	TM	CAGN Pass 2	9:00 A.M. – 11:00 A.M	66°F; 0% cloud cover; 1-2 mph winds
5/15/2025	TM	CAGN Pass 3	8:45 A.M. – 10:45 A.M.	64°F; 50% cloud cover; 1-3 mph winds
5/17/2025	PL	SWFL Pass 1 LBVI Pass 3	5:30 A.M.–11:00 A.M.	57–61°F; 100% cloud cover; 0–7 mph winds
5/22/2025	JE, NV	Burrowing Owl Pass 3	7:00 A.M. – 10:00 A.M.	63°F - 69°F; 50% - 90% cloud cover; 0-8 mph winds
5/22/2025	TM	CAGN Pass 4	10:00 A.M. – 11:30 A.M	64°F; 50% cloud cover; 0–1 mph winds
5/28/2025	ES, KN	Crotch's Bumble bee (North) Pass 2	9:30 A.M. – 2:00 P.M.	65°F - 68°F; 100% cloud cover; 3-5 mph winds
5/28/2025	PL	LBV Pass 4	6:00 A.M.–11:00 A.M.	58–61°F; 100–80% cc; 1–5 mph winds
5/29/2025	TM	CAGN Pass 5	10:00 A.M. – 11:30 A.M.	69°F; 70% cloud cover; 0–1 mph winds
5/30/2025	ES, KN	Crotch's Bumble Bee (South) Pass 2	9:00 A.M. – 2:00 P.M.	68°F - 75°F; 0% - 100% cloud cover; 1-4 mph winds
6/01/2025	PL	SWFL Pass 2	5:30 A.M.–11:00 A.M.	64–76°F; 100–70% cloud cover; 0–5 mph winds
6/05/2025	TM	CAGN Pass 6	8:30 A.M. – 10:00 A.M.	65°F; 100% cloud cover; 1-2 mph winds
6/14/2025	PL	SWFL Pass 3 LBV Pass 5	5:40 A.M.–11:00 A.M.	63–69°F; 100% cloud cover; 0–3 mph winds
6/18/2025	ES, JE	Burrowing Owl Pass 4	7:00 A.M. – 10:00 A.M.	64°F - 82°F; 0% - 10% cloud cover; 0-2 mph winds
6/24/2025	AV, ES, ZP	Rare Plants Pass 2	9:30 A.M. – 3:30 P.M.	66°F - 80°F; 0% cloud cover; 0-3 mph winds
6/25/2025	ES, KN	Crotch's Bumble Bee Pass 3	9:00 A.M. – 2:00 P.M.	63°F - 73°F; 0% - 100% cloud cover; 1-5 mph winds

Table 1. Survey Dates and Conditions

Date	Biologist	Survey Type	Survey Time	Weather Conditions
6/25/2025	PL	LBV Pass 6	7:00 A.M.–11:00 A.M.	64–73°F; 100–0% cloud cover; 0–4 mph winds
6/29/2025	PL	SWFL Pass 4	6:00 A.M.–10:30 A.M.	62–71°F; 100–10% cloud cover; 0–4 mph winds
7/06/2025	PL	SWFL Pass 5	5:45 A.M.–10:30 A.M.	63–74°F; 100-0% cc; 0–4 mph winds
7/16/2025	PL	LBVI Pass 7	5:45 AM–11:00 AM	64–72°F; 100–60% cc; 0–5 mph wind
7/26/2025	PL	LBVI Pass 8	6:00 AM–11:00 AM	63–71°F; 100–40% cc; 0–5 mph wind

Notes: mph = miles per hour; °F = degrees Fahrenheit; CAGN = Coastal California Gnatcatcher; LBVI = Least Bell's Vireo; SWFL = Southwestern Willow Flycatcher
Personnel: AV = Aleen Vartivarian; ES = Eileen Salas; JE = Josh Elson; JW= Janice Wondolleck; KD= Kathleen Dayton; KN= Kimberly Narel; LS= Lily Sam; LB = Luz Badillo; MM = Megan Minter; MMu= Max Murray; NV = Nicholas Vinas; OK= Olivia Koziel; PL = Paul Lemons; RS = Rachel Swick; TP = Tracy Park; TM = Tommy Molioo; VG= Valerie Goodwin; ZP = Zarina Pringle

3.2.1 Vegetation Communities and Land Cover Types

Dudek Biologists Tommy Molioo, Eilleen Salas, and Tracy Park mapped vegetation communities in the field directly onto a 250-scale (1 inch = 250 feet) aerial photograph of the direct project footprint and 500-foot buffer, encompassing the study area (Source: Google 2025). Following completion of the fieldwork, all vegetation polygons were transferred to a topographic base and digitized using ArcGIS and a geographic information system (GIS) coverage was created. Once in ArcGIS, the acreage of each vegetation community and land cover present within the project area was determined. Native plant community classifications used in this report follow the Habitat Classification System for Orange County (County of Orange 1992) and CNPS's A Manual of California Vegetation (Sawyer et al. 2009) where feasible, with modifications to accommodate the lack of conformity of the observed communities to those listed in the Habitat Classification System for Orange County. The initial mapping of the study area utilized an approximately ¼-acre minimum mapping unit for vegetation community polygons (i.e., clusters of particular vegetation types smaller than ¼-acre were not necessarily mapped separately from the surrounding, larger vegetation community). A second biological reconnaissance was conducted by Dudek biologists Tommy Molioo, Kimberly Narel, and Valerie Goodwin in May 2022 to ensure vegetation communities and land covers on site had not changed substantially from the original biological reconnaissance conducted in 2019 (Figure 4, Vegetation Communities and Soils).

3.2.2 Flora

All plant species encountered during the field reconnaissance surveys and jurisdictional delineations were identified and recorded. Latin and common names for plant species with a California Rare Plant Rank (formerly CNPS List) follow the California Native Plant Society On-Line Inventory of Rare, Threatened, and Endangered Plants of California (CNPS 2025). For plant species without a California Rare Plant Rank, Latin names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2019), and common names follow the California Natural Community list (CDFW 2025) or the United States Department of Agriculture (USDA) Natural Resources Conservation Service Plants Database (USDA 2025a). A list of plant species observed in the study area during initial surveys is presented in Appendix A: Species Compendium.

3.2.3 Fauna

Wildlife species detected during the field surveys by sight, calls, tracks, scat, or other signs were recorded. Binoculars were used to aid in the identification of observed wildlife. In addition to species actually detected, expected wildlife use of the study area was determined by known habitat preferences of local species and knowledge of their relative distributions in the area. Latin and common names of animals follow Crother (2017) for reptiles and amphibians, American Ornithological Society (AOS) (2018) for birds, Wilson and Reeder (2005) for mammals, North American Butterfly Association (NABA) (2016) for butterflies, and Moyle (2002) for fish. A cumulative list of wildlife species observed within the study area is presented in Appendix A: Species Compendium. Focused surveys for certain special-status wildlife were conducted in 2020 and 2025, and are discussed in further detail in Section 5.4.2.

3.2.4 Special-Status and/or Regulated Resources

The following focused surveys for special-status species were conducted in 2020: rare plant surveys; burrowing owl; coastal California gnatcatcher; least Bell's vireo; and southwestern willow flycatcher. Updated focused surveys were conducted in 2025 for the above special-status species; in addition, photograph-only focused surveys for Crotch's bumble bee were conducted. The methods of the focused surveys are described in further detail below.

Coastal California Gnatcatcher Focused Survey

The presence/absence focused survey for coastal California gnatcatcher was conducted for the project between May 4, 2020, and June 12, 2020. The survey was conducted within weather conditions and time frames appropriate for the detection of gnatcatchers. Weather conditions and survey dates are provided in Table 1. The survey routes focused on areas that contain typical suitable habitat to support coastal California gnatcatcher (i.e., California sagebrush-dominated scrub) as well as additional vegetation types that would not typically support CAGN but were included in the survey area due to the observation of foraging and dispersing coastal California gnatcatcher on the project site within these vegetation types.

The survey was conducted following the currently accepted protocol of the U.S. Fish and Wildlife Service (USFWS), Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Protocol (USFWS 1997). The study area is part of the Reserve System of the Central/Coastal Subarea within the Orange County Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) and the project Applicant, the County of Orange, is a signatory to the NCCP/HCP. Therefore, the CAGN focused survey included three survey passes at a minimum of 7-day intervals between visits during the breeding season (March 14 through June 30). In accordance with the protocol, no more than 500 acres of suitable habitat were surveyed by a single permitted biologist during each site visit conducted. Survey routes completely covered all areas of suitable CAGN habitat within the survey area and allowed for complete audible and visual coverage of all suitable CAGN habitat on site. A recording of gnatcatcher vocalizations was played approximately every 50–500 feet to induce responses from potentially present gnatcatchers. Vocalization-playback would have been terminated immediately upon detection of any gnatcatchers to minimize the potential for harassment.

Least Bell's Vireo and Southwestern Willow Flycatcher Focused Survey

Eight protocol-level presence/absence surveys for the state- and federally-listed endangered least Bell's vireo and five protocol-level presence/absence surveys for the state-and federally-listed endangered southwestern willow

flycatcher were conducted on site in 2020, and again in 2025 (Table 1). Surveys were conducted in suitable riparian communities on the project site including: arroyo willow, arroyo willow/mulefat, black willow, black willow/mulefat, blue elderberry-toyon, California sycamore-coast live oak, mulefat thickets, mulefat-blue elderberry, mulefat-Menzies' goldenbush-quailbush, and white alder-California sycamore. Weather conditions, time of day, and season were appropriate for the detection of both species (Western Regional Climate Center, 2025).

As directed by Stacey Love, United States Fish and Wildlife Service (USFWS) Recovery Permit Coordinator (via email sent on April 27, 2016), surveys for least Bell's vireo and southwestern willow flycatcher were not conducted concurrently. Due to differences in detectability, surveys were conducted sequentially, with surveys for the flycatcher first (i.e., first thing in the morning) and surveys for the vireo conducted afterwards. The 2025 updated focused surveys for least Bell's vireo and southwestern willow flycatcher were conducted separately as well as sequentially. Additionally, for linear survey routes within a riparian corridor, flycatchers were surveyed from the starting point to the end, and vireos were surveyed on the way back. The route was arranged to cover all suitable habitat on site.

The five surveys conducted for flycatcher followed the currently accepted protocol (A Natural History Summary and Survey Protocol for the Southwestern Willow Flycatcher [Sogge et al. 2010]), which states that a minimum of five survey visits is needed to evaluate project effects on flycatchers. It is recommended that one survey is made between May 15 and 31, two surveys between June 1 and June 24, and two surveys between June 25 and July 17. Surveys during the final period (June 25 and July 17) were separated by at least five days. A tape of recorded flycatcher vocalizations was used, approximately every 50 to 500 feet within suitable habitat, to induce flycatcher responses. If a flycatcher had been detected, playing of the tape would have ceased to avoid harassment.

The eight surveys for least Bell's vireo followed the currently accepted *Least Bell's Vireo Survey Guidelines* (USFWS, 2001), which states that a minimum of eight survey visits should be made to all riparian areas and any other potential vireo habitats between April 10 and July 31. The site visits are required to be conducted at least 10 days apart to maximize the detection of early and late arrivals, females, non-vocal birds, and nesting pairs. Taped playback of vireo vocalizations were not used during the surveys. Surveys were conducted between dawn and noon and were not conducted during periods of excessive or abnormal cold, heat, wind, rain, or other inclement weather (Regional Weather Climate Center, 2025). Appendix E: 2020 and 2025 Focused Least Bell's Vireo and Southwestern Willow Flycatcher Survey Reports, further details these focused survey methodologies.

Focused Rare Plant Surveys

Focused surveys for special-status plants were conducted in the spring and summer of 2020 and 2025 on the project site. Field survey methods and mapping of rare plants conformed to CNPS's Botanical Survey Guidelines (CNPS 2001), Protocols for Surveying and Evaluating Impacts to Special Status Native Populations and Natural Communities (CDFW 2018), and General Rare Plant Survey Guidelines (Cypher 2002). The project site boundary plus a 500-foot study area buffer was assessed during focused rare plant surveys to account for immediately adjacent off-site vegetation that could potentially be indirectly impacted by implementation of the proposed project.

Focused Burrowing Owl Surveys

Focused surveys for burrowing owl were conducted in 2020 and 2025 to determine the number of burrowing owls on site, record behavior, identify suitable burrows, and map the locations of any burrowing owls and suitable burrows within vegetation communities on the study area. The burrowing owl surveys followed protocols outlined in the CDFW *Staff Report on Burrowing Owl Mitigation* (CDFW 2012). Surveys were focused on suitable habitat

for burrowing owl located on the study area, which includes non-native grasslands and disturbed habitat areas typically found along dirt trails.

Focused Crotch's Bumble Bee Surveys

Focused surveys for Crotch's bumble bee were conducted in 2025 during the colony active period within suitable habitat in the project site to determine the presence/absence of this species, which is proposed for listing as endangered under the California Endangered Species Act (CESA). The project site was surveyed by walking meandering transects throughout the Park (Figure 1). The surveys consisted of three photograph-only passes that were conducted in accordance with the CDFW *Survey Considerations for CESA Candidate Bumble Bee Species* document issued June 6, 2023 (CDFW 2023b).

Dudek biologists conducted three evenly spaced protocol level surveys for Crotch's bumble bee in April, May, and June, 2025 (Table 1). The surveys were conducted by qualified biologists with expertise in surveying for Crotch's bumble bee. Surveys occurred after sunrise and 3 hours before sunset and were not conducted during wet conditions (e.g., foggy, raining, or drizzling) or windy conditions (i.e., sustained winds greater than 8 mph). The surveys were conducted during optimal conditions when there was sunny to partly sunny skies that were greater than 65° Fahrenheit. Suitable habitat within the project site was visually surveyed for one person-hour per three acres of potential habitat. Biologists walked wandering transects through suitable habitat with a goal of observing bumble bees in passing and observing bumble bee nest sites associated with small mammal burrow or other appropriate soil cavities. These transects were walked at 1 person-hour per three acres as the protocol requires.

3.2.4.1 Jurisdictional Wetlands Delineation

In October 2019, Dudek conducted a formal jurisdictional wetlands delineation within the study area. All areas identified as being potentially subject to the jurisdiction of the USACE, Regional Water Quality Control Board (RWQCB), CDFW, and CCC were field-verified and mapped.

The wetlands delineation was performed in accordance with the methods prescribed in the *1987 Wetlands Delineation Manual* (USACE 1987), the *2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0) (USACE 2008), and the USACE and Environmental Protection Agency (EPA) Rapanos Guidance (USACE and EPA 2008).

Pursuant to the federal Clean Water Act (CWA), USACE and RWQCB jurisdictional areas include those supporting all three wetlands criteria described in the USACE manual: hydric soils, hydrology, and hydrophytic vegetation. The USACE/EPA Rapanos Guidance states that the USACE will regulate traditional navigable "waters of the United States" (TNW), adjacent wetlands, and relatively permanent waters tributary to TNWs, and adjacent wetlands if there is a significant nexus from the site. Areas regulated by the RWQCB/CDFW/CCC are generally coincident with the USACE, but can also include isolated features that have evidence of surface water inundation pursuant to the state Porter–Cologne Act. These areas are defined in the State Water Resources Control Board *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (SWRCB 2021).

A predominance of hydrophytic vegetation, where associated with a stream channel, was used to determine CDFW-regulated riparian areas. Streambeds under the jurisdiction of CDFW were delineated using the Cowardin method of waters classification, which defines waters boundaries by a single parameter (i.e., hydric soils, hydrophytic vegetation, or hydrology) (Cowardin et al. 1979).

Features that convey or hold water are regulated by multiple agencies. Federal, state, and local agencies have different definitions and terminology for these types of features. Water-dependent resources regulated by USACE, RWQCB, CDFW, and the CCC are collectively referred to as jurisdictional aquatic resources herein. Terminology used in this document to distinguish each jurisdictional aquatic resource according to the agency that regulates the resource is as follows:

- **USACE and RWQCB: "**Wetland" and "non-wetland waters." Wetland waters of the United States/State and non-wetland waters of the United States/State are subject to regulation by USACE and RWQCB, pursuant to the Clean Water Act and Porter-Cologne Act. Within the study area, USACE waters of the United States and wetlands, and RWQCB waters of the State and wetlands overlap, and therefore are combined under one term: "non-wetland waters" or "wetlands."
- **CDFW and CCC:** "Riparian areas" and "streambeds." Lakes, rivers, and streambeds, including any associated riparian habitat, are subject to regulation by CDFW, pursuant to section 1600 et seq. of the California Fish and Game Code. Within the study area, CDFW streambeds are synonymous with USACE and RWQCB non-wetland waters. USACE and RWQCB wetlands are also under CDFW jurisdiction as riparian or other habitat associated with streams and impoundments. In addition, CDFW jurisdiction extends to riparian areas are not USACE and RWQCB wetlands because these areas lacked all three federal wetland parameters (hydrophytic vegetation, hydric soils, and hydrology) and are located above the ordinary high water mark of any streams or impoundments. CCC defines coastal wetlands broadly under the Coastal Act and therefore include all USACE and RWQCB wetlands and non-wetland waters, as well as additional CDFW jurisdictional habitat areas.

To assist in the determination of jurisdictional areas on site, data was collected at fourteen data stations. Hydrology, vegetation, and soils were assessed, and data were collected on USACE-approved wetland data forms for the Arid West. All potentially jurisdictional features were evaluated for evidence of an ordinary high-water mark (OHWM), surface water, saturation, wetland vegetation, and nexus to a TNW. The extent of any identified jurisdictional areas was determined by mapping the areas with similar vegetation and topography to the sampled locations. A more detailed description of the methods is described below.The location of data stations and the limits of wetlands were collected in the field using a 250-scale (1 inch = 250 feet) aerial photograph, topographic base, and Trimble GeoXT Global Positioning System (GPS) unit with sub-meter accuracy. The jurisdictional extents were digitized in GIS based on the GPS data and data collected directly into a project-specific GIS using ArcGIS software.

3.3 Survey Limitations

Weather conditions during the surveys, which were conducted in the fall, spring, and summer, were favorable for the identification of fauna and late-blooming flora. Limitations on the general wildlife surveys are primarily due to season and daytime-only surveys. Many fall and spring migratory birds that may use habitats in the project site and pass through the study area would have been observed. Protocol focused species for special-status plants and wildlife were favorable for blooming flora and breeding wildlife because surveys were conducted in both spring and summer.

Surveys were conducted during the daytime to maximize visibility for the detection of plants and most animals. Birds represent the largest component of the vertebrate fauna, and because most are active in the daytime, diurnal surveys maximize the number of observations of this group. In contrast, daytime surveys usually result in few observations of mammals, reptiles, and amphibians, many of which may be more active at night.

4 Results

This section discusses the results of all previous surveys on the entire study area and documents the existing conditions not only within the project site boundary but also the surrounding 500-foot study area buffer.

4.1 Vegetation Communities and Land Covers

Thirty-five vegetation communities and land covers (including disturbed forms) were mapped in the study area based on general physiognomy and species composition, including 28 native or naturalized vegetation types and 7 non-native land covers. Of the 29 native or naturalized vegetation communities, 7 are considered sensitive by CNPS (CRPR 1-3). The 35 vegetation communities and land cover types are described as follows; their acreages are presented in Table 2; and their spatial distributions are presented on Figures 4-1 through 4-12: Vegetation Communities and Soils.

Table 2. Vegetation Communities and Land Cover Types Within the Study Area

Vegetation Community	Scientific Name	Vegetation Community Code	Project Site (On site) (Acres)	Study Area (Off site) (Acres)
Forest and Woodland Alliances				
Arroyo Willow Association	*Salix lasiolepis*	SALLAS	5.81	0.0
Arroyo Willow/Mulefat Association	*Baccharis salicifolia*	SALLAS / BASCAL	2.60	1.39
Black Willow Association	*Salix gooddingii*	SALGOO	2.51	0.0
Black Willow/Mulefat	*Salix gooddingii/ Baccharis salicifolia*	SALGOO / BACSAL	3.52	6.87
Black Willow Thickets	*Salix gooddingii*	BWT	3.42	0.46
Blue Elderberry/Toyon Association	*Sambucus nigra* sp. *caerulea/Heteromeles arbutifolia*	SAMNIG / HETARB	4.94	0.11
California Sycamore/ Coast Live Oak Association*	*Platanus racemosa/ Quercus agrifolia*	PLARAC / QUEGAR	3.88	0.11
Eucalyptus Groves	*Eucalyptus* sp.	EG	1.47	0.19
Mulefat thickets	*Baccharis salicifolia*	MFT	18.43	5.45
Mulefat/Blue Elderberry	*Baccharis salicifolia/Sambucus nigra* sp. *caerulea*	BACSAL / SAMNIG	29.35	14.86
Mulefat / Menzies's goldenbush / Quailbush Association	*Baccharis salicifolia/Isocoma menziesii/Atriplex lentiformis*	BACSAL / ISOMEN / ATRLEN	7.20	0.0
White Alder / California Sycamore Association*	*Alnus rhombifolia / Platanus racemosa*	ALRHO / PLARAC	0.0	0.68
Subtotal of Forest and Woodland Alliances and Stands			*83.13*	*30.12*

Table 2. Vegetation Communities and Land Cover Types Within the Study Area

Vegetation Community	Scientific Name	Vegetation Community Code	Project Site (On site) (Acres)	Study Area (Off site) (Acres)
Shrubland and Grassland Alliances				
Alkali heath / Salt grass Association	*Frankenia salina* / *Distichlis spicata*	FRASAL / DISSPI	0.12	2.71
American Bulrush Marsh*	*Schoenoplectus americanus*)	ABM	0.64	0.18
Black Mustard / Ripgut Brome Association	*Brassica nigra* / *Bromus diandrus*	BM / RB	1.19	0.98
California brittlebush / California sagebrush / Black Sage / Coyote brush Association	*Encelia californica* / *Artemisia californica* / *Salvia mellifera* / *Baccharis pilularis*	ENCCAL / ARTCAL / SALMEL / BACPIL	12.38	1.31
Cattail Marshes	*Typha*	CM	0.0	0.45
Coyote Brush Scrub	*Baccharis pilularis*	CYS	15.78	0.98
Coyote Brush / California Sagebrush Association	*Baccharis pilularis* / *Artemisia californica*	BACPIL / ARTCAL	1.45	0.05
Ice Plant Mats	*Carpobrotus edulis*	IPM	2.07	0.0
Menzies's Goldenbush Scrub*	*Isocoma menziesii*	MGBS	2.91	14.67
Pickleweed Mats*	*Salicornia*	PM	1.72	0.0
Poison Hemlock / Fennel Patches	*Conium maculatum* / *Foeniculum vulgare*	PH / FP	0.11	1.43
Quailbush Scrub	*Atriplex lentiformis*	QS	1.95	0.34
Saltgrass / Pacific Swampfire Association	*Distichlis spicata* / *Sarcocornia pacifica*	DISSPI / SARPAC	15.35	1.11
Smartweed / Cocklebur Patches	*Persicaria* / *Xanthium strumarium*	S/CP	0.61	0.0
Tarplant fields*	*Centromadia parryi* sp. *australis*	TPF	0.50	0.0
Upland mustards	*Hirschfeldia incana*	UM	21.46	13.09
	Subtotal of Shrubland and Grassland Alliances		*75.33*	*37.30*
Non-Natural Land Covers and Unvegetated Communities				
Fivehook Bassia	*Bassia hyssopifolia*	BASSIA	1.62	0.0
Myoporum / Black Willow	*Myoporum* sp. / *Salix gooddingii*	MP / SALGOO	3.08	0.0
Concrete Channel	—	CC	0.77	1.29
Disturbed Habitat	—	DH	16.05	12.32
Open Water	—	OW	3.23	85.36
Parks and Ornamental Plantings	—	ORN	3.67	31.47
Urban/Developed	—	DEV	2.23	83.13
	Subtotal of Non-Natural Land Covers and Unvegetated Communities		*27.57*	*216.65*
		Total	**192.03**	**280.99**

Note:
* Ranked by CDFW as Sensitive Vegetation Communities (S1-3).

4.1.1 Native or Naturalized Vegetation Communities

Forest and Woodland Alliances

Arroyo Willow Alliance

The arroyo willow (*Salix lasiolepis*) thickets alliance includes arroyo willow as the dominant or co-dominant tree in the canopy. The alliance has an open to continuous tree canopy less than 65 feet (20 meters) in height with an open to intermittent shrub canopy and a variable ground layer (Sawyer et al. 2009). Species associated with the alliance include white alder (*Alnus rhombifolia*), coyote brush (*Baccharis pilularis*), mulefat (*Baccharis salicifolia*), California sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii*), blue elderberry (*Sambucus nigra*), and other willows (Sawyer et al. 2009). Arroyo willow habitat occurs throughout the central and eastern portions of North Talbert and south (Figures 4-4, 4-11 and 4-12). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species and is often regulated as a jurisdictional aquatic resource.

Arroyo Willow/Mulefat Association

Arroyo willow/mulefat association is an association within the arroyo willow thickets alliance, which consists of arroyo willow and mulefat as co-dominant species in the canopy (Sawyer et al. 2009). Within the study area, this community occurs throughout the southeastern portions of this site and a smaller community on the northeastern area of North Talbert (Figures 4-2 and 4-11). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species and is often regulated as a jurisdictional aquatic resource.

Black Willow Alliance

The black willow alliance (*Salix gooddingii*) includes black willow (*Salix gooddingii*) as the dominant or co-dominant tree in the canopy. The alliance has an open to continuous tree canopy less than 500 feet (30 meters) in height with an open to continuous shrub canopy, and variable ground layer (Sawyer et al. 2009). Species associated with the alliance include white alder, Fremont cottonwood, blue elderberry, red willow (*Salix laevigata*), arroyo willow, and shining willow (*Salix lucida* ssp. *lasiandra*) (Sawyer et al. 2009). Associated shrubs include coyote brush and mulefat (Sawyer et al. 2009). Black willow habitat occurs on the southeastern portion of South South Talbert(Figure 4-12). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species and is often regulated as a jurisdictional aquatic resource.

Black Willow/Mulefat Association

Black willow/mulefat (*Salix gooddingii/Baccharis salicifolia*) association is an association found within the black willow alliance, which consists of black willow and mulefat as co-dominant species within the canopy (Sawyer et al. 2009). Black willow/mulefat habitat occurs on the northwestern and southern portions of South South Talbert(Figure 4-9, 4-11, and 4-12). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species and is often regulated as a jurisdictional aquatic resource.

Black Willow Thickets

Black willow thickets consist of stands of black willows that are dominant in the tall shrub canopy rather than the tree canopy. Black willow thickets with scattered stands of red and arroyo willows occur south of Victoria Pond on South South Talbert(Figure 7-9). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species and is often regulated as a jurisdictional aquatic resource.

Blue Elderberry-Toyon Association

The blue elderberry-toyon (*Sambucus nigra-Heteromeles arbutifolia*) association is an association within the blue elderberry alliance that has blue elderberry and toyon (*Heteromeles arbutifolia*) as the co-dominant species (Sawyer et al. 2009). The alliance has a continuous shrub canopy that is less than 26 feet (8 meters) in height. The herbaceous layer is variable and usually grassy. Other species that may occur in this community include: California sagebrush (*Artemisia californica*), coyote brush, mulefat, bigpod ceanothus (*Ceanothus megacarpus*), bush monkeyflower (*Diplacus aurantiacus*), lemonade berry (*Rhus integrifolia*), and arroyo willow. Emergent trees may be present at low cover, including Southern California black walnut (*Juglans californica*), Fremont cottonwood, and California coast live oak (*Quercus agrifolia*). Blue elderberry-toyon habitat occurs along the northeastern boundary of North Talbert (Figures 4-4 and 4-6). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species and is often regulated as a jurisdictional aquatic resource.

South TalbertCalifornia Sycamore-Coast Live Oak Association

The California sycamore-coast live oak is an association within the California sycamore alliance. It is characterized as having California sycamore and coast live oak as co-dominant species in the tree canopy (Sawyer et al. 2009). Other associated species are Southern California black walnut, Fremont cottonwood, Valley oak (*Quercus lobata*), narrow-leaved willow, black willow, red willow, arroyo willow, Peruvian peppertree (*Schinus molle*) and California bay (*Umbellularia californica*). California sycamore-coast live oak woodland occurs within the northeastern corner of North Talbert (Figure 4-4). This native vegetation community is ranked sensitive (S3) by CDFW, may provide suitable habitat for special-status species, and is often regulated as a jurisdictional aquatic resource.

Eucalyptus Groves Alliance

The eucalyptus grove alliance is a semi-natural community which includes *Eucalyptus* spp. as the dominant species in the tree canopy. It has a tree canopy of less than 200 feet and is open to continuous (Sawyer et al. 2009). The shrub layer and herbaceous layer is sparse to intermittent. Eucalyptus groves occurs along the southern boundary of North Talbert (Figure 4-7 and 4-8). This vegetation community is not considered sensitive by CDFW.

Mulefat Thickets Alliance

The mulefat (*Baccharis salicifolia* thickets alliance thickets alliance) includes mulefat as the dominant or co-dominant shrub. The community has a continuous shrub canopy with two tiers at less than 7 feet (2 meters) and less than 15 feet (5 meters) in height, a tree layer that may be present at low cover, and a sparse herbaceous layer (Sawyer et al. 2009). Species associated with the alliance include arroyo willow, narrow-leaved willow, California sagebrush, coyote brush, tree tobacco (*Nicotiana glauca*), and laurel sumac (*Malosma laurina*). Other tree species that may be present include California sycamore, Fremont cottonwood, oaks (*Quercus* sp.), and willows (*Salix* sp.) (Sawyer et al. 2009). Mulefat thickets occurs throughout South South Talbert(Figures 4-9 through 4-12). This

vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species and is often regulated as a jurisdictional aquatic resource.

Mulefat-Blue Elderberry Association

The mulefat-blue elderberry (*Baccharis salicifolia-Sambucus nigra*) association has mulefat and blue elderberry as the co-dominant species in the shrub canopy (Sawyer et al. 2009). Mulefat-blue elderberry habitat occurs throughout North Talbert (Figures 4-1 through 4-8). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species and is often regulated as a jurisdictional aquatic resource.

Mulefat-Menzies' Goldenbush-Quailbush Association

The mulefat-Menzies' goldenbush-quailbush association has mulefat, Menzies' goldenbush, and quailbush (*Atriplex lentiformis*) as the co-dominant species in the shrub canopy (Sawyer et al. 2009). Mulefat-Menzies' goldenbush-quailbush scrub was found centralized in North Talbert and surrounded by other communities like mulefat thickets and quailbush scrub (Figures 4-9 through 4-12). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species and is often regulated as a jurisdictional aquatic resource.

White Alder-California Sycamore Association

The white alder-California sycamore (*Alnus rhombifolia-Platanus racemosa*) association is an association within the white alder alliance with white alder and California sycamore as the co-dominant species (Sawyer et al. 2009). Other species that may be associated with this community are: big-leaf maple (*Acer macrophyllum*), Port orford cedar (*Chamaecyparis lawsoniana*), Oregon Ash (*Fraxinus latifolia*), tanoak (*Notholithocarpus densiflorus*), California sycamore, Fremont cottonwood, black cottonwood (*Populus trichocarpa*), Douglas-fir (*Pseudotsuga menziesii*), Valley oak, and willows (*Salix* sp.). White alder-California sycamore woodland occurs in one area on the southern portion of North Talbert (Figure 4-9). White alder-California sycamore association is a natural sensitive community ranked 3 by CDFW, may provide suitable habitat for special-status species, and is often regulated as a jurisdictional aquatic resource.

Shrubland and Grassland Alliances

Alkali Heath/Salt Grass Association

The alkali heath/salt grass association (*Frankenia salina/Distichlis spicata* association) includes alkali heath and salt grass as the dominant or co-dominant in the herbaceous and subshrub layer. The community has an open to continuous cover less than 25 inches (60 centimeters) in height (Sawyer et al. 2009). This community occurs in coastal salt marshes and alkali meadows. Species associated with the association include *Atriplex* sp., *Batis* sp., and *Suaeda* sp. Within the study area, this community occurs along the western boundary of South South Talbert. Alkali health/salt grass occurs around in mesic areas on the southwestern portion of the project site (Figure 4-11). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species and is often regulated as a jurisdictional aquatic resource.

American Bulrush Marsh Alliance

The American bulrush marsh alliance (*Schoenoplectus americanus* herbaceous alliance) includes American bulrush as the dominant or co-dominant herb in the herbaceous layer. The community has an intermittent to continuous cover less than 13 feet (4 meters) in height (Sawyer et al. 2009). Species associated with the alliance include yerba mansa (*Anemopsis californica*), salt grass, common reed (*Phragmites australis*), hardstem bulrush (*Schoenoplectus acutus*), California bulrush (*Schoenoplectus californicus*), and cattail (*Typha* sp.) (Sawyer et al. 2009). Within the study area, this community occurs in one area within the western portion of South South Talbert. American bulrush marsh habitat occurs immediately south of Victoria Pond, in South South Talbert(Figure 4-9). The American bulrush marsh alliance is a natural vegetation community with a sensitivity raking of 3 by CDFW, may provide suitable habitat for special-status species, and is often regulated as a jurisdictional aquatic resource.

Black Mustard-Ripgut Brome

This nonnative vegetation community consists of black mustard (*Brassica nigra*) and ripgut brome (*Bromus diandrus*) as the co-dominant species in the herbaceous layer. Its cover is open to continuous with herbs less than 10 feet (3 meters) in height. Other species that can be found with this alliance include field mustard (*Brassica rapa*), artichoke thistle (*Cynara cardunculus*), carnation spurge (*Euphorbia terracina*), shortpod mustard (*Hirschfeldia incana*), woad (*Isatis tinctoria*), wild radish (*Raphanus sativus*), false brome (*Brachypodium distachyon*), ripgut brome and/or soft brome (*Bromus hordeaceus*) (Sawyer at al. 2009). Black mustard-ripgut brome occurs along the northern boundary of North Talbert (Figures 4-1 and 4-2). This vegetation community is not considered sensitive by CDFW.

California Brittle Bush-California Sagebrush-Black Sage-Coyote Brush Association

California brittle bush-California sagebrush-black sage-coyote (*Encelia californica-Artemisia californica-Salvia mellifera-Baccharis salicifolia*) brush is an association within the California brittle bush alliance (Sawyer et al. 2009). California brittlebush-California sagebrush-black sage-coyote brush habitat community occurs along the western boundary of North Talbert (Figures 4-1, 4-3, 4-5, 4-6, 4-7). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species.

Cattail Marshes Alliance

The cattail marshes alliance (*Typha [angustifolia, domingensis, latifolia]* herbaceous alliance) includes cattails as dominant or co-dominant in the herbaceous layer that is less than 5 feet (1.5 meters). The alliance has an intermittent to continuous cover and consists of a low cover of emergent trees (Sawyer et al. 2009). Cattail marshes occurs on semi-permanently flooded freshwater or brackish marshes. Some species associated with the alliance includes *Schoenoplectus* sp., *Juncus* sp., *Distichlis* sp., and *Salix* sp. Cattail marsh habitat occurs in one area on the northern boundary of North Talbert (Figure 4-2). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species and is often regulated as a jurisdictional aquatic resource.

Coyote Brush Scrub Alliance

The coyote brush bush scrub alliance (*Baccharis pilularis* scrub alliance) includes coyote brush as dominant or co-dominant in the canopy. The alliance has a variable canopy less than 3 feet (1 meter) in height with variable herbaceous layer (Sawyer et al. 2009). Some species associated with the alliance include California sagebrush,

California buckwheat (*Eriogonum fasciculatum*), common deerweed (*Acmispon glaber* var. *glaber*), white sage (*Salvia apiana*), and purple sage (*Saliva leucophylla*) (Sawyer et al. 2009). Coyote brush scrub occurs throughout North Talbert (Figures 4-2 through 4-8). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species.

Coyote Brush-California Sagebrush Association

Coyote brush-California sagebrush association is an association within the coyote brush alliance (Sawyer et al. 2009). Coyote brush and California sagebrush are co-dominant in the shrub layer of this community, scattered with other coastal scrub species. Coyote brush-California sagebrush scrub habitat occurs within the northwestern corner of North Talbert (Figure 4-1). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species.

Ice Plant Mats

Ice plant mats alliance (*Carpobrotus* sp. alliance) is a semi-natural alliance that is characterized by areas dominated or co-dominated by sea fig (*Carpobrotus chilensis*), hottentot fig (*Carpobrotus edulis*), common iceplant (*Mesembryanthemum crystallinum*) or other ice plant taxa. This community is intermittent to continuous cover in the herb layer with less 20 inches (50 centimeters) in height (Sawyer et al. 2009). Emergent trees and shrubs may be present at low cover. Ice plant mats occur within the southern portion of North Talbert, and the northern portion of South Talbert (Figure 4-5 through 4-8). This vegetation community is not considered sensitive by CDFW.

Menzies's Goldenbush Scrub Alliance

The Menzies's goldenbush scrub alliance (*Isocoma menziesii* scrub alliance) includes Menzies's golden bush as dominant or co-dominant in the canopy. The alliance has an open to intermittent shrub canopy less than 3 feet (1 meter) in height with an open to continuous herbaceous layer (Sawyer et al. 2009). Some species associated with the alliance include California saltbush (*Atriplex californica*), desertbroom (*Baccharis sarothroides*), San Joaquin snakeweed (*Gutierrezia californica*), and Virginia glasswort (*Salicornia depressa*) (Sawyer et al. 2009). Menzies' goldenbush scrub occurs throughout South Talbert (Figure 4-9 through 4-12). Menzies's goldenbush scrub is a native vegetation community ranked sensitive (S3) by CDFW.

Pickleweed Mats Alliance

The pickleweed mats alliance (*Salicornia pacifica* herbaceous alliance) includes pickleweed as the dominant or co-dominant herb in the subshrub or herbaceous layer. The community has an intermittent to continuous cover less than 5 feet in height (Sawyer et al. 2009). Species associated with the alliance include salt bulrush (*Bolboschoenus maritimus*), Veatch's dodder (*Cuscuta nevadensis*), salt grass, alkali heath, gum plant (*Grindelia stricta*), marsh jaumea (*Jaumea carnosa*), smartweed (*Persicaria lapathifolia*), and estuary seablite (*Suaeda esteroa*) (Sawyer et al. 2009). Pickleweed mats are found in the southern portion of South Talbert (Figure 4-11 through 4-12). Pickleweed mats are a native vegetation community ranked sensitive (S3) by CDFW, may provide suitable habitat for special-status species, and is often regulated as a jurisdictional aquatic resource.

Poison Hemlock or Fennel Patches Alliance

Poison hemlock or fennel patches (*Conium maculatum* or *Foeniculum vulgare* semi-natural alliance) are characterized by areas dominated or co-dominated by poison hemlock or fennel, or another non-native invasive

plant of the *Apiaceae* family in the herbaceous layer. The semi-natural community has an open to continuous cover less than 7 feet (2 meters) in height. Emergent trees and shrubs may be present at low covers, including oak (*Quercus* sp.) or coyote bush (Sawyer et al. 2009). Poison hemlock or fennel patches in one area on the southwestern corner of South Talbert (Figure 4-11). This vegetation community is not considered sensitive by CDFW.

Quailbush Scrub Alliance

The quailbush scrub alliance (*Atriplex lentiformis* scrub alliance) includes quailbush as dominant shrub in the canopy. The alliance has an open to intermittent shrub canopy less than 16 feet in height with variable herbaceous layer (Sawyer et al. 2009). Some species associated with the alliance include California sagebrush, fourwing saltbush (*Atriplex canescens*), coyote brush, California brittle bush, laurel sumac, arrow weed (*Pluchea sericea*), alkali sacaton (*Sporobolus airoides*), and woolly seablite (*Suaeda taxifolia*) (Sawyer et al. 2009). Quailbush scrub habitat occurs along the southern boundary of the north Talbert region, and within the central portion of South Talbert (Figure 4-11). This vegetation community is not considered sensitive by CDFW.

Salt Grass-Pacific Swampfire Association

Salt grass-Pacific swampfire association (*Distichlis spicata-Sarcocornia pacifica*), is an association within the salt grass alliance, which consists of salt grass and Pacific swampfire as co-dominant species in the subshrub and herbaceous layer (Sawyer et al. 2009). Salt grass-Pacific swampfire habitat occurs in South Talbert on a relatively large portion of the project site's southwestern area (Figures 4-9, 4-11 and 4-12). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species and is often regulated as a jurisdictional aquatic resource.

Smartweed-Cocklebur Patches Alliance

The smartweed-cocklebur patches (*Polygonum lapathifolium* and/or *Xanthium strumarium*) alliance includes smartweed and cocklebur as dominant or co-dominant in the herbaceous layer with devil's beggartick (*Bidens frondosa*), fiveangled dodder (*Cuscuta campestris*), *Echinochloa* sp., pale spike rush (*Eleocharis macrostachya*), and *Polygonum* sp. (Sawyer et al. 2009). Smartweed-cocklebur patches occur in one area within the southeastern corner of South Talbert (Figure 4-12). This vegetation community is not considered sensitive by CDFW.

Tar Plant Field Alliance

The tar plant fields alliance (*Centromadia* sp.) includes *Centromadia* sp. as the dominant or co-dominant in the herbaceous layer. Other common species associated with this alliance includes: *Atriplex* sp., *Bromus* sp., redstem stork's bill (*Erodium cicutarium*), alkali heath, shortpod mustard, mouse barley (*Hordeum murinum*), *Lasthenia* sp., and *Trifolium* sp. (Sawyer et al. 2009). Emergent shrubs may be present at low cover, including bush seepweed (*Suaeda nigra*). Tar plant fields occur within the southeastern portion of South Talbert (Figure 4-11). Tar plant fields are a native vegetation community ranked sensitive (S2) by CDFW.

Upland Mustards

This community is a naturalized vegetation type that has an herbaceous layer dominated by black mustard, shortpod mustard, or other mustards with an open to continuous canopy less than 10 feet (3 meters) in height (Sawyer et al. 2009). Upland mustards typically occur in recently disturbed areas such as fallow fields, grasslands,

and roadsides (Sawyer et al. 2009). Upland mustards occur throughout the central portion of North Talbert (Figure 4-3 through 4-8). This vegetation community is not considered sensitive by CDFW.

4.1.2 Non-Natural Land Covers and Unvegetated Communities

Fivehook Bassia

This non-native community is naturalized in California with fivehook bassia (*Bassia hyssopifolia*) as the dominant or co-dominant species (Sawyer et al. 2009). Fivehook bassia tends to occur in disturbed habitat in either wetland or non-wetland communities. Fivehook bassia is centralized in South Talbert, directly adjacent to the disturbed habitat and mulefat thicket communities (Figure 4-10). This vegetation community is not considered sensitive by CDFW.

Concrete Channel

Concrete channel refers to a non-native land cover that consists of open sections of engineered concrete-lined channel that have been constructed and do not have vegetated present. These channels have a bed and bank that is clearly visible. The concrete channel occurs along the northern project site boundary (Figures 4-1 and 4-2).

Disturbed Habitat

Disturbed habitat typically occurs in areas where soils have been recently or repeatedly disturbed by grading or compaction, resulting in the growth of very few native perennials. It is usually dominated by bare ground or non-native dicotyledonous species including redstem stork's bill, black mustard, thistles (e.g., artichoke thistle, Italian plumeless thistle [*Carduus pycnocephalus*], and Maltese star-thistle [*Centaurea melitensis*]), dove weed (*Croton setigerus*), and others. Disturbed land includes the dirt paths that are present throughout North Talbert and south (Figures 4-1 through 4-12).

Myoporum/Black Willow Association

Myoporum/black willow (*Myoporum/Salix gooddingii*) association is an association found within the black willow alliance, which consists of Myoporum and black willow as co-dominant species within the canopy (Sawyer et al. 2009). Myoporum/black willow habitat occurs within the central portion of South Talbert (Figure 4-9). This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species and is often regulated as a jurisdictional aquatic resource.

Open Water

This mapping unit is not recognized by the CNPS's Manual of California Vegetation (Sawyer et al. 2009); however, is included within Gray & Bramlet (1992). According to Gray & Bramlet (1992), open water is comprised of year-round bodies of fresh water (extremely low salinity) in the form of reservoirs/lakes, basins, streams, ponds, or rivers. Open water areas are aquatic areas that generally lack emergent vegetation, but typically support hydrophytic vegetation around their margins (e.g., mulefat scrub, southern willow scrub, freshwater marsh, or herbaceous wetland). Open water occurs in the northeastern corner of the north Talbert region, in the northwestern portion of South Talbert within Victoria Lake, and along the western boundary of the study area within the Santa Ana River (Figures 4-1 through 4-12). Open water is a non-vegetated land cover type and therefore is not considered a vegetation community and is therefore not ranked as sensitive, but may provide suitable habitat for special-status species (e.g., foraging) and is often regulated as a jurisdictional aquatic resource.

Parks and Ornamental Plantings

This mapping unit is not recognized by the CNPS's Manual of California Vegetation (Sawyer et al. 2009); however, is included within disturbed land (11300) in Oberbauer et al. (2008). Ornamental plantings refer to areas where non-native ornamentals and landscaping have been installed. Ornamental plantings occur in the northeastern portion of the study area. These plantings are generally associated with landscaping for the park. Parks and ornamental plantings occurs within the central portion of North Talbert, along the northern boundary of South Talbert, and along the eastern portion of the study area (Figures 4-4 through 4-8).

4.1.3 Waters of the U.S.

Potentially jurisdictional waters of the U.S. that may be subject to USACE jurisdiction includes features on the project site that exhibit connectivity to a TNW and display an OHWM, such as three wetland features, including the historic Placentia Drain, and ten non-wetland features, including the channelized Fairview Channel and Banning Channel (Figures 5 and 8).

Non-wetland waters mapped on the project site consists of ephemeral drainages including a concrete lined channel with no associated riparian habitat, and an unnamed drainage. On-site areas of non-wetland waters include the perennial pond in South Talbert (Victoria Lake), and three intermittent streams: historic Placentia Drain, Banning Channel (a RPW), and Fairview Channel.

Wetland waters account for approximately 19.92 acres of the project site mapped within Wetland 1 and Wetland 2 in South Talbert (Figure 5). Additionally, due to the project site's boundary, many of the wetland features located on site, also occur within the study area and continue outside of the buffer.

Off-site jurisdictional areas within the study area buffer also include the Santa Ana River, a perennial stream and TNW that was mapped as open water due to the lack of associated riparian habitat. In addition, two perennial ponds, and overflow pond and Pond E, are associated with the Fairview Regional Park wetland restoration project, which connects a water quality pond to the Placentia Drain.

Each feature is described in further detail in the *Aquatic Resources Delineation Report* included in Appendix F.

4.1.4 Waters of the State

The features described as subject to USACE's jurisdiction as Waters of the U.S. also potentially fall under the authority of the Santa Ana RWQCB in accordance with Section 401 of the Clean Water Act (CWA) and the Porter-Colone Act. Therefore, a total of approximately 18.77 acres of wetland waters, and a total of approximately 109.4 acres of non-wetland waters delineated within the project site would be subject to RWQCB jurisdiction (Figures 5 and 8).

Table 3. Summary of USACE/RWQCB Aquatic Resources in the Study Area

Feature Name (Feature Type)	Cowardin	Dominant Vegetation (Wetlands) OHWM Indicators (Non-Wetland Waters)	Location (Latitude/Longitude)	Acreage/ Linear Feet
USACE/RWQCB Jurisdictional Aquatic Resources				
Wetlands				
Placentia Drain (Intermittent Stream)	PEM1A	Mulefat-Blue Elderberry	33.6600330678075, -117.94382039280	0.15/250
Wetland 1 (Wetland)	PEM1Cx PFOCx	American Bulrush Marsh Black Willow Thickets	33.648011651062, -117.95012974659	3.26/281
Wetland 2 (Wetland)	PEM1Ah	Mulefat Thickets Salt grass-Pacific Swampfire	33.644710645791, -117.95017748930	15.36/1,066
			UCACE Wetlands Subtotal	*18.77/1,597*
Non-Wetland Waters ("Other Waters" on Figures)				
Santa Ana River (Perennial Stream)	R1USQx E1UBL E2USNx	Open Water Break in Bank Slope	33.656471504387, -117.94958461991	69.17/9,830
Banning Channel (Intermittent Stream)	R2UBHr	Open Water Break in Bank Slope	33.658214030204, -117.94825053704	15.19/8,634
Fairview Channel (Intermittent Stream)	R2UBFr	Open Water Concrete Channel Bank in Bank Slope	33.667628618322, -117.94515478237	0.78/343
Pond E (Perennial Pond)	None	Cattail Marsh Open Water Change in Vegetation Cover Break in Bank Slope	33.665659746548, -117.94200684660	0.63/290
FP Channel (Perennial Stream)	None	Open Water Break in Bank Slope	33.665659746548, -117.94200684660	0.26/455
Overflow Pond (Perennial Pond)	PEM1A	Open Water Change in Vegetation Species Change in Vegetation Cover Break in Bank Slope	33.664888418003, -117.94282619843	0.19/234
Placentia Drain (Intermittent Stream)	PEM1A	Open Water Blue Elderberry-Toyon Mulefat-Blue Elderberry Upland Mustards Change in Vegetation Species Change in Vegetation Cover Break in Bank Slope	33.659809246249, -117.94387549326	0.61/1,563

Table 3. Summary of USACE/RWQCB Aquatic Resources in the Study Area

Feature Name (Feature Type)	Cowardin	Dominant Vegetation (Wetlands) OHWM Indicators (Non-Wetland Waters)	Location (Latitude/Longitude)	Acreage/ Linear Feet
Victoria Pond (Perennial Pond)	PUBHx	Open Water Change in Average Sediment Texture Change in Vegetation Species Change in Vegetation Cover Break in Bank Slope	33.649062979378, -117.95017874462	3.35/668
Unnamed Drainage (Ephemeral Drainage)	PSSAx	Myoporum/Black Willow Arroyo Willow Disturbed Habitat Mulefat Thickets Urban/Developed Change in Vegetation Cover Break in Bank Slope	33.647200760658, -117.94533539148	0.15/1,413
Concrete-Lined Channel (Ephemeral Drainage)	R4SBAr	Urban/Developed Change in Vegetation Cover Break in Bank Slope	33.68488215190, -116.90497125900	0.30/4,374
			USACE/RWQCB Waters Total	*90.63/27,804*
			USACE Grand Total	**109.4/29,401***

Note:
* Acreage may not sum due to rounding

4.1.5 CDFW and CCC Jurisdictional Features

CDFW jurisdiction extends over all areas under USACE and RWQCB jurisdiction as discussed above, as well as additional areas that meet USACE wetland (i.e., hydrophytic) vegetation criteria but lack wetlands hydrology and/or hydric soils indicators. It is also assumed for the purpose of this report that CDFW-jurisdictional areas are also under the jurisdiction of the CCC, and have been delineated using the same methodology. CDFW and CCC jurisdiction includes riparian and marsh habitats throughout the site, extending out to the canopy cover.

Areas under CDFW and CCC jurisdiction mapped on the project site include a total of 5 wetland features that encompass all wetland and non-wetland waters of the U.S./State, including the top of channel banks and associated riparian habitats (Figures 6 and 9). Additionally, areas that contained one or two wetland parameters, but did not contain all three to pass the three-parameter test for a federally-protected wetland, are also considered under CDFW/CCC jurisdiction. The jurisdictional delineation determined that a total of approximately 141.27 acres of CDFW/CCC jurisdiction occurs on the study area. Within the project site, the five wetland features consist of a forested wetland, freshwater pond, riparian streambed, salt marsh, and unvegetated streambed, for a total of 32.87 acres of CDFW/CCC wetlands (Figure 6). The extent of CDFW/CCC jurisdiction for each feature on the study area determined to meet the CDFW/CCC definition of waters are summarized in Table 4 below.

The largest areas mapped within the project site that would be subject to CDFW/CCC jurisdiction include the forested wetland (approximately 14.14 acres) and the salt marsh (approximately 14.46 acres). The largest feature

mapped within the study area buffer that would be subject to CDFW/CCC jurisdiction include the unvegetated streambed associated with Banning Channel, Fairview Channel and Santa Ana River (approximately 85.63 acres).

Table 4. CDFW-CCC Jurisdiction Summary

Feature Name	Habitat Type/Waters Type	On-Site Acreage	Off-Site Acreage	Total
Santa Ana River	Open Water Unvegetated Streambed	0.0	69.17	69.17
Banning Channel	Open Water Unvegetated Streambed	0.41	14.78	15.19
Fairview Channel	Concrete Channel Unvegetated Streambed	0.77	1.39	2.16
Pond E	Cattail Marsh/Open Water Emergent Wetland (Lacustrine)	0.0	1.71	1.71
FP Channel	Open Water Riparian Streambed	0.0	0.24	0.24
Overflow Pond	Open Water Freshwater Pond	0.0	0.19	0.19
Placentia Drain	Mulefat/Blue Elderberry Riparian Streambed	0.08	0.68	0.76
Victoria Pond	Open Water Freshwater Pond	2.82	0.53	3.35
Wetland 1	American Bulrush/Black Willow Thickets Forested Wetland (Palustrine)	2.89	0.37	3.26
Unnamed Drainage	Arroyo willow Riparian Streambed	0.15	0.0	0.15
Concrete-Lined Channel	Concrete Channel Unvegetated Streambed	0.05	0.0	0.05
Wetland 2	Saltgrass-Pacific Swampfire Salt Marsh (Palustrine)	14.15	1.10	15.25
Wetland 3	Mulefat Thickets Emergent Wetland (Palustrine)	0.0	1.10	1.10
Wetland 4	Black Willow/Mulefat Salt Marsh (Palustrine)	0.30	17.19	17.49
Wetland 5	Mulefat Thickets Black Willow Forested Wetland (Palustrine)	7.65	0.0	7.65
Wetland 6	Black Willow Forested Wetland (Palustrine)	2.75	0.03	2.78
	CDFW-CCC Total*	**32.02**	**109.04**	**141.39**

Note: *Acreage may not total due to rounding.

4.1.6 Jurisdictional Waters Conclusion

The project site supports thirteen features that are considered waters of the U.S. and state, and an additional four features that are also under the jurisdiction of CDFW and the CCC. Table 5 below summaries the extent of each

regulatory agency's jurisdiction within the project site and 500-foot study area buffer for each type of waters/wetlands.

Table 5. Jurisdictional Delineation Summary

Jurisdiction	Wetlands Vegetation Communities/Water Types	Project Site (On site) Acres	Survey Area (Off site) Acres	Total Acres
Jurisdictional Waters of the U.S. and State				
USACE / RWQCB	**Non-Wetland Waters**			
	Ephemeral Drainage	0.20	0.25	0.45
	Intermittent Stream	1.26	15.47	16.52
	Perennial Pond	2.82	1.35	4.17
	Perennial Stream	—	69.47	69.47
	Non-Wetland Waters Subtotal	*4.22*	*86.54*	*90.76*
	Wetland Waters			
	Intermittent Stream	0.15	0.001	0.151
	Perennial Pond	2.82	0.53	3.35
	Wetland	17.02	4.34	21.36
	Wetland Waters Subtotal	*19.99*	*4.87*	*18.77*
	USACE/RWQCB Waters Total*	**24.19**	**91.25**	**115.44**
CDFW and CCC Jurisdictional Waters				
CDFW / CCC Wetlands / Riparian Habitat	**Wetland Waters**			
	Lacustrine Emergent Wetland	—	1.71	1.71
	Palustrine Emergent (Forested Wetland and Salt Marsh)	28.1	18.96	47.04
	Streambed – Riparian	0.23	0.92	1.15
	Wetland Waters Subtotal	*28.33*	*22.42*	*49.9*
	Non-Wetland Waters			
	Unvegetated Streambed	1.23	85.63	86.86
	Freshwater Pond	2.82	0.72	3.54
	Non-Wetland Waters Subtotal	*4.05*	*86.31*	*90.36*
	CDFW/CCC Jurisdiction Total*	**32.38**	**109.03**	**140.26**

Note:
* Acreage may not total due to rounding.

4.2 Floral Diversity

A total of 193 species of vascular plants, including 95 native or naturalized species (49%) and 98 non-native species (51%) were recorded on the project site during the rare plant surveys conducted in 2020 and 2025. The cumulative list of plant species observed is provided in Appendix A: Plant Compendium.

4.3 Wildlife Diversity

A total of 104 wildlife species, including 96 native (92%) and 8 non-native (8%) species, were observed on the project site during various biological surveys spaced between 2019 and 2025. Specifically, 87 birds, 6 mammals, 4 reptiles, 1 amphibian, and 6 invertebrates were detected. The cumulative list of wildlife species observed is provided in Appendix B: Wildlife Compendium.

Reptiles and Amphibians

Three common reptiles, western fence lizard (*Sceloporus occidentalis*), common side-blotched lizard (*Uta stansburiana*), southern alligator lizard (*Elgaria multicarinata*), and the non-native red-eared slider (*Trachemys scripta*), was detected. One non-native amphibian was detected: American bullfrog (*Lithobates catesbeianus*). No special-status amphibians or reptiles were detected.

Birds

A total of 87 bird species were observed during the various biological surveys, which consisted of focused surveys for multiple special-status birds including burrowing owl, coastal California gnatcatcher, least Bell's vireo, and southwestern willow flycatcher. Of the 87 bird species detected, a total of 15 are special-status. The following special-status bird species were observed on the project site (Appendix B): least Bell's vireo (*Vireo bellii pusillus*), Cooper's hawk (*Accipiter cooperii*), prairie falcon (*Falco mexicanus*), white-tailed kite (*Elanus leucurus*), California gull (*Larus californicus*), prairie falcon (*Falco mexicanus*), osprey (*Pandion haliaetus*), double-crested cormorant (*Nannopterum auritum*), white-faced ibis (*Plegadis chihi*), coastal California gnatcatcher (*Polioptila californica californica*), Costa's hummingbird (*Calypte costae*), rufous hummingbird (*Selasphorus rufus*), yellow-breasted chat (*Icteria virens*), and yellow warbler (*Setophaga petechia*). In addition, burrowing owl (*Athene cunicularia*) was previously observed within the 500-foot study area buffer, immediately outside of the project site footprint in 2020, but has not been observe since during subsequent focused surveys.

Mammals

Evidence of six mammal species, California ground squirrel (*Otospermophilus) beecheyi*), coyote (*Canis latrans*), brush rabbit (*Sylvilagus bachmani*), desert cottontail (*Silvilagus audubonii*), Botta's pocket gopher (*Thomomys bottae*), and Virginia opossum (*Didelphis virginiana*) were noted during the surveys. No special-status wildlife were detected on the project site.

Invertebrates

A total of six species of butterflies were noted during the biological surveys on the project site: monarch (*Danaus plexippus),* mourning cloak (*Nymphalis antiopa*), pale swallowtail (*Papillio eurymedon*), western tiger swallowtail (*Papillio rutulus*), cabbage white (*Pieris rapae*), and checkered white (*Pontia protodice*). Numerous other insects and other invertebrates are expected to occur in the study area. Note that overwintering colonies of the Pacific population of monarch butterflies are Candidate Endangered species under CESA. No overwintering colonies were detected on the project site.

4.4 Special-Status Plants and Wildlife

Endangered, rare, or threatened species, as defined in CEQA Guideline 15380(b) (14 CCR 15000 et seq.), are referred to as "special-status species" in this report and include (1) endangered or threatened species recognized in the context of the California Endangered Species Act (CESA) and the federal Endangered Species Act (FESA); (2) plant species with a CRPR (CDFG 2012; CNPS 2012) (lists 1 through 4); (3) California Species of Special Concern (SSC) and Watch List (WL) species, as designated by the CDFW (CDFG 2011); (4) mammals and birds that are Fully Protected (FP) species, as described in Fish and Game Code, Sections 4700 and 3511; (5) Birds of Conservation Concern (BCC), as designated by the USFWS (2021); and (6) plant and wildlife species that are "covered" under the Central–Coastal Subregion NCCP/HCP (County of Orange 1996).

4.4.1 Special-Status Plant Species

Special-status plant surveys were conducted to determine the presence or absence of plant species that are considered endangered, rare, or threatened under CEQA Guideline 15380 (14 CCR 15000 et seq.). Special-status plants were identified in the project site during focused rare plant surveys conducted in 2020 and 2025. A list of all special-status plant species known to occur in the vicinity of the study area (the Newport USGS 24k quadrangle map and surrounding six topographic quadrangles) and plant species covered under the Central–Coastal Subregion NCCP/HCP, with their habitat requirements, potential to occur in the study area, and survey observations, is provided in Appendix C: Special-Status Plant Species with a Potential to Occur on the Study Area. This appendix provides evaluations for each of these special-status species' potential to occur in the study area based on known range, habitat associations, preferred soil substrate, life form, elevation, and blooming period.

Special-status plant species that were observed or have at least moderate to high potential to occur in the study area are discussed in further detail below, within the focused rare plant survey results. Appendix C includes special-status plant species that have low potential or are not expected to occur in the study area; therefore, these species are not further analyzed in this report because no direct, indirect, or cumulative impacts are expected based on the negative surveys and evaluation that these species do not have a moderate or high potential to occur in the study area.

Results of Focused Rare Plant Surveys

A total of 193 species of native or naturalized plants, 95 native (49%) and 98 non-native (51%) were identified during the spring and summer focused rare plant surveys conducted on the project site in 2020 and 2025. No federal or state-listed plant species were identified during the focused rare plant surveys. However, 8 plant species with a California Rare Plant Rank (CRPR 1 through 4) by California Native Plant Society (CNPS) and CDFW were observed on the study area: Lewis's evening primrose (*Camissoniopsis lewisii*; CRPR 3), southern tarplant (*Centromadia parryi* ssp. *australis*; CRPR 1.B.1), decumbent goldenbush (*Isocoma menziesii* var. *decumbens*; CRPR 1B.2), San Diego marsh-elder (*Iva hayesiana*; CRPR 2B.2), mud nama (*Nama stenocarpa*; CRPR 2B.2), southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*; CRPR 4.2); Coulter's matilija poppy (*Romneya coulteri*; CRPR 4.2, fully covered under OC NCCP/HCP), and Southern California black walnut (*Juglans californica*, CRPR 4.2). Plants ranked 1 through 3 by CRPR are considered sensitive by CDFW; as such, southwestern spiny rush, southern California black walnut, and Coulter's Matilija poppy are not considered sensitive by CDFW. The CRPR Rank 1-3 special-status plant species are described in further detail herein; locations of the special-status plants observed on site are depicted on Figure 10: Sensitive Biological Resources.

Lewis's evening primrose (*Camissoniopsis lewisii*)

Lewis's evening primrose is ranked as sensitive and vulnerable to extirpation in California (CRPR 3). This annual herb is native to California and occurs in coastal bluff scrub, coastal dunes and scrub, cismontane woodland, and valley and foothill grassland habitats. It is found from sea level to 985 feet AMSL and blooms from March through early June. Lewis's evening primrose was observed within various vegetation communities, both native and non-native, on the center of the project site (Figure 10: Sensitive Biological Resources).

Southern tarplant (*Centromadia parryi* ssp. *australis*)

Southern tarplant is seriously rare, endangered, or threatened in California and elsewhere (CRPR 1B.1). This annual herb occurs in marshes and swamps, valley and foothill grassland, and vernal pools from sea level to 1,575 feet above mean sea level (AMSL) and blooms between May and November (CNPS 2022). Southern tarplant individuals were observed within various vegetation communities throughout the southern, central, and northwestern portions of the project site (Figure 10).

Decumbent goldenbush (*Isocoma menziesii* var. *decumbens*)

Decumbent goldenbush is moderately rare, threatened, or endangered in California and elsewhere (CRPR 1B.2). This perennial shrub occurs within chaparral and coastal scrub (often disturbed and sandy areas) at elevations from 35 feet to 820 feet AMSL, and blooms from April to November. Decumbent goldenbush individuals were observed within various vegetation communities on the southwestern portion of the project site (Figure 10).

San Diego Marsh-Elder (*Iva hayesiana*)

San Diego marsh-elder is moderately rare, endangered, or threatened in California but common elsewhere (CRPR 2B.2). This perennial herb grows in marshes and swamps as well as playas. It blooms from April through October and occurs at elevations ranging between 35 to 1,640 feet AMSL (CNPS 2022). San Diego marsh-elder was observed within quailscrub and coyote bush-California sagebrush scrub in the center and northwestern portions of the project site (Figure 10). San Diego marsh elder was also observed within the study area buffer.

Mud Nama (*Nama stenocarpa*)

Mud nama is moderately rare, endangered, or threatened in California but common elsewhere (CRPR 2B.2). It grows in marshes and swamps as well as along lake margins and riverbanks, blooming from January to July at elevations ranging between 15 to 1,640 feet AMSL (CNPS 2022). Mud nama was observed along a trail by ponded water, within a stand of horseweed (*Erigeron canadensis*), on the northeastern portion of the project site (Figure 10).

Coulter's Matilija Poppy (*Romneya coulteri)*

Coulter's matilija poppy is moderately uncommon in California and monitored due to its limited distribution (CRPR 4.2). This perennial rhizomatous herb grows in chaparral and coastal scrub habitats, often in burned areas. It blooms from March through August at elevations ranging from 65 to 3,935 feet AMSL. This species is covered under the Central/Coastal Subarea of OC NCCP/HCP. Coulter's matilija poppy was observed planted on either side of a trail on the northern portion of the project site (Figure 10).

Southwestern Spiny Rush (*Juncus acutus* ssp. *leopoldii*)

Southwestern spiny rush is moderately uncommon in California and monitored due to its limited distribution (CRPR 4.2). This perennial rhizomatous herb grows in coastal dunes, coastal scrub, coastal salt marshes, meadows and alkaline seeps, growing at elevations from 10 feet to 2,955 feet AMSL. Southwestern spiny rush was observed in the southern portion of North Talbert (Figure 10).

Southern California Black Walnut (*Juglans californica*)

Southern California black walnut is CRPR 4.2. This dicot tree is endemic to California and occurs in southern oak woodland and wetland-riparian habitats from 160 to 2,955 feet AMSL and blooms between March and August (CNPS 2022). Southern California black walnut was observed in mulefat thickets in the southeastern portion of the project site (Figure 10).

4.4.2 Special-Status Wildlife Species

Special-status wildlife species are defined as follows:

- Have been designated as either rare, threatened, or endangered by CDFW or the USFWS and are protected under either CESA (California Fish and Game Code, Section 2050 et seq.) or FESA (16 U.S.C. 1531 et seq.); or meet the CEQA definition for endangered, rare, or threatened (14 CCR 15380(b),(d));
- Are candidate species being considered or proposed for listing under these same acts;
- Are fully protected by the California Fish and Game Code Sections 3511, 4700, 5050, or 5515;
- Are of expressed concern to resource/regulatory agencies or local jurisdictions. This includes those wildlife that are considered a state SSC; are on CDFW WL; are designated as a federal BCC; or are considered a state Special Animal; or
- Are listed as Covered Species in the Central–Coastal Subregion NCCP/HCP (County of Orange 1996).

A list of all special-status wildlife species known to occur on or within the vicinity of the study area (the surrounding six topographic quadrangles) and wildlife species covered under the Central–Coastal Subregion NCCP/HCP, with their habitat requirements, potential to occur in the study area, and survey observations, is provided in Appendix D, Special-Status Wildlife Species with a Potential to Occur on the Study Area. Appendix D includes special-status wildlife species that have low potential or are not expected to occur in the study area; therefore, these species are not further analyzed in this report because no direct or indirect impacts are expected based on evaluation that these species do not have a moderate or high potential to occur in the study area. Special-status wildlife species that were observed or have at least moderate to high potential to occur are discussed in further detail below within the focused species survey results.

Protocol surveys for coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, and burrowing owl were conducted in 2020 and again in 2025. In addition, focused surveys for Crotch's bumble bee were conducted in 2025. As a result of these focused surveys, coastal California gnatcatcher, least Bell's vireo, and burrowing owl were all found and are considered present on the study area. Other special-status wildlife species directly observed during field surveys within the study area include: osprey, Cooper's hawk, white-tailed kite, California gull, prairie falcon, osprey, double-crested cormorant, white-faced ibis, Costa's hummingbird (*Calypte costae*), rufous hummingbird (*Selasphorus rufus*), yellow-breasted chat (*Icteria virens*), and yellow warbler (*Setophaga petechia*).

The results of the southwestern willow flycatcher focused surveys were negative and as such, this species is considered absent from the project site. In addition, the results of the focused Crotch's bumble bee surveys were

negative and as such, this species is considered absent from the project site. Locations of observed Special status wildlife species on the study area are depicted on Figure 10: Sensitive Biological Resources. Eash of the special-status wildlife detected on the project site are described in further detail herein.

Least Bell's Vireo (*Vireo bellii pusillus*)

Least Bell's vireo is a federal and state-listed endangered species that is conditionally covered under the Central/Coastal Subarea of the OC NCCP/HCP (County of Orange 1996). This species inhabits dense shrubby habitat dominated by willow (*Salix sp.*) and cottonwood (*Populus fremontii*) riparian forest, and can also nest in mulefat, California wild rose (*Rosa californica*), poison oak (*Toxicodendron diversiloba*), and mugwort. It nests from March through September in southern California. Nests occur one meter above the ground, in many types of dense low shrubs affording protection and cover (CWHR 2022). Least Bell's vireo is often found adjacent to intermittent streams in arid regions.

Between 6 to 8 least Bell's vireo were observed throughout the riparian woodlands on the project site during the 2020 focused survey effort. The 2025 focused survey effort similarly detected least Bell's vireo throughout the riparian woodlands on the project site. (Figure 10: Sensitive Biological Resources). Most were indirectly observed by hearing males singling, indicating that breeding territories were being established over the course of the survey effort. Some were also observed directly. Although no nesting vireos were detected during focused surveys, nesting is expected to occur within the focused survey area. It is estimated that approximately 6 to 8 male least Bell's vireos are attempting to establish breeding territories within the focused survey area. The detailed results of the focused surveys for least Bell's vireo are included in Appendix E: Focused Survey Results for Least Bells' Vireo and Southwestern Willow Flycatcher.

Cooper's Hawk (*Accipiter cooperii*)

Cooper's hawk is a CDFW Watch List (WL) species. It is found throughout California in wooded areas. This species inhabits live oak, riparian, deciduous, or other forest habitats near water. Nesting and foraging usually occur near open water or riparian vegetation. Nests are built in dense stands with moderate crown depths, usually in second-growth conifer or deciduous riparian areas. Cooper's hawk uses patchy woodlands and edges with snags for perching while it hunts for prey such as small birds, small mammals, reptiles, and amphibians within broken woodland and habitat edges (Zeiner et al. 1990).

Cooper's hawk was observed within the southeastern portion of the project site (Figure 10).

Burrowing Owl (*Athene cunicularia*)

Burrowing owl is a USFWS BCC, and CSFW SSC species. It occurs throughout North and Central America west of the eastern edge of the Great Plains south to Panama. The winter range is much the same as the nesting range, except that most burrowing owls apparently vacate the northern areas of the Great Plains and the Great Basin in winter (County of Riverside 2008). The majority of burrowing owls that breed in Canada and the northern United States are believed to migrate south during September and October and north during March and April and into the first week of May. These individuals winter within the nesting habitat of more southern populations. Thus, winter observations may include migratory individuals and the resident population (County of Riverside 2008). The burrowing owls in Northern California are believed to migrate (Coulombe 1971).

In California, burrowing owls are year-round residents of flat, open, dry grassland and desert habitats at lower elevations. They can inhabit annual and perennial grasslands and scrublands characterized by low-growing

vegetation. They may be found in areas that include trees and shrubs if the cover is less than 30%; however, they prefer treeless grasslands (Bates 2006). Although burrowing owls prefer large, contiguous areas of treeless grasslands, they have also been known to occupy fallow agriculture fields, golf courses, cemeteries, road allowances, airports, vacant lots in residential areas and university campuses, and fairgrounds when nest burrows are present (Bates 2006; County of Riverside 2008). They typically require burrows made by fossorial mammals, such as California ground squirrels. This species also prefers sandy soils with higher bulk density and less silt, clay, and gravel (Lenihan 2007).

One burrowing owl was incidentally observed within the study area buffer during the jurisdictional delineation conducted in 2019. As such, focused surveys for burrowing owl were conducted in 2020, and the results were positive. One burrowing owl was observed along a disturbed dirt access path adjacent to the Santa Ana River, on the western portion of South Talbert, immediately outside of the project site boundary but within the study area buffer. Focused surveys for burrowing owl were conducted again in 2025 and the results were negative. However, suitable nesting and foraging habitat is still present, and due to the 2020 positive focused surveys results, the potential for burrowing owl to occur on the site in the future is high. Figure 10: Sensitive Biological Resources, details the locations of burrowing owl observed on the project site during biological surveys.

Costa's Hummingbird (*Calypte costae*)

Costa's hummingbird is a USFWS BCC that occurs in southern California and is found along the southern coast in the winter. It prefers arid habitats including desert wash, edges of desert riparian and foothill riparian, coastal scrub, desert scrub, lower-elevation chaparral, and fan palm oasis (Johnsgard 1983). Costa's hummingbird breeds from April through July along the coast.

Costa's hummingbird was observed foraging throughout the coastal sage scrubs within the project site (Figure 10).

Rufous Hummingbird (*Selasphorus rufus*)

Rufous hummingbird is a USFWS BCC that breeds in the northwestern United States. It is a common migrant and uncommon summer and winter resident of California. It is found in a variety of habitats that provide nectar-producing flowers including foothill hardwood, valley foothill hardwood-conifer, riparian, and various scrub and chaparral habitats (Garrett 1981).

Rufous hummingbird was observed foraging throughout the project site on various floral resources within the scrub and riparian habitats.

White-Faced Ibis (*Plegadis chihi*)

White-faced ibis is a Species of Special Concern by CDFW. It is an uncommon summer resident that feeds in fresh emergent wetland, riparian, shallow lacustrine waters, muddy ground or wet meadows, and irrigated or flooded pastures and croplands. The white-faced ibis nests in dense, fresh emergent wetland or marshland near foraging areas in shallow water or muddy fields (Garrett 1981).

White-faced ibis was observed dispersing over the pond at South Talbert (Figure 10).

California Gull (*Larus californicus*)

The nesting colonies of the California gull is a Watch List (WL) species by CDFW and a USFWS BCC. It occurs along coastal shores and nests from mid-April through mid-August, usually in colonies with other waterbirds. Preferred habitats along the coast are sandy beaches, rocky intertidal, mudflats, and pelagic areas of marine and estuarine habitats, as well as fresh and saline emergent wetlands (Garrett 1981).

California gull was observed dispersing throughout the project site (Figure 10), No nesting or roosting activity was observed.

Double-Crested Cormorant (*Nycticorax nycticorax*)

Double-crested cormorant is a SSC by CDFW. It is a yearlong resident along the entire coast of California and inland lakes, in fresh, salt, and estuarine waters. The double-crested cormorant nests in daytime and roosts overnight beside water on offshore rocks, islands, steep cliffs, dead branches of trees, wharfs, jetties, or even transmission lines. Perching sites must be barren of vegetation (Bartholomew 1943). It must visit perches periodically in the day to dry plumage, and sometimes rests, or even sleeps, on water in the daytime (Palmer 1962). The double-crested cormorant requires undisturbed nest-sites beside water, on islands or mainland, and uses wide rock ledges on cliffs, rugged slopes, and live or dead trees, especially tall ones. It breeds from April through August.

Double-crested cormorant was observed perched on a dead tree branch within the pond in South Talbert (Figure 10).

White-Tailed Kite (*Elanus leucurus*)

White-tailed kite is a fully protected (FP) species by CDFW. White-tailed kite occurs mainly in lowlands of southern and northwestern cismontane California in savannah, open woodland, marshes, cultivated fields, and partially cleared lands (Zeiner et al. 1990). White-tailed kite hunts in the morning and late afternoon for voles and mice, usually near farmlands. It is non-migratory but can be nomadic and dispersive in its movements, and often occurs in communal roosts (Unitt 2004). Nests are made of piled sticks and twigs and placed near the tops of oak, willow, or other trees near marshes and foraging areas (Zeiner et al. 1990).

White-tailed kite was observed within the southern portion of the project site (Figure 10).

Prairie Falcon (*Falco mexicanus*)

Prairie falcon is a USFWS Watch List (WL), BCC, and Covered Species. Prairie falcon is an uncommon permanent resident that ranges from southeastern deserts throughout the Central Valley and along the inner Coastal Ranges and Sierra Nevada (Zeiner et al. 1990). This species is primarily associated with perennial grasslands, savannahs, rangeland, agricultural fields, and desert scrub habitats. Prairie falcons nest on a sheltered ledge of a cliff overlooking a large, open area (Zeiner et al. 1990).

Prairie falcon was observed within the southern portion of the project site (Figure 10).

Osprey (*Pandion haliaetus*)

Osprey is a WL species. Osprey is an uncommon winter visitor along the coast and inland lakes of southern California (Garrett and Dunn 1981). Ospreys require open, clear water for foraging and uses large trees and snags

in open forest habitat for cover and nesting. This species has been observed within San Diego County at Lake Hodges, Cuyamaca, Barratt, and Morena but more widely in winter than during breeding season (SDNHM 2012).

Osprey was observed within the northeastern portion of the project site (Figure 10).

Coastal California Gnatcatcher (*Polioptila californica californica*)

Coastal California gnatcatcher is federally threatened, SSC, and Covered Species. This species occurs in coastal Southern California and Baja California year-round, where it depends on a variety of arid scrub habitats. California gnatcatcher occurs mainly on cismontane slopes (coastal side of the mountains) in Southern California, ranging from Ventura and northern Los Angeles Counties south through the Palos Verdes Peninsula to Orange, Riverside, San Bernardino, and San Diego Counties. The species' range continues south to El Rosario, Mexico. Initially it was reported that 99% of all coastal California gnatcatcher locality records occurred at or below an elevation of 984 feet amsl (Atwood 1990; Atwood and Bolsinger 1992). Since that time, data collected at higher elevations show that the species may occur as high as 3,000 feet amsl, but that more than 99% of the known coastal California gnatcatcher locations occur below 2,500 feet amsl (65 FR 63680). Because of the natural topography of the Southern California hills and mountain ranges, most of the higher-elevation locations are more inland, where population densities tend to be much lower than coastal populations.

Coastal California gnatcatcher typically occurs in or near coastal scrub vegetation that is composed of relatively low-growing, dry-season deciduous and succulent plants. Characteristic plants of this community include coastal sagebrush, various species of sage, Eastern Mojave buckwheat, lemonade berry, California brittlebush (*Encelia californica*), and cactus (e.g., *Opuntia* spp.). Coastal California gnatcatcher also occurs in chaparral, grassland, and riparian vegetation communities where the coastal scrub community is close (Bontrager 1991). Use of these vegetation communities appears to be most frequent during late summer, autumn, and winter, with smaller numbers of birds using such areas during the nesting season. Coastal California gnatcatcher tends to occur most frequently in the coastal sagebrush–dominated stands on mesas, gently sloping areas, and along the lower slopes of the Coast Ranges (Atwood 1990). Coastal California gnatcatcher occurs in high frequencies and densities in coastal scrub communities with an open or broken canopy, but it is absent from coastal scrub dominated by tall shrubs, and occurs in low frequencies and densities in low coastal scrub with a closed canopy (Weaver 1998).

Coastal California gnatcatcher gleans insects and spiders from foliage of shrubs, primarily Eastern Mojave buckwheat and coastal sagebrush (Atwood 1993). Coastal California gnatcatcher habitat use has been positively associated with insect abundance and diversity (Redak et al. 1996, as cited in Diffendorfer et al. 2002).

Coastal California gnatcatcher nests usually are located in a small shrub or cactus 1 to 3 feet above the ground. Territory size varies and is influenced by season and locale (Preston et al. 1998) but is unrelated to vegetation structure (Braden et al. 1997). During the breeding/nesting season, territories in coastal areas are often smaller—averaging 5.7 acres (Atwood et al. 1998a, 1998b)—than those in more inland regions, which average 8.4 acres (Braden et al. 1997).

Coastal California gnatcatcher was detected in three locations, including two detections in the northern portion, and one detection in the southern portion of the project site during 2020 focused surveys. Approximately three coastal California gnatcatcher breeding pairs and two lone males were observed and detected within the survey area during the focused surveys. The observations within South Talbert consisted of a solitary male observed on two separate occasions foraging within mulefat scrub habitat. The observations within North Talbert consisted of a

single male in the southern and northern portion of North Talbert, and at least three foraging pairs in the northern portion of North Talbert. No active nesting was observed within the survey area during the focused surveys.

Focused surveys for coastal California gnatcatcher were conducted again in 2025 and the results were negative. Although the project site is currently considered absent of coastal California gnatcatchers, there is still suitable habitat present and the potential for them to occur or nest on site in the future is high. Appendix F: 2020 and 2025 Coastal California Gnatcatcher Focused Survey Results Reports, contains further information on focused survey methodology and results of the 2020 and 2025 focused surveys. Figure 10: Sensitive Biological Resources, depicts the locations of all coastal California gnatcatchers observed on site during the biological surveys.

Yellow Warbler (*Setophaga petechia*)

Yellow warbler is a BCC, and SCC species. Yellow warbler inhabits riparian woodland in coastal and desert lowlands, montane chaparral, open ponderosa pine, and mixed conifer habitats (Zeiner et al. 1990). This species breeds along the coast of California west of the Sierra Nevada, and eastern California from Lake Tahoe south to Inyo County. Yellow warbler occurs in medium-density woodlands and forests with heavy brush understory, and migrates to sparse to dense woodland and forest habitats.

Yellow warbler was incidentally observed within riparian habitat in the northwestern portion of the project site (Figure 10).

Yellow-breasted Chat (*Icteria virens*)

Yellow-breasted chat is a BCC and SSC species that inhabits riparian woodlands with a thick understory of brush or scrub. It prefers willow riparian woodlands near streams or rivers. This species breeds from May through August, as a summer migrant and resident in coastal California as well as in the foothills of the Sierra Nevada (CWHR 2022).

Yellow-breasted chat was incidentally observed during the biological surveys foraging within the riparian woodlands on the project site (Figure 10).

Crotch's Bumble Bee (*Bombus crotchii*)

Crotch's bumble bee is generally distributed through wildlands and rural areas in low to middle elevations (sea level to at least 6000 feet) of California and exploits a wide range of habitats including native and exotic grasslands, coastal marshes, scrub lands, chaparral, oak-juniper woodlands, pinon woodlands, as well as desert transition vegetation on western margins of the Mojave and Colorado deserts. Crotch's bumble bee use a diverse range of floral resources including those among *Asclepiadaceae, Asteraceae, Boraginaceae, Brassicaceae, Ericaceae, Fabaceae, Hydrophyllaceae, Lamiaceae, Orobanchaceae, Plumbaginaceae, Polygonaceae, Scrophulariaceae,* and *Solanaceae.* Typically, *Asclepias spp., Salvia spp., Astragalus spp., Acmispon spp.,* and Vicia spp. are among much preferred flowers.

Mated gynes (future founding queens) overwinter in soil cavities (The Xerces Society for Invertebrate Conservation 2023; CDFW 2023b), emerge in the early spring to begin new colonies, provisioning their young with pollen and nectar. As the spring season progresses, workers (small female non-reproductive bees) are produced with increasing numbers and escalate the provisioning of the colony, which continues to grow until in early to mid-summer when new males (from unfertilized eggs) are produced along with the new generation of future queens. Workers and males live for only a few weeks. Thus, overall Crotch's bumble bee numbers are

highest (include workers and males) in late spring through mid-summer seasons, very low in fall and early spring (gynes only), and virtually undetectable during the overwintering season (when dormant underground).

The project site includes coastal marsh, coastal sage scrub vegetation and non-native grasslands that have the potential to support foraging activity for Crotch's bumble bee. These vegetation communities on the project site support multiple plants in the families *Asteraceae, Boraginaceae, Brassicaceae, Fabaceae, Hydrophyllaceae, Lamiaceae, Plumbaginaceae, Polygonaceae, Scrophulariaceae,* and *Solanaceae.*

Multiple bumble bee species were observed foraging on distant phacelia (*Phacelia distens*), black sage *(Salvia mellifera*), silver lupine (*Lupinus albifrons), and brittlebush (Encelia californica)* in coastal scrub habitats within the project site, both at North Talbert and South. Worker and queen yellow-faced bumble bee (*Bombus vosnesenskii*), worker black-tailed bumble bee (*Bombus melanopygus*), and worker yellow bumble bee (*Bombus fervidus*) were detected during the focused Crotch bumble bee photograph surveys. Approximately 10% of the project site supported floral resources in bloom during the focused Crotch's bumble bee surveys. No Crotch's bumble bee were detected in the project site and as such, this species is considered absent.

4.5 Wildlife Corridors and Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for dispersal or migration of animals, as well as dispersal of plants (e.g., via wildlife vectors). Wildlife corridors contribute to population viability in several ways: (1) they assure continual exchange of genes between populations, which helps maintain genetic diversity; (2) they provide access to adjacent habitat areas representing additional territory for foraging and mating; (3) they allow for a greater carrying capacity; and (4) they provide routes for colonization of habitat lands following local population extinctions or habitat recovery from ecological catastrophes.

Habitat linkages are patches of native habitat that function to join two larger patches of habitat. They serve as connections between habitat patches and help reduce the adverse effects of habitat fragmentation. Although individual animals may not move through a habitat linkage, the linkage is a potential route for gene flow and long-term dispersal. Habitat linkages may serve both as habitat and avenues of gene flow for small animals such as reptiles, amphibians, and rodents. Habitat linkages may be represented by continuous patches of habitat or by nearby habitat "islands" that function as steppingstones for dispersal and movement (especially for birds and flying insects).

The Central–Coastal Subregion NCCP/HCP does not identify specific habitat linkages, but did include evaluation of habitat value for reserve design. The project area includes some "medium" value habitat identified as a Reserve System, but is generally isolated from large blocks of habitat (Figure 3). The project area lies on the northern end of the central subregion; therefore, the NCCP/HCP does not identify biological resources adjacent to the north of this area. To the south, the NCCP/HCP identifies habitats associated with Newport Bay, approximately 3.5 miles from Talbert Regional Park, separated by urbanized areas within the City of Costa Mesa. There are upland and wetland habitats present on the adjacent property to the south. There are additional coastal wetlands approximately 1 mile and 2.5 miles to the southwest and west of the site, but these two are separated from the site by urbanized development within the City of Huntington Beach. Based on these characteristics, the potential for function of the study area as a wildlife corridor or habitat linkage is limited to potential linkages for migratory birds, shorebirds, and possibly some urban-adapted small and medium-sized mammals. Coyote would be the largest species expected to utilize this corridor.

4.6 Regional Resource Planning Context

This section includes discussion of all regional planning documents that address biological resources within the study area. The entire project site boundary is located within the County of Orange Central–Coastal Subregion NCCP/HCP (Figure 3). In general, the NCCP/HCP evaluated a set of covered species and habitat (mostly focused on coastal sage scrub species including coastal California gnatcatcher (*Polioptila californica californica*) and coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*)) and determined an acreage of covered species/habitat take that could be authorized because adequate conservation would be achieved through assemblage and management of a reserve as designated by the plan. Covered species/habitat within the project site includes coastal sage scrub. Wetlands and riparian habitats are not covered habitats, and least Bell's vireo (*Vireo bellii pusillus*) is a conditionally covered species. The project site is within the Central Subarea under the NCCP/HCP as a designated Reserve (Talbert Regional Park) with the study area buffer designated as Urban or Existing Use (or authorized take areas) (Figure 3).

Under the NCCP/HCP, a list of entities are identified as participating landowners and includes the County of Orange and Irvine Ranch Company, amongst others. These entities were granted an acreage of specific take authorization for specific projects/activities that would result in impacts both within the Urban (take authorized) area and Reserve. The OC Parks and Public Works departments are entities of the County of Orange, which is listed as a participating landowner in the Central–Coastal Subregion NCCP/HCP. Therefore, take authorization of covered species is granted through participation in the NCCP/HCP, and impacts to covered sensitive natural communities would be mitigated through payment of the mitigation fee. Selection of the mitigation fee option to address impacts to coastal sage scrub species will be covered under the terms of the USFWS Section 10(a)(1)(B) permit and CDFW Management Authorization granted to the local government with jurisdiction over the proposed activity. No additional approvals pursuant to FESA, CESA, and the Natural Community Conservation Planning Act (NCCP Act) would be required.

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5 Project Impacts

This section addresses direct and indirect impacts to biological resources that would result from implementation of the project. The significance determinations for proposed or potential impacts are described and proposed mitigation is provided in Section 5, Significant Impacts and Mitigation. Cumulative impacts are addressed in the project's Mitigated Negative Declaration (MND).

Direct impacts refer to complete loss of a biological resource. For purposes of this report, it refers to the area where vegetation clearing, grubbing, or grading replaces biological resources on the direct project site footprint. Direct impacts were quantified by overlaying the proposed impact limits on the biological resources map of the study area. Direct impacts would occur from maintenance activities.

Indirect impacts are reasonably foreseeable effects caused by a project's implementation on remaining or adjacent biological resources outside the direct disturbance zone. For purposes of this report, indirect impacts may affect areas outside the disturbance zone, including open space and within the 500-foot study area buffer. Indirect impacts may be short-term and construction-related, or long-term and associated with development in proximity to biological resources.

Cumulative impacts refer to the combined environmental effects of a project and other relevant projects. These impacts may be minor when analyzed individually but become collectively significant as they occur over time. Cumulative impacts are addressed in the project's Mitigated Negative Declaration.

The evaluation of project impacts is organized by the resource potentially affected: riparian and sensitive vegetation communities (special-status vegetation communities), special-status species, jurisdictional waters and wetlands, and wildlife movement.

5.1 Proposed Project Components

The Master Plan organizes the proposed project into three main components: key improvements, infrastructure improvements, and habitat restoration. The extent of proposed project impacts are depicted on Figure 2 and described in further detail herein. For the purpose of this report, the proposed project components have been organized into permanent and temporary project components.

5.1.1 Permanent Project Components

Project components that will result in a permanent impact to biological resources on the project site include proposed key improvements and proposed infrastructure improvements. The extent of permanent impacts anticipated as a result of implementing key improvements and infrastructure improvements are described below.

5.1.1.1 Permanent Key Improvements

Design concepts for the Park have evolved through a collaborative process between the County, public engagement, and subsequent feedback from surrounding communities that were collected as part of the Talbert Habitat Restoration Plan. The proposed improvements began as concepts designed to be compatible with the surrounding context and provide a higher degree of function as well as recreational opportunities. Three proposed key

improvements will result in a permanent impact through vegetation removal and/or grading: Nature Center, Balboa Boulevard Entrance, and Infrastructure Improvements.

Nature Center

A new Nature Center is proposed within the northeastern corner of the North Talbert parcel at the location of the existing restrooms. The existing restrooms are provided in a small, circular building (approximately 250 square feet in size) located on a concrete slab/foundation and constructed of concrete masonry blocks. The Nature Center building would be approximately 500 square feet in size, and would be constructed of concrete with a stucco finish and metal roof. The Nature Center may include a small classroom area, restrooms, and interpretive signage to serve as an educational center for park visitors.

Balboa Boulevard Entrance

Improvement of the existing Balboa Boulevard entrance would accommodate emergency and maintenance vehicles, bikes, and pedestrians. As proposed, the existing railroad-tie stairs providing park access from adjacent Balboa Boulevard and located near the intersection of Balboa Boulevard and Discovery Drive would be retained and supplemented with a new a 15-foot-wide ADA-compliant ramp that would accommodate emergency vehicle access. A gate and rolled curb opening area proposed at the ramp entrance off Balboa Boulevard (the ramp entrance is proposed approximately 620 feet to the south of the existing railroad tie stairs). Approximately 42,000 cubic yards of fill would be required for the proposed entry ramp (and proposed trails in South Talbert) A monument pedestrian arrival sign would be installed off Balboa Boulevard and near the proposed access ramp and wayfinding signage would also be installed within the park (near the existing railroad tie stairs and near the lower elevation end of proposed access ramp) to direct visitors to the Park and to enhance safety.

5.1.1.2 Permanent Infrastructure Improvements

Trail Improvements

The bike and pedestrian trail system constitutes the primary visitor activity within the Park. The South Talbert pedestrian circulation route is to be improved as a raised, 15-foot wide trail. This improvement, that would entail raising the existing trail (approximately 8,350 feet in length) up to 18 inches from its current elevation, would correct the existing drainage and ponding problem by reducing the occurrence of seasonal wet areas. Additionally, a new 4-foot-wide, 200-foot long, single-track trail (not raised) in North Talbert and a new, 15-foot wide, 2,020 foot long trail (raised) in South Talbert is proposed to enhance connections within the existing network by providing formalized access to the existing Victoria Pond and lateral, more direct access to the nearby Banning Channel Bikeway. This enhanced system would also accommodate requirements for both ADA and emergency access.

Maintenance Yard

Proposed improvements to the existing maintenance yard located in North Talbert include providing electrical service, as well as durable security fencing, a security camera, and lighting. The existing maintenance yard area consists of two mostly fenced areas (and associated storage trailers (shipping containers) totaling approximately 4,750 square feet and surrounding disturbed and unvegetated lands. Electrical service would be extended from

the existing restrooms located in the northeastern corner of the North Talbert parcel to provide service to the maintenance yard. Trenching for electrical service would occur within existing roads/areas of linear disturbance.

Wayfinding

Wayfinding signage will be installed throughout the Park to announce arrival, strengthen branding identity as a part of the OC Parks system and provide clear direction. Proposed signage types include Arrival Signs, Directional Signs, Interpretive Signs, and Trail Markers. Signage will be placed throughout the project site in appropriate areas as determined through final project design. Since signage locations have not been selected at this time, these minimal impacts are not included in project impact calculations and are instead qualitatively assessed for this impact analysis.

5.1.2 Temporary Project Components

Temporary project components include South Talbertall habitat restoration activities proposed throughout the project site.

5.1.2.1 Habitat Restoration

The Park functions as a protected nature area within the urban fabric and is home to wildlife species that are dependent on the health of the larger ecosystem. The Master Plan calls for restoration through the removal of non-native vegetation throughout South Talbert, and at the Placentia Drain within North Talbert. Planting of native coastal sage and riparian tree species is planned within South Talbert to expand the existing mitigation/restoration areas. The Restoration Plan includes the following components, which will result in temporary direct impacts to vegetation communities, rare plants, wildlife, and aquatic resources through vegetation clearing/thinning, grading, and excavation:

Non-Native Plant Removal

Throughout the Park, removal of non-native vegetation is to be conducted on an on-going basis. Specifically, exotic tree species including Brazilian Pepper and Myoporum are to be removed in the area directly south of Victoria Pond. These trees are to be replaced by natives and the removal will create open areas where expansion of native habitat will be promoted. Specific removal locations have not been identified as part of the Master Plan design as this activity will occur throughout the project site, as appropriate. Therefore, impacts related to non-native plant removal have not been included in impact calculations in this analysis. However, it can be assumed that non-native vegetation communities on the project site will be impacted by this proposed activity.

Vegetative Thinning

To discourage the existing encampments within the Park, thinning of dense shrubs in selected areas is proposed. Current encampment areas are to be partially cleared to provide a higher level of visibility to promote public safety. These areas have not been identified at the time of preparing this report and therefore impact calculations for this activity have not been included in this impact analysis.

5.2 Applicant Proposed Project Design Features

Several applicant-proposed project design features (PDFs) will be employed during implementation of the proposed project to avoid and minimize potential direct and indirect effects of construction on the study area. These PDFs include regulatory requirements and elements incorporated into the Master Plan development procedure to ensure compatibility with natural resource conservation goals.

- **PDF BIO-1.** Sediment and erosion control measures would be developed and implemented in accordance with RWQCB Construction General Permit requirements to reduce the potential for the project to result in increased siltation of, or release of pollutants into creeks and their tributaries. Best management practice (BMP) categories employed would include erosion control, sediment control, and non-stormwater good housekeeping.
- **PDF BIO-2.** The footprint of disturbance would be limited to the maximum extent feasible, such as limiting access to via pre-existing access routes to the greatest extent possible. Parking, staging, storage, excavation, and disposal site locations would be confined to the smallest areas possible and be positioned at previously disturbed areas to the greatest extent practical.
- **PDF BIO-3.** To reduce fugitive dust resulting from project construction and to minimize adverse air quality impacts, the project would employ dust control measures in accordance with the Air Quality Management District's Rules 401 and 403.2, which would limit the amount of fugitive dust generated during construction
- **PDF BIO-4.** To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than 2 feet deep would be covered with tarp, plywood, or similar materials at the close of each working day to prevent animals from being trapped. Ramps may be constructed of earth fill or wooden planks within deep-walled trenches to allow for animals to escape. Before such holes or trenches are backfilled, they would be thoroughly inspected for trapped animals. If trapped animals are observed, escape ramps or structures would be installed immediately to allow escape. If the trapped animal is injured and cannot use escape ramps or structures, a qualified biologist would be contacted to identify the appropriate next steps.
- **PDF BIO-5.** All construction pipes, culverts, and similar structures that are stored at the construction site for one or more overnight periods would be thoroughly inspected for burrowing owls and nesting birds before the pipe is subsequently buried, capped, or otherwise used or moved. An option is to cap the ends of any stored pipes to prevent any animals from entering. If an animal is discovered inside a pipe, that section of pipe would not be moved until the project biologist or designated representative has been consulted and the animal has either moved from the structure on its own accord or until the animal has been captured and relocated out of harm's way by an approved biologist.
- **PDF BIO-6.** The project will include a Habitat Restoration Plan as part of the design of the project. While the proposed project is considered a park restoration project, the Habitat Restoration Plan will guide the restoration activities for the project and will detail the proposed methods of restoration, including application type and planting palette. Additionally, the plan will include performance standards to assess the success of the project compared to baseline conditions and inform adaptive management. The Habitat Restoration Plan will be approved by the resource agencies to ensure compliance with allowed uses within the OC NCCP/HCP Reserve and maintenance/improvement of habitat function for covered species.
- **PDF BIO-7.** No invasive non-native plant species shall be planted, seeded, or otherwise introduced as part of the project. Plant material shall be native species appropriate to the site. A qualified biologist shall review landscape plans before approval.

- **PDF BIO-8.** Equipment would be cleaned prior to transport to the project site to prevent potential non-native plant species and other foreign matter, such as sediment and debris, from entering the site.

5.3 Impacts to Special-Status Plants

5.3.1 Direct Impacts

No federally or state-listed as threatened and/or endangered plant species were observed during the focused rare plant surveys conducted in spring and summer of 2020 and 2025, and therefore are considered absent from the project site. Five rare and sensitive plants designated with a California Rare Plant Rank of 1 through 3 were observed on the project site during focused rare plant surveys. southern tarplant (CRPR 1.B.1), decumbent goldenbush (CRPR 1B.2), San Diego marsh-elder (CRPR 2B.2), mud nama (CRPR 2B.2), and Lewis's evening primrose (CRPR 3),

Of those, southern tarplant may be directly and permanently impacted by vegetation clearing and grading for construction of trails (Figure 7). Mud nama, decumbent goldenbush, Lewis's evening primrose, and San Diego marsh-elder will not be directly or permanently impacted by construction of the proposed project.

5.3.1.1 Southern Tarplant

Thousands of individual southern tarplant (tarplant fields) will be directly impacted by trail improvements throughout the project site (Figures 7-9 through 7-12: Vegetation Communities Impacts; Figure 10: Sensitive Biological Resources). Tar plant fields are ranked by CDFW as a sensitive native natural community (S2); southern tarplant is ranked 1B.1 by CRPR and is considered rare or endangered in California and elsewhere.

5.3.2 South TalbertIndirect Impacts

Construction-related indirect impacts to special-status plants may be caused by temporary construction access and staging, as well as inadvertent spillover impacts outside of the construction footprint related to chemical spills, dust, stormwater erosion and sedimentation, and increased wildfire risk. Additionally, non-native seed may be introduced during construction from off-site vehicles and equipment entering the site.

Without construction-related minimization measures discussed in the applicant proposed project design features (Section 5.1.4), indirect impacts to vegetation communities that may support special-status plants could occur.

5.4 Impacts to Special-Status Wildlife

5.4.1 Direct Impacts

The project site contains suitable habitat to support 14 special-status avian species that were observed during focused surveys or other biological surveys conducted on site from 2019-2025: least Bell's vireo, coastal California gnatcatcher, burrowing owl, prairie falcon, osprey, Cooper's hawk, California gull, double-breasted cormorant, white-faced ibis, Costa's hummingbird, rufous hummingbird, white-tailed kite, yellow warbler, and yellow-breasted chat (Figure 10: Sensitive Biological Resources). Least Bell's vireo, coastal California gnatcatcher, and prairie falcon are covered species under the OC NCCP/HCP. Additionally, least bell's vireo and prairie falcon were observed on site in

2025, while coastal California gnatcatcher was not. Note that red-shouldered hawk was observed on the project site, and although not listed by CDFW or USFWS, is protected by the MBTA as well as fully covered under the Orange County Central/Coastal NCCP/HCP. OC Parks is a signatory to the OC NCCP/HCP and therefore is provided take coverage for covered species or habitats that may be impacted by the project.

Direct impacts to suitable habitats for these special-status avian species would occur throughout the project site as a result of vegetation clearing and grading for construction of the proposed project. The proposed project's direct impacts to each of these special-status avian species are discussed in further detail herein.

Coastal California Gnatcatcher

Coastal California gnatcatcher is a federally and state-listed endangered species that is covered by the OC Central/Coastal Subarea NCCP/HCP and inhabits low-elevation coastal sage scrub dominated by California sagebrush and California buckwheat. This species was observed foraging throughout the California brittlebush-California sagebrush-black sage-coyote bush scrub, blue elderberry-toyon, mulefat-blue elderberry, and southwestern spiny rush habitats on North Talbert (Figures 7-3, 7-4, and 10). In addition, this species was observed foraging in black willow-mulefat habitat adjacent to Victoria Pond, and arroyo willow habitat on South Talbert (Figures 7-9 and 10). Portions of blue elderberry-toyon habitat will be directly impacted by vegetation clearing and grading for trail improvements on North Talbert. In addition, portions of black willow-mulefat habitat adjacent to Victoria Pond will be directly impacted by vegetation trimming and clearing for trail improvements. Temporary direct impacts to this vegetation community will occur as well as a result of the Victoria Pond staging area.

As such, the project could result in potentially direct and indirect impacts to this species as will occur if vegetation clearing and grading of the blue elderberry-toyon and black willow-mulefat habitats cannot be avoided, and construction occurs within this species breeding season of February – August.

Least Bell's Vireo

Least Bell's vireo is a federally and state listed endangered species that is covered by the Orange County Central/Coastal Subarea NCCP/HCP and inhabits riparian woodlands dominated by willows and cottonwoods. Coastal California gnatcatcher is a federally threatened and state Species of Special Concern that is also covered under the Orange County Central/Coastal Subarea NCCP/HCP and inhabits coastal sage scrub communities.

Least Bell's vireo was observed throughout the mulefat-blue elderberry and coyote brush scrub habitats on North Talbert, as well as the Myoporum-black willow, arroyo willow, black and arroyo willow-mulefat, mulefat thickets, and pickleweed mats on South Talbert (Figures 7-6, 7-8, 7-10 through 12, Figure 10). Portions of South Talbert where least Bell's vireo were observed, specifically pickleweed mats and black and arroyo willow-mulefat, will be directly impacted by vegetation clearing and grading for construction of proposed trail improvements.

As such, the project could result in potentially direct and indirect impacts to this species if the riparian woodland habitat cannot be avoided and construction occurs within this species breeding season from April 15 through June 30.

Burrowing Owl

Burrowing owl is a California Species of Special Concern and USFWS Bird of Conservation Concern that inhabits disturbed areas and grasslands with small animal burrows for cover and breeding. Burrowing owl was observed in

the study area buffer on a disturbed trail adjacent to Santa Ana River during the jurisdictional delineation survey (Figure 10). Burrowing owl was not observed in the direct project boundary footprint during the focused burrowing owl survey or any other biological surveys in 2020 and the results of the 2025 focused burrowing owl breeding season surveys were negative. However, suitable habitat for this species exists on site, and it could eventually move onto the project site prior to construction.

If burrowing owl is found on site prior to the start of construction, the project may result in potential direct and indirect impacts to this species.

Prairie Falcon

Prairie Falcon is a USFWS Bird of Conservation Concern and a CDFW Watch List species that is covered under the Orange County Central/Coastal Subarea NCCP/HCP and was observed foraging over the mulefat-Menzies goldenbush-quailbush scrub on South Talbert (Figure 10). Portions of this habitat will be direct impacted by vegetation clearing and grading for construction of proposed trail improvements. As such, the project may result in direct and indirect impacts to prairie falcon if vegetation clearing and trimming cannot be avoided during the avian nesting season.

North TalbertOsprey

Osprey is a CDFW Watch List species observed near water on the project site. Osprey was observed on Talbert North, foraging over coyote bush scrub located immediately adjacent to Santa Ana River and Banning Channel (Figure 7-5, Figure 10). No proposed project improvements are anticipated to occur to this area. However, osprey may forage or nest in other habitats that may be directly impacted by proposed project improvements on site. As such, the project may result in direct and indirect impacts to osprey if vegetation clearing and trimming cannot be avoided during the avian nesting season.

Cooper's hawk

Cooper's hawk is a CDFW Watch List species observed foraging over mulefat-blue elderberry and blue elderberry-toyon habitats on North Talbert (Figure 7-3, 7-6, Figure 10). This species was also observed on South Talbert, foraging over mulefat thickets and arroyo willow-mulefat habitats (Figure 7-10, Figure 10). Portions of mulefat thickets and arroyo willow-mulefat habitats on South Talbert will be directly impacted by vegetation clearing and grading for construction of proposed trail improvements. As such, the project may result in direct and indirect impacts to Cooper's hawk if vegetation clearing and trimming cannot be avoided during the avian nesting season.

California Gull

California Gull is a USFWS BCC and the nesting colonies of the California gull are Watch List (WL) species by CDFW. California gull was observed dispersing throughout multiple vegetation communities in the project site (Figure 10), No nesting or roosting activity was observed. As such, the project may result in direct and indirect impacts to California gull if vegetation clearing and trimming cannot be avoided during the avian nesting season.

Double-Crested Cormorant (*Nycticorax nycticorax*)

Double-crested cormorant is a SSC by CDFW. It was observed foraging and perched at Victoria pond in South Talbert, both within the pond and in surrounding riparian habitat. Proposed improvements to the pond may

result in direct and indirect impacts to white-faced ibis if vegetation clearing and trimming cannot be avoided during the nesting season.

White-faced ibis

White-faced ibis is a Species of Special Concern by CDFW. It was detected foraging within riparian habitat surrounding Victoria pond in the northern portion of South Talbert (Figure 10). Proposed improvements to the pond may result in direct and indirect impacts to white-faced ibis if vegetation clearing and trimming cannot be avoided during the nesting season.

White-tailed kite

White-tailed kite is a CDFW Fully-Protected species found in the California sycamore-coast live oak woodlands, blue elderberry-toyon habitat, and arroyo willow thickets on the project site (Figures 7-4, 7-12, 10). Portions of the California sycamore-coast live oak woodland and elderberry-toyon habitats will be directly impacted by construction of proposed trail improvements. As such, the project may result in direct and indirect impacts to white-tailed kite if vegetation clearing and trimming cannot be avoided during the avian nesting season.

Costa's Hummingbird

Costa's hummingbird is a USFWS BCC that was observed foraging throughout the coastal sage scrubs within the project site and dispersing throughout the project site. Portions of coastal scrub habitat will be directly impacted by construction of proposed trail improvements. As such, the project may result in direct and indirect impacts to white-tailed kite if vegetation clearing and trimming cannot be avoided during the avian nesting season.

Rufous Hummingbird

Rufous hummingbird is a USFWS BCC that was observed throughout the project site foraging in a variety of habitats including mulefat and coastal scrub. Portions of mulefat thickets and coastal scrub will be directly impacted by vegetation clearing and grading for construction of proposed trail improvements. As such, the project may result in direct and indirect impacts to rufous hummingbird if vegetation clearing and trimming cannot be avoided during the avian nesting season.

Yellow-breasted chat

Yellow-breasted chat is listed by CDFW as a Species of Special Concern and by USFWS as a Bird of Conservation Concern. This species was observed within the blue elderberry-toyon, mulefat-blue elderberry, and upland mustards on North Talbert (Figure 7-6, Figure 10). In addition, yellow-breasted chat was observed foraging within mulefat thickets, black willow thickets, and mulefat-Menzies' goldenbush-quailbush habitat on Talbert South (Figures 7-9,7-11, 7-12, 10). Portions of mulefat thickets, black willow thickets, and mulefat-Menzies'goldenbush-quailbush on Talbert South will be directly impacted by vegetation clearing and grading for construction of proposed trail improvements. As such, the project may result in direct and indirect impacts to yellow-breasted chat if vegetation clearing and trimming cannot be avoided during the avian nesting season.

Yellow warbler

Yellow warbler is listed by CDFW as a Species of Special Concern and by USFWS as a Bird of Conservation Concern. This species was observed foraging over the blue elderberry-toyon and coyote bush scrub on Talbert North (Figure 7-4, 7-6, Figure 10). In addition, yellow warbler was observed foraging over southern tarplant patches, black willow thickets, and black willow-mulefat adjacent to Victoria Pond, as well as in mulefat thickets at the southern portion of South Talbert (Figure 7-9, 7-11, Figure 10). As such, the project may result in direct and indirect impacts to yellow warbler if vegetation clearing and trimming of riparian woodlands cannot be avoided during the avian nesting season.

Nesting Migratory Birds and Raptors

The project site contains trees, shrubs, and other vegetation that provide opportunities for birds of prey (raptors) and other avian species to nest on site. Native nesting bird species with potential to occur within the project site are protected by California Fish and Game Code Sections 3503 and 3503.5, and by the federal MBTA (16 USC 703–711). In particular, Section 3503 provides that it is unlawful to take, possess, or needlessly destroy the active nests or eggs of any bird in California; Section 3503.5 protects all raptors and their eggs and active nests; and the MBTA prohibits the take (including killing, capturing, selling, trading, and transport) of native migratory bird species throughout the United States. Recently, the Department of Interior ruled that the MBTA should apply only to "… affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs" and will not be applied to incidental take of migratory birds pursuant to otherwise lawful activities. However, that ruling is now under review as a revision to the MBTA that would include prohibitions to incidental take.

Potential direct impacts to nesting birds may occur during project construction if construction activities occur during the avian breeding season of February through August, through direct take (e.g., removal of tree where an active nest is present) or nest failure (e.g., disturbance due to excessive noise or human activity in close proximity to an active nest).

5.4.2 Indirect Impacts

During construction activities, indirect impacts to special-status wildlife species could include an increased human presence and construction-related, noise, dust, soil erosion, and water runoff decreasing or permanently altering habitat suitability for special status wildlife species and avian species protected by the MBTA that could occur on and adjacent to the project site. Without construction-related minimization measures to control dust, erosion, and runoff, and without compliance with National Pollutant Discharge Elimination System (NPDES) requirements, indirect impacts to riparian resources and upland communities could occur. However, applicant PDFs would be implemented to minimize these adverse effects.

Additionally, long-term indirect impacts may result from increased recreational activities due to improvements (e.g., trails and staging areas) proposed under the project. In general, the level of recreation is not expected to expand significantly from existing conditions due solely to improvements planned as part of the project. Rather, improvements proposed as part of the project would likely minimize adverse edge effects by provided clearly designated trails, staging areas, BMX course where certain recreational activities are authorized. This would limit human intrusions into habitat areas throughout the park and may result in an overall improvement to wildlife movement.

5.5 Impacts to Sensitive Vegetation Communities

5.5.1 Direct Impacts

Direct and permanent impacts to vegetation communities and/or land covers will occur from proposed key improvements and infrastructure improvements, while temporary direct impacts will occur from habitat restoration components. A total of thirty-five vegetation communities and/or land covers (including disturbed forms) were mapped in the project site based on general physiognomy and species composition, including 28 native or naturalized vegetation types and seven non-native land covers. Of the 28 native or naturalized vegetation communities, seven are considered sensitive by CNPS (CRPR 1-3). CDFW natural vegetation community sensitivity rankings of 1, 2, and 3 are considered high priority for inventory or special-status, and impacts to these communities typically require mitigation and/or restoration to pre-project conditions. Sensitive vegetation communities (ranked by CNPS as S1 through 3) were mapped within the project site. Specifically, California sycamore – coast live oak (S3), white alder – California sycamore (S3), Menzies's goldenbush scrub (S3), pickleweed mats (S3), , tar plant fields (S2), and American bulrush marsh (S3) occur on the project site. Vegetation communities with a sensitivity rank of 2 are considered imperiled and very vulnerable to extirpation statewide. Vegetation communities with a sensitivity rank of 3 are considered vulnerable to extirpation statewide

Construction of key improvements for the proposed project will permanently and directly impact four of the seven sensitive vegetation communities on the project site: California sycamore-coast live oak, Menzies's goldenbush scrub, pickleweed mats, and tar plant fields. Construction of proposed key improvements for the project would result in direct and permanent impacts to a total of approximately 0.08 acres of vegetation communities and land cover types that are considered sensitive by CDFW. As such, project-related impacts to these communities would require mitigation to comply with the NCCP/HCP. Additionally, coastal sage scrub communities mapped within the study area are considered covered habitats under the County of Orange NCCP/HCP, however, these communities will not be impacted by the project.

Impacts to the four sensitive vegetation communities are described in further detail herein and depicted in Figures 7-1 through 7-12: Vegetation Communities Impacts.

California Sycamore-Coast Live Oak

A total of less than 0.01 acres of California sycamore-coast live oak woodland will be directly and permanently impacted by vegetation clearing and grading for construction of a proposed single track trail within the northeastern portion of North Talbert, and wayfinding signage (Figure 7-4). This sensitive vegetation community is considered an S3 ranked community by CDFW. A total of 3.87 acres (99%) of the California sycamore – coast live oak vegetation community will remain intact on the study area and will not be directly impacted.

Menzies's Goldenbush Scrub

A total of 0.03 acres of Menzies's goldenbush scrub will be permanently and directly impacted by vegetation clearing and grading for construction of proposed trail improvements on the southwestern portion of the project site (Figure 7-9). This sensitive vegetation community is considered an S3 ranked community by CDFW. A total of 2.88 acres (96%) of the Menzies's goldenbush scrub vegetation community will remain undisturbed on the project site and will not be directly impacted.

Pickleweed Mats

A total of 0.12 acres of pickleweed mats, a type of coastal salt and brackish marsh habitat, will be permanently and directly impacted by vegetation clearing and grading for construction of a proposed trail on the southwestern portion of the South Talbert (Figure 7-11). This sensitive vegetation community is considered an S3 ranked community by CDFW. A total of 1.60 acres (75%) of pickleweed mats will remain intact on the project site and will not be directly impacted.

Tar Plant Fields

A total of 0.03 acres of tar plant fields will be permanently directly impacted from vegetation clearing and grading for construction of proposed trail improvements on the southeastern portion of the project site, (Figure 7-9). Alkali heath was observed within this vegetation community and will also be permanently directly impacted from vegetation clearing and grading for proposed trail improvements (Figure 7-12). This sensitive vegetation community is considered an S2 ranked community by CDFW, which is very vulnerable to extirpation. A total of 0.47 acres (64%) of the tar plant fields will remain intact on the project site and will not be directly impacted.

Non-Sensitive Vegetation Communities

Non-native vegetation communities on the study area including fivehook bassia, ice plant mats, upland mustards, and Myoporum would be directly impacted from vegetation thinning and removal for habitat restoration efforts (non-native plant removal, vegetation clearing, and salt marsh channel excavation). These direct impacts to vegetation communities will ultimately result in functionally improved natural habitats and aquatic resources through increased tidal flow and restoration of native vegetation, including willows, bulrush, and rare plants. Other non-native plants, specifically Brazilian and Peruvian pepper trees (*Schinus terebithifolia, S. molle*), will be removed from the area directly south of Victoria Pond to allow for the surrounding native American bulrush marsh and black willow thickets to proliferate (Figure 7-9).

A total of 22 vegetation communities and/or land covers within the study area are not considered sensitive by CDFW. Of these, 19 will be permanently impacted by implementation of key improvements for the proposed project. The project would result in direct and permanent impacts to a total of 4.86 acres of vegetation communities and land cover types that are not considered sensitive by CDFW. Figure 7: Vegetation Communities Impacts, depicts the proposed impacts to vegetation communities on the project site; Table 6 summarizes permanent and direct impacts to vegetation communities and land covers within the project site.

Table 6. Direct Impacts to Vegetation Communities and Land Cover Types on the Project Site

Vegetation Community	Scientific Name	Vegetation Community Code	Temporary Impacts (Restoration) (Acres)	Permanent Impacts (Acres)	Project Site Total (Acres)
Forest and Woodland Alliances					
Arroyo Willow Association	*Salix lasiolepis*	SALLAS	—	0.02	5.81
Arroyo Willow/ Mulefat Association	*Baccharis salicifolia*	SALLAS / BASCAL	0.0	0.10	2.60
Black Willow Association	*Salix gooddingii*	SALGOO	<0.01	0.04	2.51

Table 6. Direct Impacts to Vegetation Communities and Land Cover Types on the Project Site

Vegetation Community	Scientific Name	Vegetation Community Code	Temporary Impacts (Restoration) (Acres)	Permanent Impacts (Acres)	Project Site Total (Acres)
Black Willow Thickets	*Salix gooddingii*	BWT	—	<0.01	3.52
Black Willow/ Mulefat	*Salix gooddingii/ Baccharis salicifolia*	SALGOO / BACSAL	—	0.15	3.42
Blue Elderberry/ Toyon Association	*Sambucus nigra* sp. *caerulea/Heteromeles arbutifolia*	SAMNIG / HETARB	—	0.02	4.94
California Sycamore/Coast Live Oak Association*	*Platanus racemosa/ Quercus agrifolia*	PLARAC / QUEGAR	<0.01	<0.01	3.88
Eucalyptus Groves	*Eucalyptus* sp.	EG	—	--	1.47
Mulefat Thickets	*Baccharis salicifolia*	MFT	—	0.09	18.31
Mulefat/ Blue Elderberry	*Baccharis salicifolia/Sambucus nigra* sp. *caerulea*	BACSAL / SAMNIG	—	<0.01	29.35
Mulefat / Menzies's goldenbush / Quailbush Association	*Baccharis salicifolia/Isocoma menziesii/Atriplex lentiformis*	BACSAL / ISOMEN / ATRLEN	—	0.15	7.20
White Alder / California Sycamore Association*	*Alnus rhombifolia / Platanus racemosa*	ALRHO / PLARAC	—	0.02	0.02
Subtotal of Forest and Woodland Alliances and Stands			*<0.01*	*0.6*	*83.15*
Shrubland and Grassland Alliances					
Alkali heath / Salt grass Association	*Frankenia salina / Distichlis spicata*	FRASAL / DISSPI	<0.01	0.15	0.15
American Bulrush Marsh*	*Schoenoplectus americanus*)	ABM	--	—	0.64
Black Mustard / Ripgut Brome Association	*Brassica nigra / Bromus diandrus*	BM / RB	—	--	1.19
California brittlebush / California sagebrush / Black Sage / Coyote brush Association	*Encelia californica / Artemisia californica / Salvia mellifera / Baccharis pilularis*	ENCCAL / ARTCAL / SALMEL / BACPIL	—	--	12.38
Cattail Marshes	*Typha*	CM	—	--	0
Coyote Brush Scrub	*Baccharis pilularis*	CYS	—	--	15.78

Table 6. Direct Impacts to Vegetation Communities and Land Cover Types on the Project Site

Vegetation Community	Scientific Name	Vegetation Community Code	Temporary Impacts (Restoration) (Acres)	Permanent Impacts (Acres)	Project Site Total (Acres)
Coyote Brush / California Sagebrush Association	*Baccharis pilularis / Artemisia californica*	BACPIL / ARTCAL	<0.01	--	1.45
Ice Plant Mats	*Carpobrotus edulis*	IPM	--	--	2.07
Menzies's Goldenbush Scrub*	*Isocoma menziesii*	MGBS	--	0.03	2.91
Pickleweed Mats*	*Salicornia*	PM	<0.01	0.12	1.72
Poison Hemlock / Fennel Patches	*Conium maculatum / Foeniculum vulgare*	PH / FP	—	0.01	0.11
Quailbush Scrub	*Atriplex lentiformis*	QS	—	0.05	1.95
Saltgrass / Pacific Swampfire Association	*Distichlis spicata / Sarcocornia pacifica*	DISSPI / SARPAC	--	0.39	15.35
Smartweed / Cocklebur Patches	*Persicaria / Xanthium strumarium*	S/CP	—	0.04	0.61
Tarplant fields*	*Centromadia parryi* sp. *australis*	TPF	—	0.03	0.50
Upland mustards	*Hirschfeldia incana*	UM	—	--	21.46
Subtotal of Shrubland and Grassland Alliances			*<0.01*	*0.82*	*78.24*
Non-Natural Land Covers and Unvegetated Communities					
Fivehook Bassia	*Bassia hyssopifolia*	BASSIA	--	0.01	1.62
Myoporum / Black Willow	*Myoporum* sp. / *Salix gooddingii*	MP / SALGOO	--	0.01	3.08
Concrete Channel	—	CC	--	--	0.77
Disturbed Habitat	—	DH	0.15	2.99	16.05
Open Water	—	OW	--	--	3.23
Parks and Ornamental Plantings	—	ORN	--	--	3.67
Urban/Developed	—	DEV	<0.001	0.27	2.23
	Subtotal of Non-Natural Land Covers and Unvegetated Communities		*0.15*	*3.28*	*30.65*
		Total**	**0.15**	**4.7**	**192.03**

Notes:

* Ranked as a Sensitive Vegetation Community (S1-3) by CDFW. **Totals may not sum due to rounding.

5.5.2 Indirect Impacts

Construction-related indirect impacts may include temporary construction access and staging, as well as inadvertent spillover impacts outside of the construction footprint related to, chemical spills, stormwater erosion and sedimentation, and increased wildfire risk. Additionally, non-native seed may be introduced during construction from off-site vehicles and equipment entering the site. To reduce fugitive dust resulting from project construction and to minimize adverse air quality impacts, the project would employ dust control measures in accordance with the Air Quality Management District's Rules 401 and 403.2, which would limit the amount of fugitive dust generated during construction (PDF BIO-1 and BIO-3). Implementation of BMP's and a SWPPP would also limit the potential for inadvertent spillover outside of the construction footprint.

5.6 Impacts to Jurisdictional Wetlands and Waters

5.6.1 Direct Impacts

ACOE and RWQCB

As currently designed, the proposed project includes the restoration of the project site for a public park facility with mixed uses. Proposed restoration treatments to South South Talbertconsist of trail improvements that may impact an unnamed riparian streambed as well as a forested wetland (black willow thickets). Further proposed trail improvements to South South Talbert will impact forested wetlands consisting of mulefat thickets, arroyo willow and black willow, as well as salt marsh habitats including pickleweed mats and smartweed-cocklebur patches. Figures 8 and 9, Impacts to Aquatic Resources, depict impacts to waters of the U.S. and state (ACOE and RWQCB) and impacts to CDFW/CCC jurisdictional riparian habitats. Table 5 summarizes impacts to jurisdictional waters as a result of construction of the proposed project.

Permanent impacts from trails will impact an estimated 0.37 acres of wetland and non-wetland waters. No temporary impacts to potentially jurisdictional waters are anticipated.

CDFW and CCC

The project site boundary contains a total of 32.02 acres of wetland and non-wetland waters potentially subject to CDFW and CCC jurisdiction. Existing wetland waters consist of 28.33 acres of forested wetland and salt marsh habitat, and non-wetland waters consist of 4.05 acres of Victoria Pond, riparian streambed and unvegetated streambed within the project site (Figure 6). The proposed South Talbertinfrastructure improvements related to trail system improvements and wayfinding signage will result in a total of approximately 0.51 acres of impacts to CDFW and CCC jurisdictional waters (Figure 9).

Victoria Pond, the unnamed drainage, and the concrete lined channel on-site are considered non-wetland waters under CDFW and CCC jurisdiction, and five of the seven wetlands mapped on the study area (Wetland 1, 2, 4, 5, and 6) are considered wetland waters under CDFW and CCC jurisdiction. Direct impacts to the unnamed drainage and Wetlands 2, 4, 5, and 6 will result from implementation of the proposed project, specifically vegetation clearing, grading, and excavation for trails. No project-related impacts will occur to Victoria Pond or Wetland 1.

The calculated impacts to jurisdictional waters on the project site are summarized in Table 5 below.

Table 7. Summary of Direct Impacts to Jurisdictional Aquatic Resources on the Project Site

Feature Name	Total Project Site (acres)	Temporary Impacts (Restoration) (acres/linear feet)	Permanent Impacts (acres/linear feet)
Waters of the United States and State (ACOE/RWQCB)			
Non-Wetland Waters			
Concrete Lined Channel	0.05	--	--
Unnamed Ephemeral Drainage	0.15	--	<0.01/103
Victoria Pond	2.82	--	--
Wetland Waters			
Wetland 1	2.98	--	--
Wetland 2	17.02	--	0.37/2,793
Waters of the United States and State (ACOE/RWQCB) Total*	**24.19**	**--/--**	**0.37/2,896**
CDFW/CCC Jurisdictional Waters			
Unvegetated Streambed (Concrete Lined Channel)	1.23	--	--/--
Riparian Streambed (Unnamed Drainage)	0.23	--	<0.01/103
Victoria Pond (Freshwater)	2.82	--/--	--/--
Wetland 1 (Forested Wetland)	2.89	--/--	--/--
Wetland 2 (Salt Marsh)	14.15	--	0.31/1,835
Wetland 4 (Salt Marsh)	0.30	--	<0.01/314
Wetland 5 (Forested Wetland)	7.65	--	0.13/2,586
Wetland 6 (Forested Wetland)	2.75	--	0.06/998
CDFW/CCC Jurisdiction Total*	**32.02**	**--/--**	**0.87/8,835**

Notes: ACOE = U.S. Army Corps of Engineers; RWQCB = Regional Water Quality Control Board; OHWM = ordinary high-water mark; CDFW = California Department of Fish and Wildlife

* Totals may not sum due to rounding.

5.6.2 Indirect Impacts

The project is proposing to avoid 23.82 acres of ACOE/RWQCB jurisdictional waters and 31.15 acres of CDFW/CCC jurisdictional waters mapped on the project site. However, construction-related indirect impacts may include inadvertent spillover impacts outside of the construction footprint, chemical spills, and stormwater erosion and sedimentation. These spills may drain into potentially regulated waters on and immediately adjacent to proposed impact areas within the project boundary during construction. These potential short-term or temporary indirect impacts to jurisdictional aquatic resources would be avoided through implementation of applicant proposed PDFs (Section 5.2).

5.7 Impacts to Wildlife Corridors and Habitat Linkages

5.7.1 Direct Impacts

The project site occurs within the boundaries of the Central/Coastal Subarea Plan of the Orange County Natural Community Conservation Plan/Habitat Conservation Plan (OC NCCP/HCP) and is mapped within a designated habitat reserve system (Talbert Regional Park) (Figure 3). However, the project site is not mapped as a wildlife corridor or habitat linkage for the OC NCCP/HCP. Regardless, the project site does function as a corridor for the movement of local wildlife in the area, particularly for small to medium sized mammals and birds traveling through Costa Mesa and along the Santa Ana River towards the Pacific Ocean. The riparian woodlands, Victoria Pond, and native scrub habitats within the project site provide ecologically valuable opportunities for wildlife movement through the local area. Resident and migratory birds, fish, and small-to medium-sized mammals may use portions of the project site to move along the Santa Ana River south towards the Pacific Ocean. Wildlife species may also locally migrate to Victoria Pond to nest and forage. Therefore, the project site is considered a regionally significant wildlife corridor.

The proposed project includes on-site restoration efforts, including invasive plant species removal, that would ultimately improve wildlife movement and habitat connectivity within the project site (Talbert Regional Park) to surrounding regions including Fairview Park, Randall Preserve, Santa Ana River, and the Pacific Ocean. Additionally, the project is not proposing to construct any buildings or structures that would impede the continued use of wildlife movement through the project site. Therefore, there will be no long-term direct impacts to wildlife corridors or linkages through project implementation.

However, there may be temporary displacement of wildlife migrating through the project site during construction due to the increase in human presence and construction equipment, as well as removal of habitat and impacts to regulated waters that facilitate wildlife movement. Due to the relatively limited construction requirements for the project these temporary direct impacts will be minimal.

5.7.2 Indirect Impacts

Some short-term indirect impacts to localized wildlife movement could occur due to construction-related noise and work in the vicinity. However, these impacts would be temporary and would not be expected to significantly disrupt wildlife movement due to existing ambient noise conditions and the ability for wildlife to continue to move around the construction area and upland portions of the project site during and after construction. Additionally, work activities are not currently proposed during the nighttime which could impact opportunities for movement by nocturnal animals through the site.

Lastly, the project would not create a barrier or cause a physical impediment to wildlife movement or corridors and there are ample opportunities for wildlife to continue to move throughout the area both within the Santa Ana River and in surrounding coastal areas. Therefore, there will be no indirect impacts to wildlife corridors or linkages.

5.8 Impacts Associated with Local Policies and Ordinances

As currently designed, the proposed project would be constructed within the least environmentally sensitive location feasible from a native vegetation, jurisdictional waters, and special-status species standpoint. Section 7-9.69 of the County of Orange Zoning Code: tree protection ordinance, protects trees native to Orange County, and only applies to unincorporated areas. In addition, County of Orange tree policy ordinances are not applicable to trees owned by the County, such as those owned by OC Parks within the Talbert Regional Park system. As the project site lies within an incorporated County of Orange, within Talbert Regional Park and owned by Orange County Parks, these ordinances do not apply. Additionally, the City of Costa Mesa does not have any tree protection ordinances, but the project would adhere to the goals and policies of the County of Orange and City of Costa Mesa General Plans as they pertain to biological resources protection. Therefore, the project will result in no direct or indirect impacts to local policies and ordinances.

5.9 Impacts Associated with Habitat Conservation Plans

The project occurs within the boundaries of the Central Coastal subregion of the Orange County Natural Community Conservation Plan / Habitat Conservation Plan (OC NCCP/HCP), and therefore the project is required to demonstrate consistency with the goals and objectives of the NCCP/HCP as it pertains to biological resources (Figure 3). While the City of Costa Mesa is not in an enrollment agreement with OC NCCP/HCP, the project applicant, county of Orange (OC Parks), is a signatory to the implementing agreement. As such, the project is required to evaluate the potential impacts to NCCP/HCP covered species and resources. Take authorization of covered species is granted for this project through OC Park's participation in the NCCP/HCP, and any impacts to covered sensitive natural communities would be covered, if consistent with allowed uses within the Reserve. Impacts to covered species and associated habitats would be covered under the terms of the USFWS Section 10(a)(1)(B) permit and CDFW Management Authorization granted to the local government with the jurisdiction over the proposed activity for Participating Landowners. Impacts to species or sensitive communities not covered under the OC NCCP/HCP would be considered significant and would require additional approvals pursuant to the FESA, CESA, and Natural Community Conservation Planning Act.

The project site provides suitable habitat for OC NCCP/HCP covered species including coyote, red-shouldered hawk, prairie falcon, least Bell's vireo, burrowing owl, coastal California gnatcatcher, and Coulter's Matilija poppy. Specific covered habitats within the project site include coastal sage scrub vegetation communities (California brittlebush / California sagebrush / Black Sage / Coyote brush Association, Coyote Brush Scrub, and Coyote Brush / California Sagebrush Association).

Construction of the proposed project will result in direct impacts to coastal sage scrub communities covered by the Central/Coastal Subregion of the OC NCCP/HCP which provide suitable habitat for NCCP/HCP covered species observed on site including coyote, red-shouldered hawk, coastal California gnatcatcher, and Coulter's Matilija poppy, and conditionally covered least Bell's vireo. Southwestern willow flycatcher (also an OC NCCP/HCP covered species) was not observed on site during focused surveys, therefore this covered species is considered absent from the project site, and no direct or indirect impacts would occur.

Impacts to natural vegetation communities including coastal sage scrub covered under the Central/Coastal Subarea Plan of the OC NCCP/HCP would occur as a result of implementing proposed staging areas as well as pond, wetland, and trail improvements throughout the project site.

No other NCCP/HCP covered biological resources will be directly impacted by the project and therefore, there will be no direct impact. Additionally, the loss of native vegetation on the project site will be offset through on-site habitat restoration in accordance with PDF-BIO-6. With concurrence from the Wildlife Agencies that the proposed Restoration Plan ensures maintenance of covered species and habitat function within the Reserve, no direct impacts to habitat conservation plans will occur.

6 Significant Impacts and Mitigation

6.1 Explanation of Findings of Significance

Impacts to special-status vegetation communities, plant and wildlife species, and jurisdictional waters, including wetlands, must be quantified and analyzed to determine whether such impacts are significant under CEQA. CEQA Guidelines Section 15064(b) states that an ironclad definition of "significant" effect is not possible, because the significance of an activity may vary with the setting. Appendix G of the CEQA Guidelines, however, does provide "examples of consequences which may be deemed to be a significant effect on the environment" (14 CCR 15064[e]). These effects include substantial effects on rare or endangered species of animal or plant or the habitat of the species. CEQA Guidelines Section 15065(a) is also helpful in defining whether a project may have a significant effect on the environment. Under that section, a proposed project may have a significant effect on the environment if the project has the potential to (1) substantially degrade the quality of the environment, (2) substantially reduce the habitat of a fish or wildlife species, (3) cause a fish or wildlife population to drop below self-sustaining levels, (4) threaten to eliminate a plant or animal community, (5) reduce the number or restrict the range of a rare or endangered plant or animal, or (6) eliminate important examples of a major period of California history or prehistory.

The following are the significance thresholds for biological resources provided in the CEQA Guidelines Appendix G Environmental Checklist, which states that a project would potentially have a significant effect if it does any of the following:

- Impact BIO-1. Has a substantial adverse effect, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.
- Impact BIO-2. Has a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- Impact BIO-3. Has a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Impact BIO-4. Interferes substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impedes the use of native wildlife nursery sites.
- Impact BIO-5. Conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Impact BIO-6. Conflicts with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

The evaluation of whether an impact to a particular biological resource is significant must consider both the resource itself and the role of that resource in a regional context. Substantial impacts are those that contribute to, or result in, permanent loss of an important resource, such as a population of a rare plant or wildlife species. Impacts may be important locally, because they result in an adverse alteration of existing site conditions but considered not significant because they do not contribute substantially to the permanent loss of that resource regionally. The severity of an impact is the primary determinant of whether that impact can be mitigated to a level below significance.

The following significance determinations were made based on the impacts of the proposed project.

6.1.1 Impact BIO-1: Special-Status Species

6.1.1.1 Special-Status Plants

Vegetation clearing and grading for the trail improvements on the project site may result in significant direct impacts to two rare plants, southern tarplant (CRPR 1B.1) and San Diego marsh-elder (CRPR 2.2). These species are not covered under the Central-Coastal Subarea Plan of the OC NCCP/HCP and as such, project-related impacts to these species would be considered significant. To offset the loss of southern tarplant, Mitigation Measure **(MM) BIO-1** would be implemented in order to reduce direct impacts to special-status plants to **less than significant with mitigation**.

MM BIO-1 Rare Plant Restoration. In order to replace individual southern tarplant populations on the project site, restoration activities as part of the project shall revegetate the site with both species at a minimum 1:1 ratio. For southern tarplant, the 1:1 ratio shall be calculated based on area occupied by the species. Revegetation can either be accomplished through seeding restoration areas with a native seed mix containing both species and/or planting container plants. Prior to project impacts, existing populations of both species that are proposed to be impacted will be identified and counted to determine the amount of seed or container plants needed and suitable area for plant establishment. The methods and quantity of the restoration effort for these two species will be included in the Restoration Plan for the project. The Restoration Plan shall include monitoring and maintenance procedures, performance standards to ensure self-sustaining populations have been established, and adaptive management/remedial measures if restoration is not successful.

Impacts to southern tarplant are much more extensive and occur with trail improvements throughout the site. Since this species' preferred habitat is disturbed areas, such as the edge of existing trails, a concerted effort will need to be made to identify locations within the project site that are suitable for seeding with southern tarplant. To the extent that southern tarplant re-established in areas adjacent to improved trails following construction, these areas can be counted towards the 1:1 mitigation ratio.

6.1.1.2 Special-Status Wildlife

Construction of the proposed project may result in significant direct impacts to 14 special-status wildlife species that are considered present on-site: burrowing owl, coastal California gnatcatcher, least Bell's vireo, Cooper's hawk, white-tailed kite, prairie falcon, white-faced ibis, double-breasted cormorant, California gull, Costa's hummingbird, rufous hummingbird, osprey, yellow warbler, and yellow breasted chat. Project-related impacts to these species may occur during vegetation clearing and grading for key improvements and infrastructure improvements particularly during the general avian nesting season of February through August. Coastal California gnatcatcher, least Bell's vireo, and prairie falcon are covered species under the OC NCCP/HCP and therefore, with successful implementation of PDF BIO-6 (i.e., Resource Agency confirmed compliance with the OC NCCP/HCP), impacts to these species are less than significant.

Burrowing owl was incidentally observed near the western boundary of South Talbert Talbert during the jurisdictional delineation survey in 2020, just outside the project site boundary, but was not observed during any of the focused surveys for burrowing owl in 2020 and 2025. However, due to the continued presence of suitable habitat on the project site there is a potential for burrowing owl to move onto the project site in the future. Therefore, if this species

is found on site prior to the start of construction the project may result in a significant direct impact to burrowing owl during grading and vegetation clearing, particularly if the project occurs during the species' breeding season. Project implementation of Mitigation Measure **MM BIO-2** will reduce potential impacts to burrowing owl to **less than significant with mitigation.**

MM BIO-2 Burrowing Owl Pre-Construction Surveys. Prior to the start of grading and vegetation clearing activities within suitable habitat areas on the project site, a pre-construction clearance survey for burrowing owl shall be conducted according to survey protocol outlined in the 2012 CDFW Staff Report on Burrowing Owl Mitigation. A minimum of two surveys will be conducted within 14 days prior to the start of the project and another within 24 hours of initiating ground-disturbing activities. If burrowing owl is found on site additional avoidance and mitigation measures will be required. If burrowing owl occurs in an area that cannot be avoided by the project, additional land conservation and/or relocation may be required, which will be determined through consultation with CDFW.

Cooper's hawk, white-tailed kite, prairie falcon, white-faced ibis, double-breasted cormorant, California gull, Costa's hummingbird, rufous hummingbird, osprey, yellow warbler, and yellow breasted chat are all protected species by the MBTA and CFG Code. Project-related direct and indirect impacts may occur to these species during vegetation clearing and grading activities that commence during the general avian breeding season of February through August. Therefore, direct and indirect impacts to these species would be considered significant. Project implementation of Mitigation Measure **MM BIO-3** would reduce potential project-related impacts to these seven special-status species to **less than significant with mitigation**.

MM-BIO-3 Pre-Construction Surveys for Special-Status Species. One pre-construction clearance survey shall be conducted no more than 14 days prior to initiation of site preparation and grading activities. A qualified biologist shall walk the entire survey area to determine if any special-status wildlife are observed or detected. Additional measures may be required for observed species on site, such as establishing a buffer around known locations and/or conducting monitoring during construction near occupied areas to ensure no project activities result in loss of an active nest and incidental take does not occur.

Besides the special-status wildlife species mentioned above, the project site provides suitable nesting habitat for a number of bird species known to occur in the region that are protected by the MBTA and CFG Code. These species may be directly and indirectly impacted during vegetation clearing activities that commence during the general nesting season of February through August. Project-related impacts to protected bird species and their nests are considered significant and require mitigation. Project implementation of Mitigation Measure **MM BIO-4** will reduce potential impacts to nesting birds to **less than significant with mitigation**.

MM-BIO-4 Pre-Construction Nesting Bird Surveys and Avoidance. Vegetation clearing and grading activities shall avoid the migratory bird nesting season (typically February 1 through August 31) to reduce any potential significant impacts to birds that may be nesting in the project site, including yellow warbler, yellow-breasted chat, Cooper's hawk, least Bell's vireo, coastal California gnatcatcher, burrowing owl, California gull, white-faced ibis, double-breasted cormorant, Costa's hummingbird, rufous hummingbird, osprey, prairie falcon, and white-tailed kite. To maintain compliance with the Migratory Bird Treaty Act and California Fish and Game Code, if ground-disturbing and/or vegetation clearance activities are scheduled to occur during the avian nesting season, a pre-construction nesting bird survey shall be conducted by a qualified biologist within the

project impact footprint and a 500-foot buffer where legal access is granted around the disturbance footprint to determine the presence or absence of protected migratory birds and active nests. Surveys shall be conducted within 3 days prior to initiation of activity in accordance with the MBTA (16 USC 703-712) and CFG Code Sections 3503, 3503.5, and 3513.

If an active nest is detected during the nesting bird survey, the nest shall be flagged and mapped on the construction plan, along with appropriate avoidance buffers established around the nest as determined by a qualified biologist based on the species sensitivity to disturbance (typically 300 feet for passerines and 500 feet for raptors and special-status species). The buffer shall be of a distance to ensure avoidance of adverse effects to the nesting bird by accounting for topography, ambient conditions, species, nest location, and activity type. All nests shall be monitored as determined by the qualified biologist until nestlings have fledged and dispersed, or it is confirmed that the nest has been unsuccessful or abandoned. The qualified biologist shall halt all construction activities within proximity to an active nest if it is determined that the activities are harassing the nest and may result in nest abandonment or take. The qualified biologist shall also have the authority to require implementation of avoidance measures related to noise, vibration, or light pollution if indirect impacts are resulting in harassment of the nest. No project activities shall encroach into established buffers without the consent of a monitoring biologist. The buffer shall remain in place until it is determined that the nestlings have fledged, and the nest is no longer active.

6.1.2 Impact BIO-2: Sensitive Vegetation Communities

The proposed project will permanently impact five of the seven sensitive vegetation communities observed throughout the project site: American bulrush marsh, California sycamore-coast live oak, Menzies's goldenbush scrub, pickleweed mats, and tar plant fields (Figure 7). The project would result in direct and permanent impacts to 0.61 acres of vegetation communities and land cover types that are considered sensitive by CDFW, which is considered a significant impact. As such, project-related impacts to these communities would require mitigation or on-site habitat restoration to pre-project conditions to comply with CEQA and the NCCP/HCP. Implementation of Mitigation Measure **MM BIO-5** would reduce impacts to sensitive vegetation communities to **less than significant with mitigation**.

MM BIO-5 Restoration of Sensitive Natural Communities. The proposed project will restore and enhance native habitat communities on the project site to a level greater than what currently exists on the project site. The 0.61 acre of impacted sensitive natural communities will be restored at a minimum 1:1 ratio through planned restoration activities as part of the project. The project's Restoration Plan will detail the location and amount of restoration proposed to offset project-related impacts to sensitive natural communities.

Project-related impacts to native habitats not considered sensitive, or habitats covered under the OC NCCP/HCP such as coastal sage scrub, are not considered significant and do not require mitigation. However, the project will restore and enhance all native habitats on the project site as part of the project which will result in a net increase in habitat value for native and sensitive natural communities located on the project site.

6.1.3 Impact BIO-3: Jurisdictional Waters and Wetlands

The project site contains one feature considered non-wetland waters (ephemeral drainage), and one wetland feature (Wetland 2) potentially subject to ACOE and RWQCB jurisdiction that will be impacted by the project. Additionally, there is one non-wetland feature (ephemeral drainage) and four wetland features (Wetland 2, 4, 5, and 6) that are potentially subject to CDFW and CCC jurisdiction that may be impacted by the project. Total project-related impacts to ACOE/RWQCB jurisdiction include 0.37 acres (2,896 linear feet), which include approximately less than 0.01 acre (103 linear feet) of direct impacts to non-wetland waters of the U.S./State associated with an unnamed ephemeral drainage, and approximately 0.37 acres (2,793 linear feet) of direct impacts to wetland waters of the U.S./State. Additionally, total project-related direct impacts to CDFW/CCC jurisdiction include approximately less than 0.01 acre (103 linear feet) of non-wetland, and approximately 0.87 acres (8, 732 linear feet) of wetlands. Project-related impacts to federal and state regulated waters are considered significant and require mitigation to offset impacts. Therefore, project implementation of Mitigation Measure **MM BIO-6** will reduce project impacts to jurisdictional waters and wetlands to **less than significant with mitigation**.

MM BIO-6 Regulatory Waters Permitting. Direct impacts to jurisdictional waters shall be addressed through the regulatory application process to implement Section 401 and Section 404 of the Clean Water Act, the Porter-Cologne Water Quality Act, and Section 1602 of the California Fish and Game Code. Due to the amount of proposed project-related impacts to potentially jurisdictional aquatic resources it is anticipated that an Individual Permit from the ACOE will be required. An Individual Permit would also require compliance with 404(b)(1) Guidelines and mitigation to offset impacts and ensure no-net loss of wetlands and waters of the U.S. and State. Direct impacts to jurisdictional non-wetland waters shall be mitigated through either the on-site restoration of habitat or through the purchase of off-site mitigation credits. The applicant shall purchase credits through an agency-approved mitigation bank, in-lieu fee program, or other agreement. A minimum ratio of 3:1 for establishment or reestablishment credits shall be required for impacts to jurisdictional wetlands, as well as associated riparian habitat. However, the final mitigation ratio required shall be determined through consultation with the regulatory resource agencies during the permitting process. Finally, a standard Streambed Alteration Agreement shall be required from the CDFW for impacts to CDFW waters, as well as a Coastal Development Permit from the CCC.

6.1.4 Impact BIO-4: Wildlife Corridors and Nursery Sites

No significant direct or indirect permanent impacts would occur to wildlife movement or use of native wildlife nursery sites associated with project activities. Existing nearby habitat linkages and wildlife corridor functions would remain intact while construction activities are conducted and following project completion, particularly within the riparian areas that allow for local wildlife movement across the site. Construction activities would not likely result in permanent adverse impacts to wildlife movement because proposed restoration efforts are anticipated to improve habitat connectivity within the project site through increased hydrologic flow, vegetation clearing of invasive vegetation, and trail improvements. Riparian areas on site, specifically Victoria Pond and salt marsh habitats within South Talbert, may provide regional wildlife corridors and nesting areas for migratory birds and mammals. Coyote is the largest mammal that uses native habitats within the project site for local migration.

During construction activities, temporary disturbance to local species may occur, but would not substantially degrade the quality or use of the vegetation communities in the vicinity. Some indirect impacts to localized wildlife movement

could occur during construction activities due to construction-related noise. However, this impact would be temporary and would not be expected to significantly disrupt wildlife movement during and following construction activities.

Project-related long-term indirect impacts to wildlife corridors or habitat linkages would be less than significant as the opportunities for wildlife movement post project implementation would be improved from existing conditions after the project's restoration efforts are completed throughout the project site. Restoration and project improvements to Talbert Regional Park (the project site) would positively impact multiple riparian habitats on site from the clearing of invasive vegetation and improved tidal flow, which could allow increased wildlife movement locally through the area, particularly for species associated with salt marshes, riparian woodlands, and tidal wetlands.

Therefore, direct and indirect impacts on wildlife corridors and nursery sites resulting from the proposed project would be **less than significant**.

6.1.5 Impact BIO-5: Local Policies and Ordinances

The project site occurs within the County of Orange and the City of Costa Mesa and therefore would have to adhere to any County or City policies and municipal codes protecting biological resources, typically trees within the public right of way. After a review of County and City policies there are none that would apply to the protection of biological resources on the project site. Therefore, the project would result in no impacts to local policies or ordinances and no mitigation is required.

6.1.6 Impact BIO-6: Habitat Conservation Plan

The project site is located within the boundaries of the Central and Coastal Subregion Plan of the OC NCCP/HCP and the Applicant is a signatory to the NCCP/HCP, the project would receive take coverage for project-related impacts to covered species and vegetation communities. Take of covered species and vegetation communities is also authorized as a Planned Activity of recreational activities within the Reserve System. For special-status species and sensitive vegetation communities not fully covered under the OC NCCP/HCP, project impacts to these biological resources would be required to adhere to local, state, and federal policies/regulations. In addition, the project site is part of the reserve habitat system (Talbert Regional Park) within the Central Coastal Subregion Plan of the OC NCCP/HCP. Impacts to covered habitats would be reduced through on-site restoration or through the purchase of off-site mitigation credits. Additionally, because the Applicant is a Participating Landowner, Take is authorized without payment of the mitigation fee.

These measures are substantially consistent with construction-related minimization measures required for participating landowners under the OC NCCP/HCP. Table 8 demonstrates that consistent by aligning the OC NCCP/HCP measures with PDFs and mitigation measures discussed above.

Table 8. Compliance with OC NCCP/HCP Construction Related Minimization Measures

OC NCCP/HCP Measure	PDF or Mitigation Measure
1. To the maximum extent practicable, no grading of CSS habitat that is occupied by nesting gnatcatchers will occur during the breeding season (February 15 through July 15). It is expressly understood that this provision and the remaining provisions of these "construction-related minimization measures," are subject to public health and	MM-BIO-3, MM-BIO-4

Table 8. Compliance with OC NCCP/HCP Construction Related Minimization Measures

OC NCCP/HCP Measure	PDF or Mitigation Measure
safety considerations. These considerations include unexpected slope stabilization, erosion control measure and emergency facility repairs. In the event of such public health and safety circumstances, landowners or public agencies/utilities will provide USFWS/CDFW with the maximum practicable notice (or such notice as is specified in the NCCP/HCP) to allow for capture of gnatcatchers, cactus wrens and any other CSS Identified Species that are not otherwise flushed and will carry out the following' measures only to the extent as practicable in the context of the public health and safety considerations.	
2. Prior to the commencement of grading operations or other activities involving significant soil disturbance, all areas of CSS habitat to be avoided under the provisions of the NCCP/HCP, shall be identified with temporary fencing or other markers clearly visible to construction personnel. Additionally, prior to the commencement of grading operations or other activities involving disturbance of CSS, a survey will be conducted to locate gnatcatchers and cactus wrens within 100 feet of the outer extent of projected soil disturbance activities and the locations of any such species shall be clearly marked and identified on the construction/grading plans.	MM-BIO-5
3. A monitoring biologist, acceptable to USFWS/CDFG will be on site during any clearing of CSS. The landowner or relevant public agency/utility will advise USFWS/CDFW at least seven (7) calendar days (and preferably fourteen (14) calendar days) prior to the clearing of any habitat occupied by Identified Species to allow USFWS/CDFW to work with the monitoring biologist in connection with bird flushing/capture activities. The monitoring biologist will flush Identified Species (avian or other mobile Identified Species) from occupied habitat areas immediately prior to brush-clearing and earth-moving activities. If birds cannot be flushed, they will be captured in mist nets, if feasible, and relocated to areas of the site to be protected or to the NCCP/HCP Reserve System. It will be the responsibility of the monitoring biologist to assure that Identified bird species will not be directly impacted by brush-clearing and earth-moving equipment in a manner that also allows for construction activities on a timely basis.	MM-BIO-3, MM-BIO-4
4. Following the completion of initial grading/earth movement activities, all areas of CSS habitat to be avoided by construction equipment and personnel will be marked with temporary fencing other appropriate markers clearly visible to construction personnel. No construction access, parking or storage of equipment or materials will be permitted within such marked areas.	MM-BIO-5, PDF-BIO-2
5. In areas bordering the NCCP Reserve System or Special Linkage/Special Management areas containing significant CSS identified in the NCCP/HCP for protection, vehicle transportation routes between cut-and-fill locations will be restricted to a minimum number during construction consistent with project construction requirements. Waste dirt or rubble will not be deposited on adjacent CSS identified in the NCCP/HCP for protection. Preconstruction meetings involving the monitoring biologist, construction supervisors and equipment operators will be conducted and documented to ensure maximum practicable adherence to these measures.	PDF-BIO-1, PDF-BIO-2
6. CSS identified in the NCCP/HCP for protection and located within the likely dust drift radius of construction areas shall be periodically sprayed with water to reduce accumulated dust on the leaves as recommended by the monitoring biologist.	PDF-BIO-3

Therefore, project-related impacts to Habitat Conservation Plans will be considered **less than significant** and no mitigation is required.

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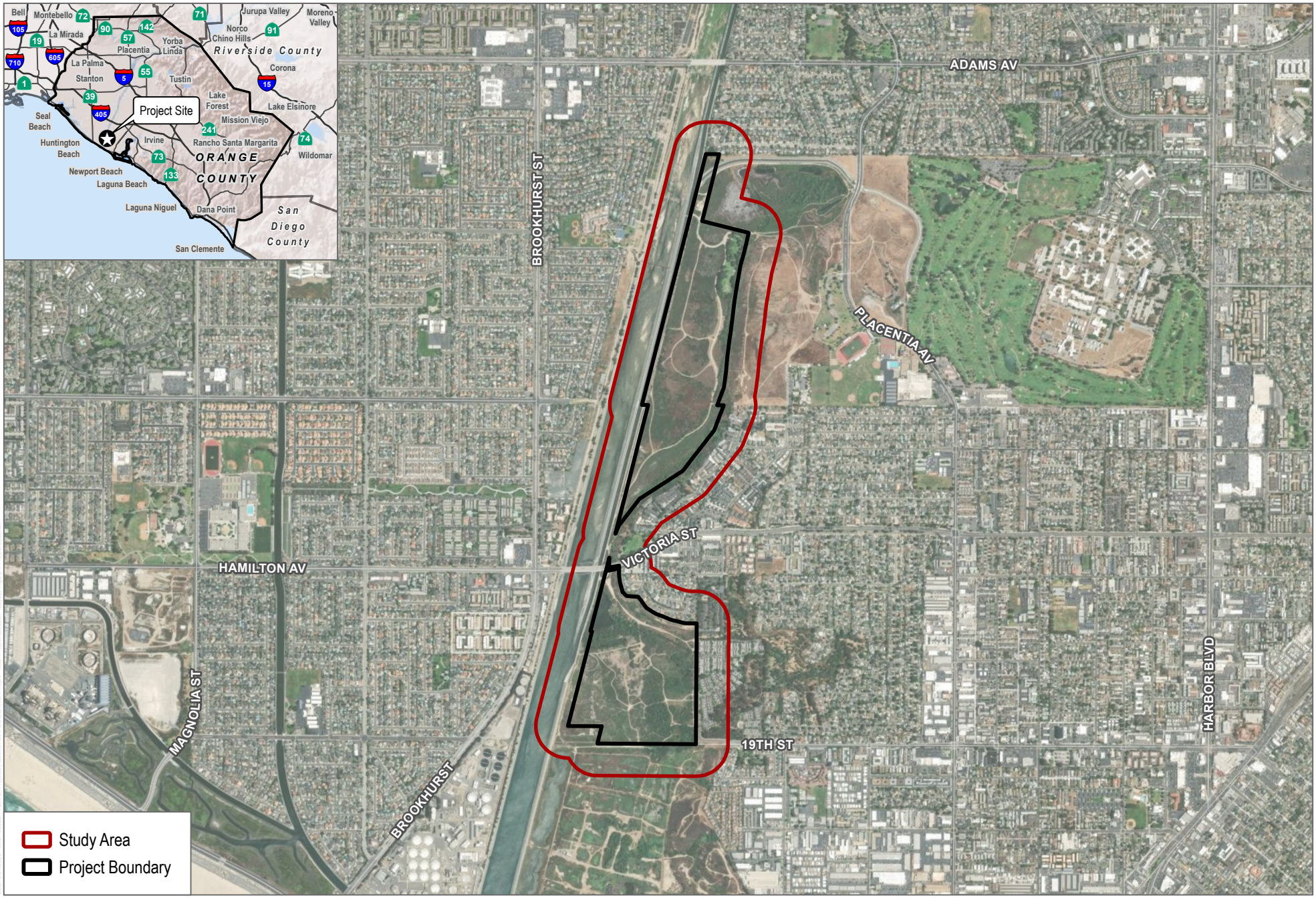

SOURCE: 2025

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FIGURE 1

Project Location

Talbert Regional Park

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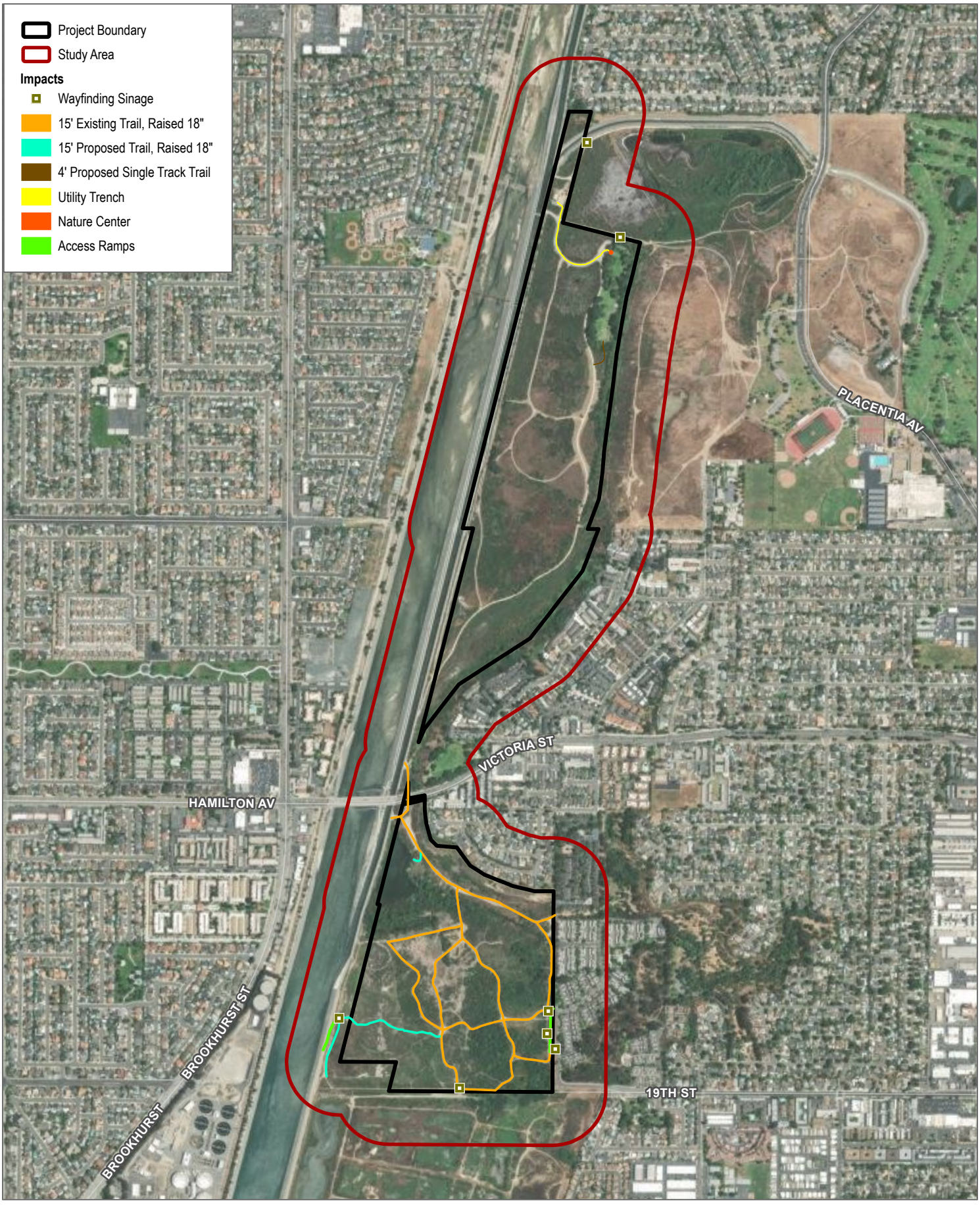

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FIGURE 2

Project Impacts

Talbert Regional Park

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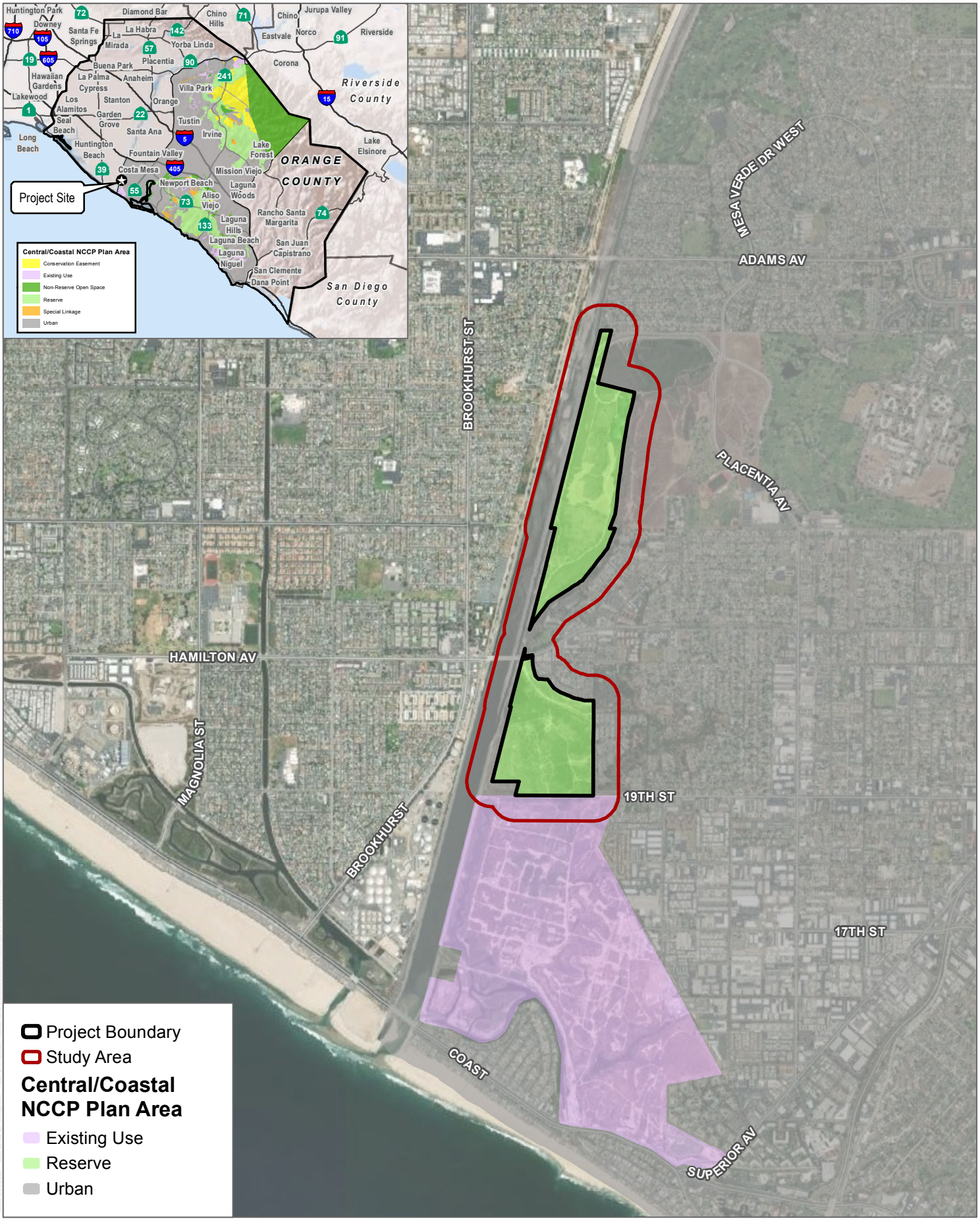

SOURCE: ESRI 2020; Central Coastal NCCP 1996

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FIGURE 3

Central/Coastal Subarea Orange County NCCP/HCP Plan Area

Talbert Regional Park

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SOURCE: ESRI 2020

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FIGURE 4-1

Vegetation Communities and Land Covers

Talbert Regional Park

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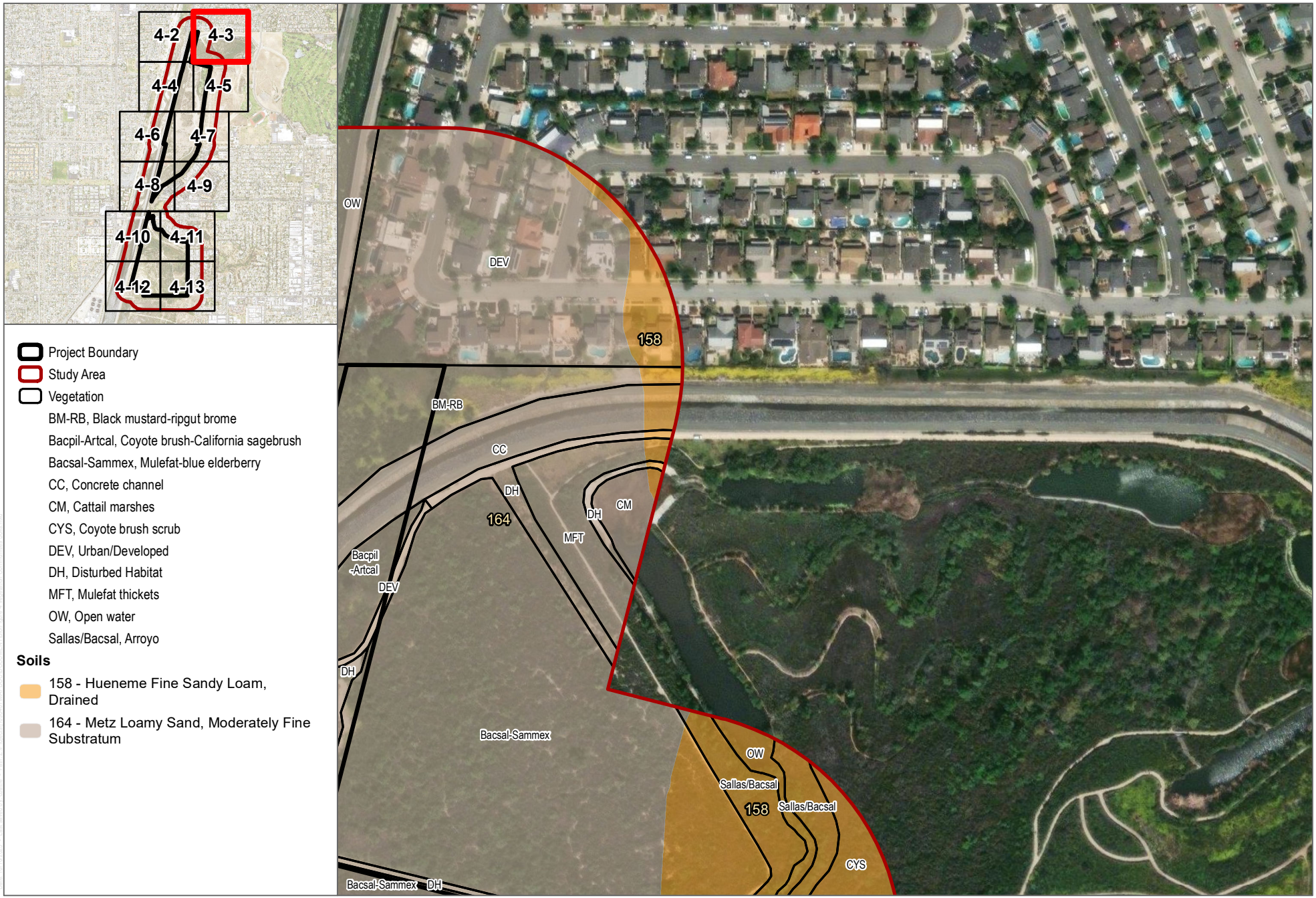

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FIGURE 4-2

Vegetation Communities and Land Covers

Talbert Regional Park

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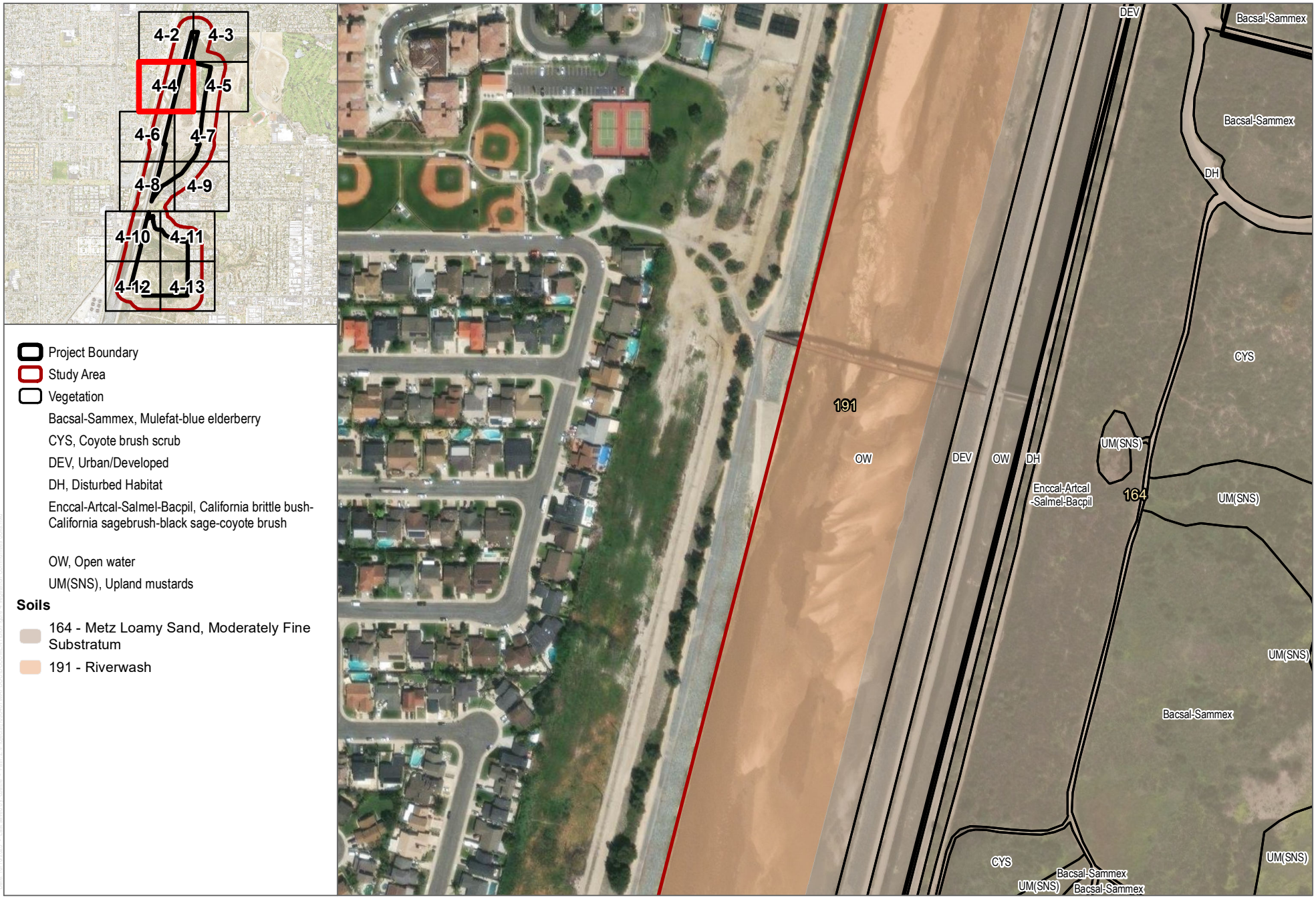

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FIGURE 4-3

Vegetation Communities and Land Covers

Talbert Regional Park

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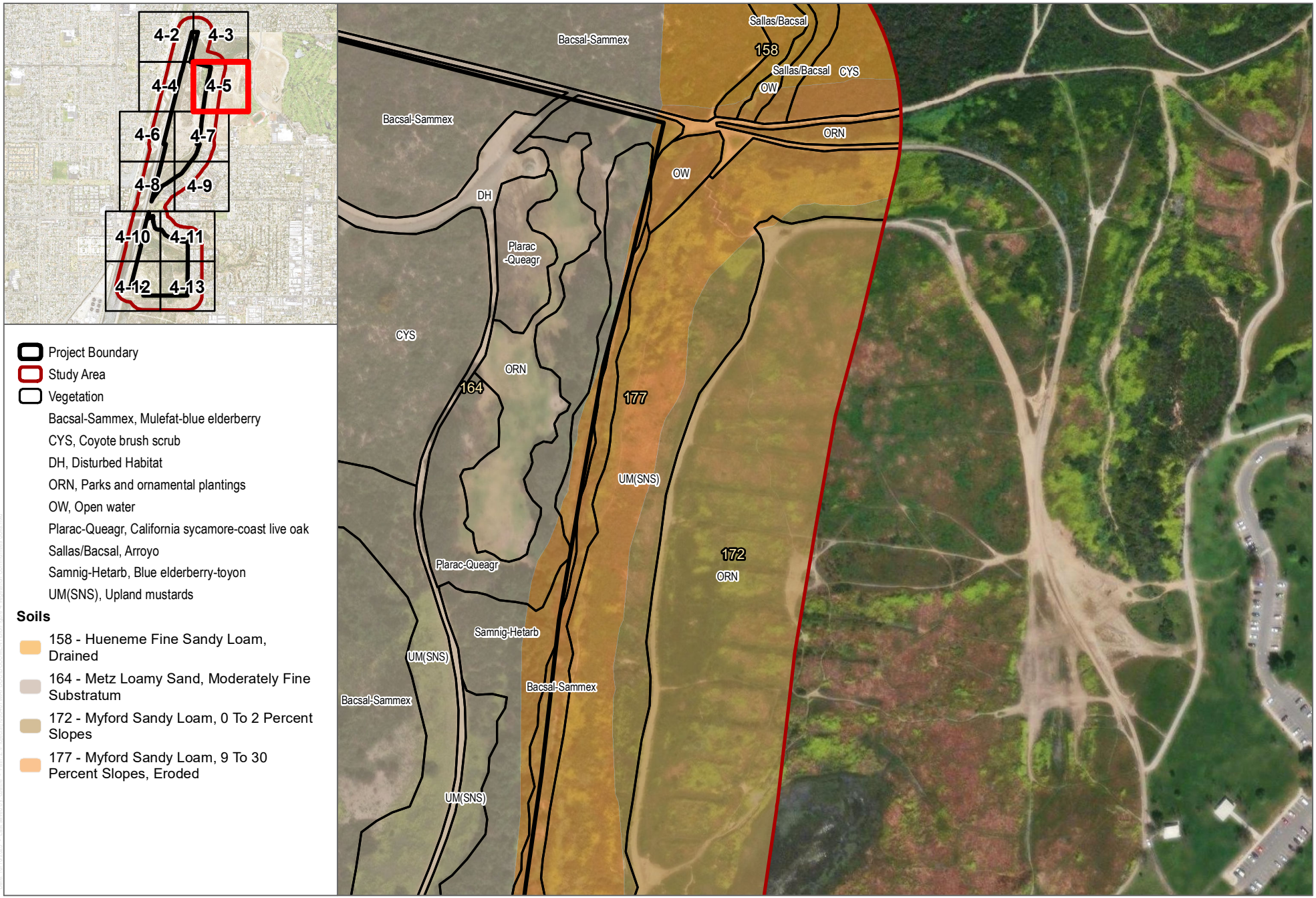

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FIGURE 4-4

Vegetation Communities and Land Covers

Talbert Regional Park

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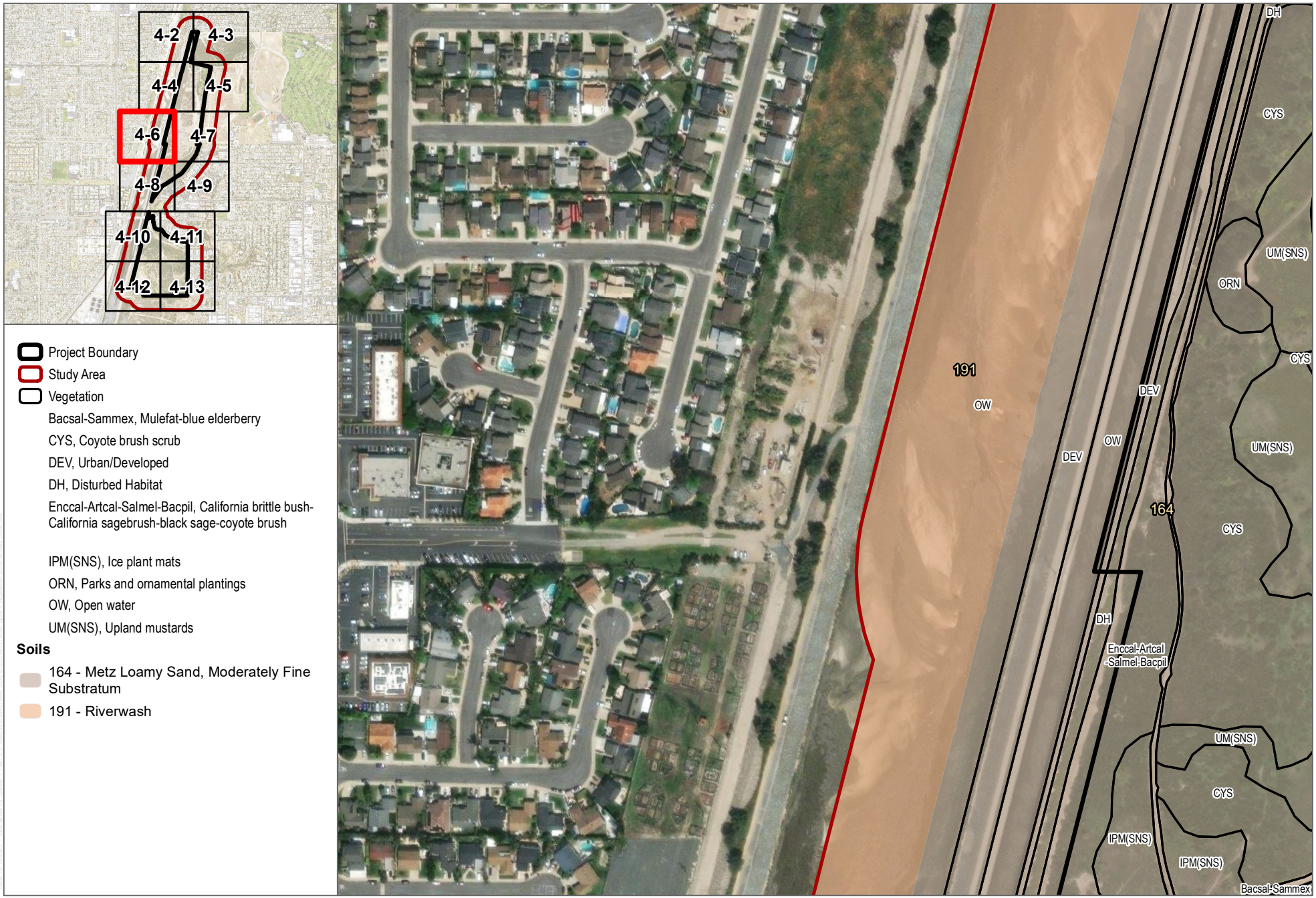

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FIGURE 4-5

Vegetation Communities and Land Covers

Talbert Regional Park

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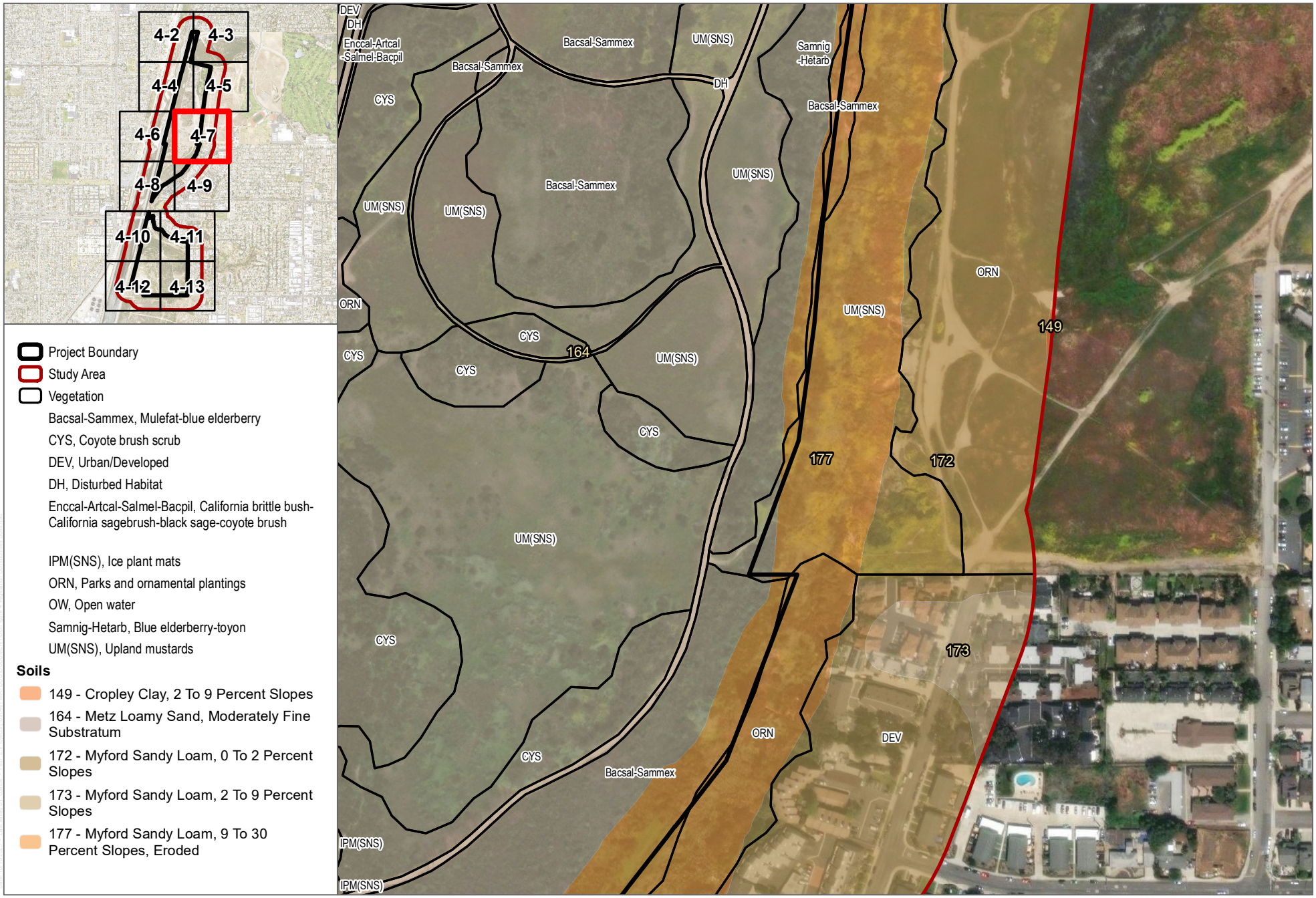

SOURCE: ESRI 2020

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FIGURE 4-6

Vegetation Communities and Land Covers

Talbert Regional Park

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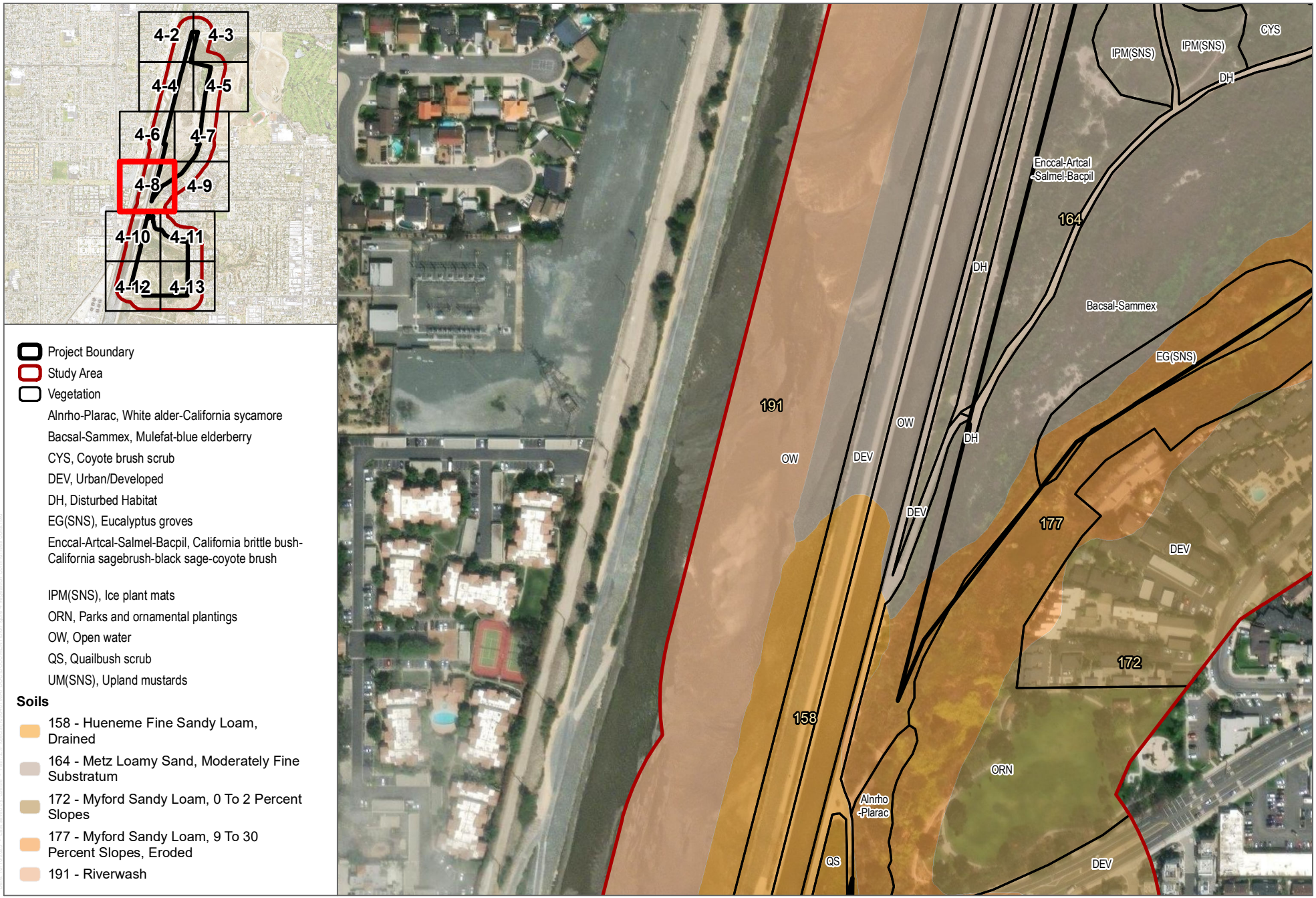

SOURCE: ESRI 2020

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FIGURE 4-7

Vegetation Communities and Land Covers

Talbert Regional Park

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SOURCE: ESRI 2020

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FIGURE 4-8

Vegetation Communities and Land Covers

Talbert Regional Park

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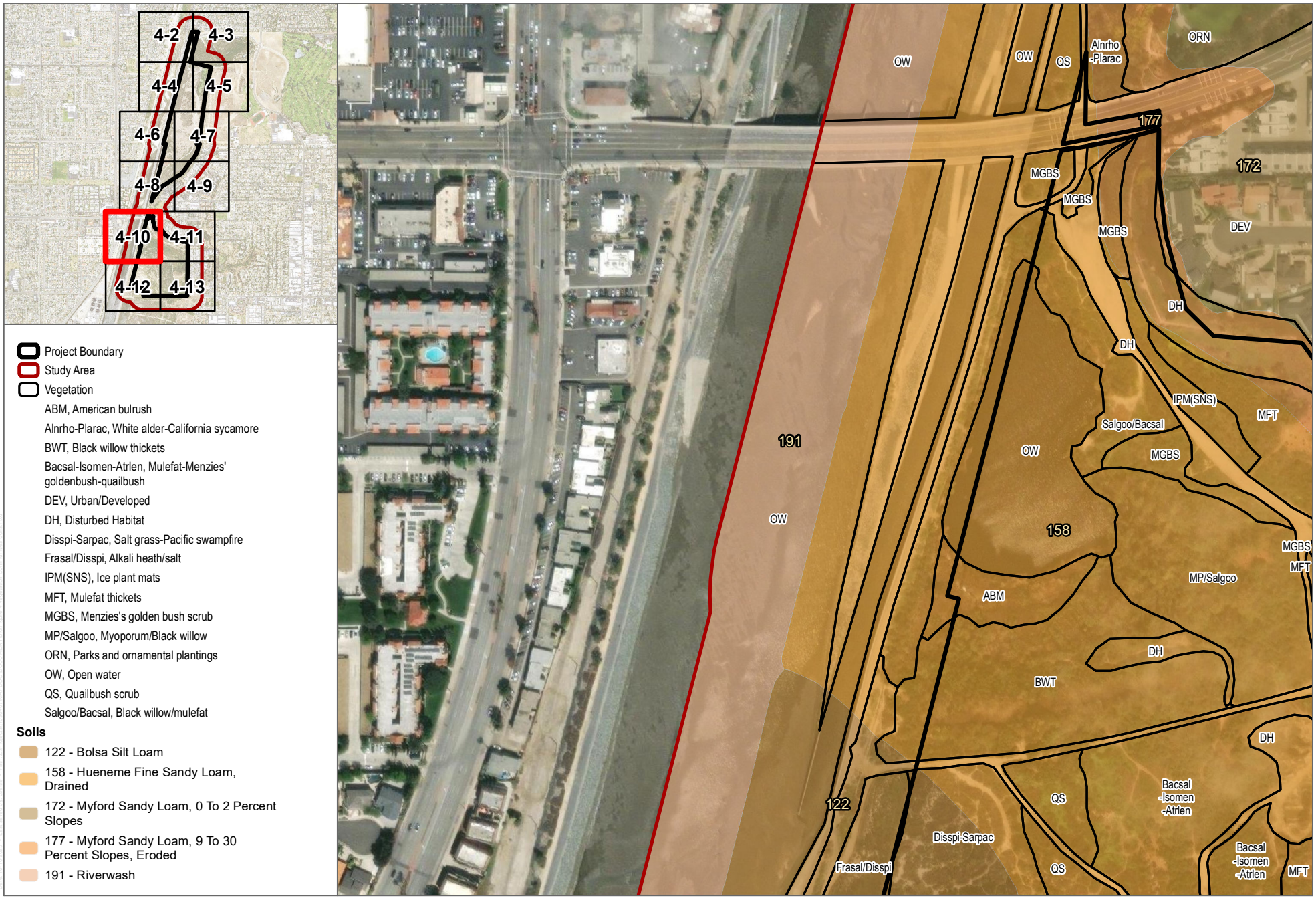

SOURCE: ESRI 2020

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FIGURE 4-9

Vegetation Communities and Land Covers

Talbert Regional Park

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SOURCE: ESRI 2020

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FIGURE 4-10

Vegetation Communities and Land Covers

Talbert Regional Park

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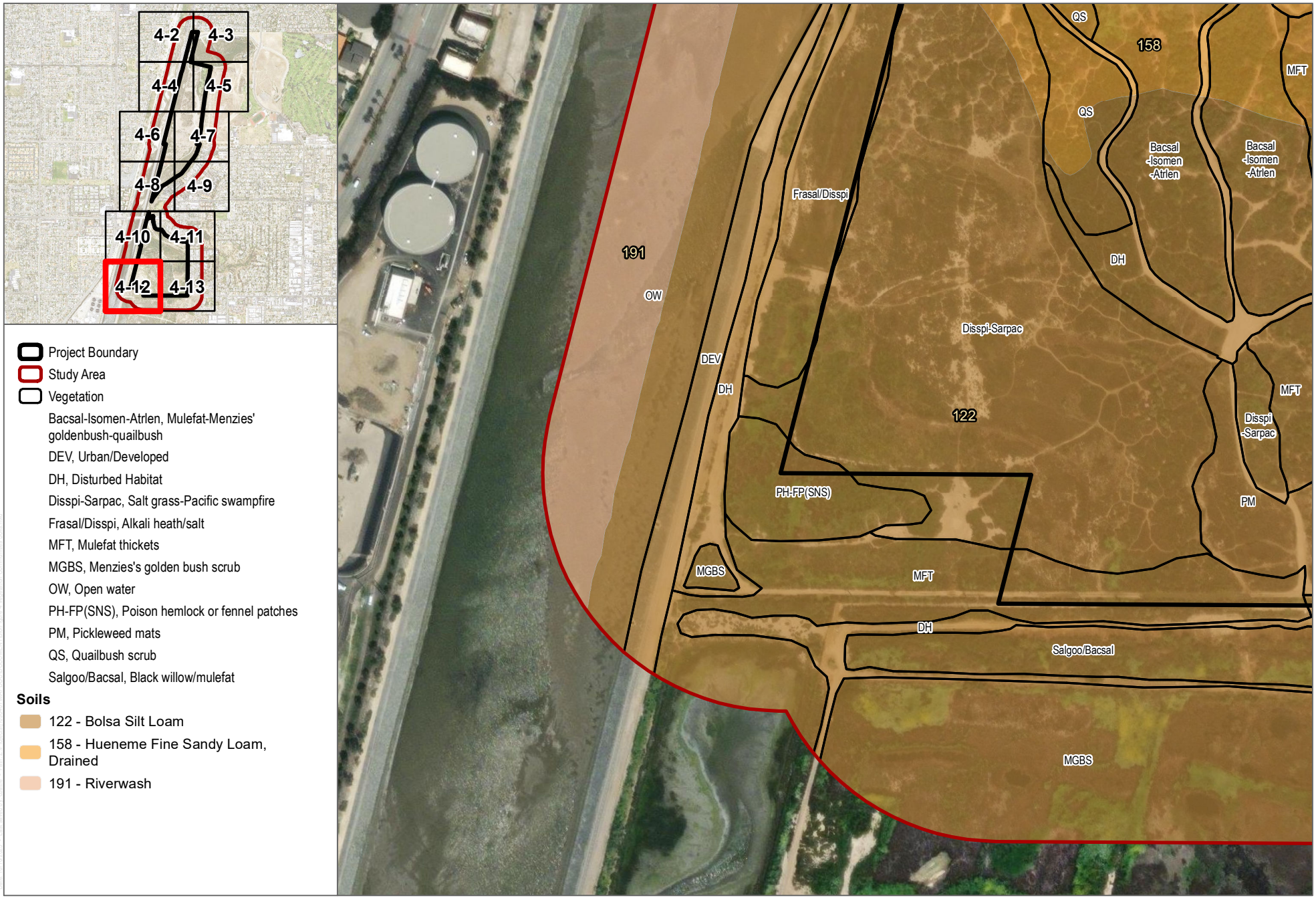

SOURCE: ESRI 2020

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FIGURE 4-11

Vegetation Communities and Land Covers

Talbert Regional Park

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SOURCE: ESRI 2020

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FIGURE 4-12

Vegetation Communities and Land Covers

Talbert Regional Park

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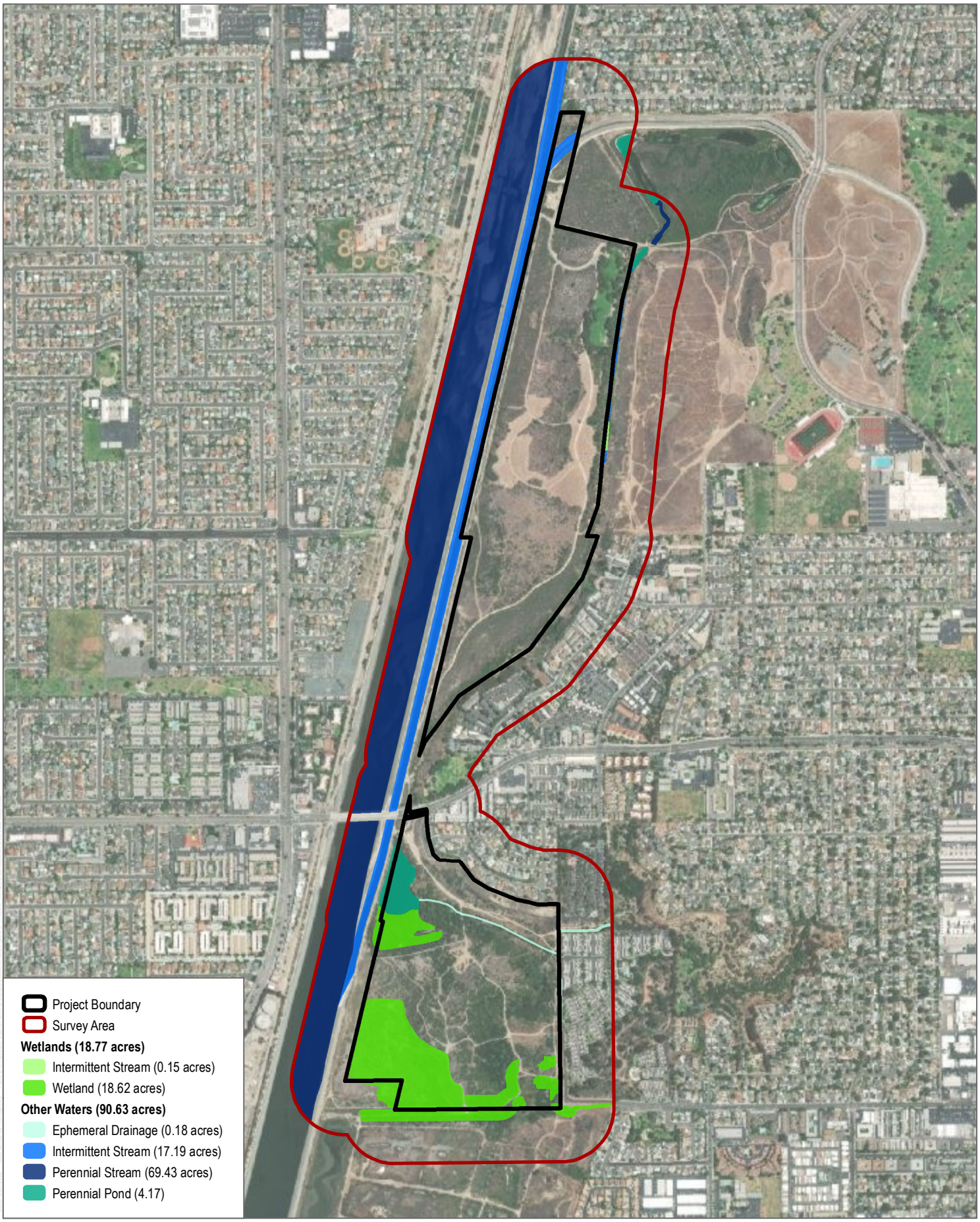

SOURCE: ESRI 2020

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FIGURE 5-1

ACOE/RWQCB Jurisdiction Overview

Talbert Regional Park

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SOURCE:

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FIGURE 5-2

ACOE/RWQCB Jurisdiction

Talbert Regional Park

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FIGURE 5-3

ACOE/RWQCB Jurisdiction

Talbert Regional Park

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SOURCE:

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FIGURE 5-4

ACOE/RWQCB Jurisdiction

Talbert Regional Park

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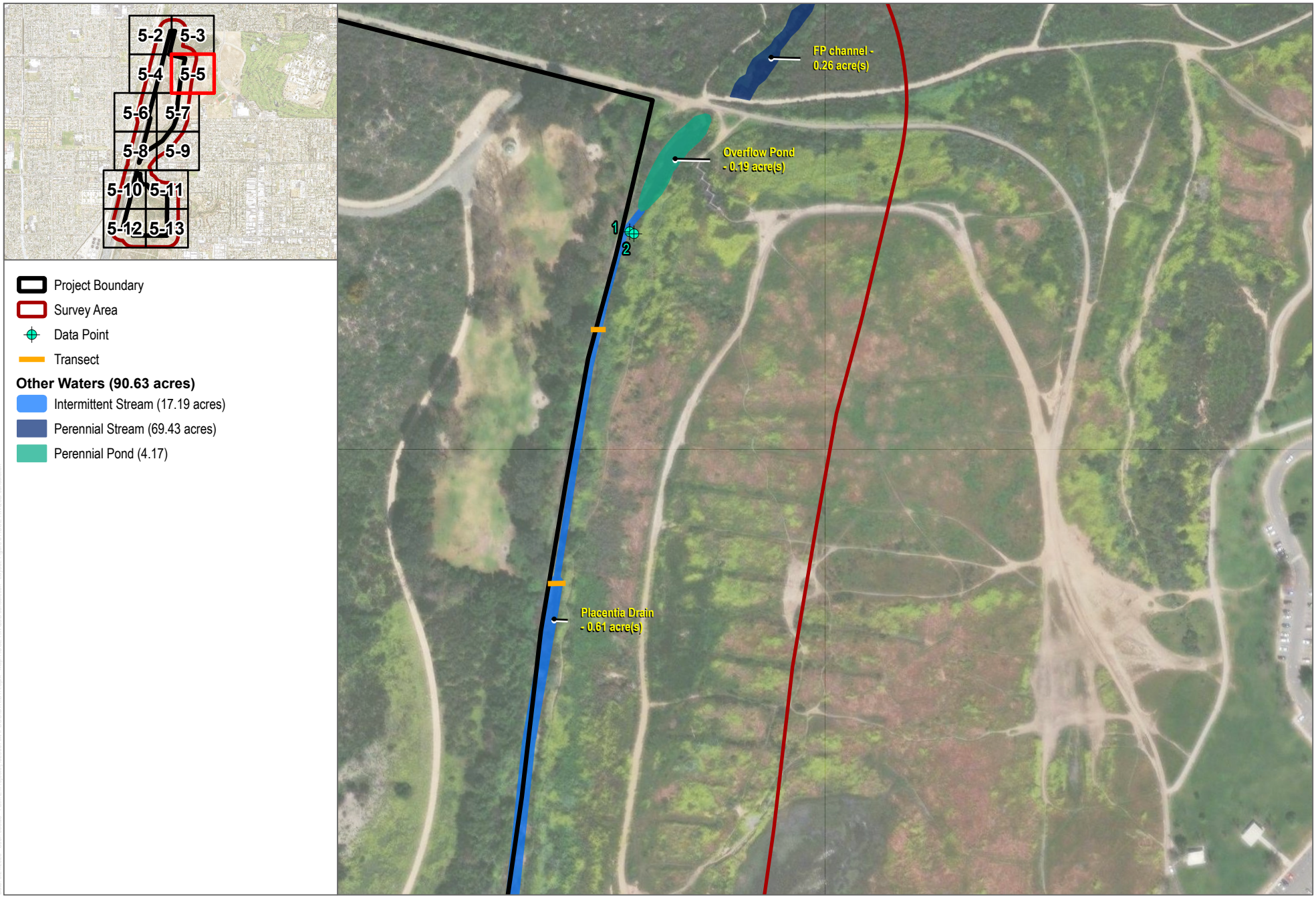

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FIGURE 5-5

ACOE/RWQCB Jurisdiction

Talbert Regional Park

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FIGURE 5-6

ACOE/RWQCB Jurisdiction

Talbert Regional Park

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SOURCE:

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FIGURE 5-7

ACOE/RWQCB Jurisdiction

Talbert Regional Park

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SOURCE:

DUDEK

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FIGURE 5-8

ACOE/RWQCB Jurisdiction

Talbert Regional Park

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SOURCE:

DUDEK

0 125 250 Feet

FIGURE 5-9

ACOE/RWQCB Jurisdiction

Talbert Regional Park

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SOURCE:

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FIGURE 5-10

ACOE/RWQCB Jurisdiction

Talbert Regional Park

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FIGURE 5-11

ACOE/RWQCB Jurisdiction

Talbert Regional Park

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FIGURE 5-12

ACOE/RWQCB Jurisdiction

Talbert Regional Park

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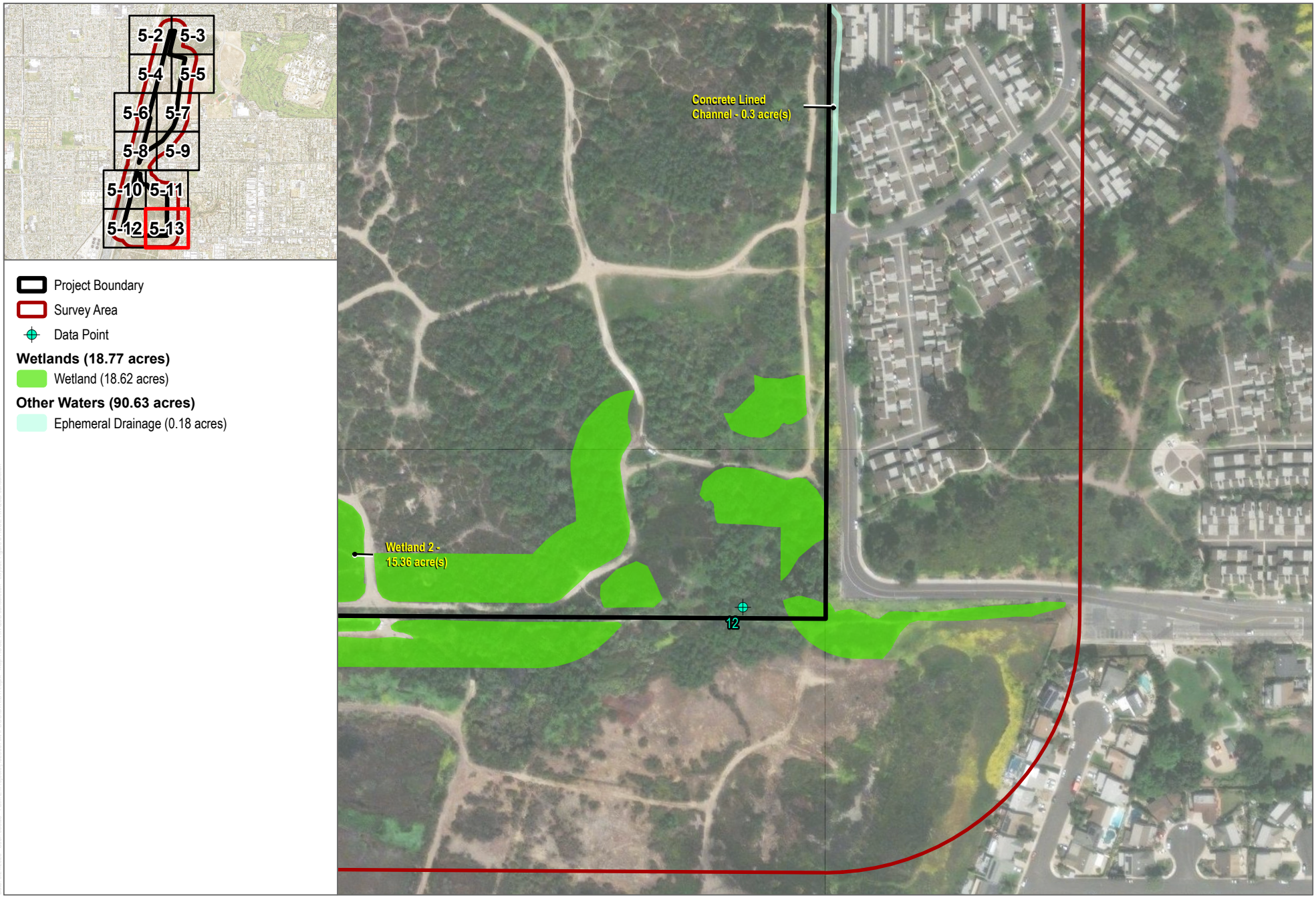

SOURCE:

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FIGURE 5-13

ACOE/RWQCB Jurisdiction

Talbert Regional Park

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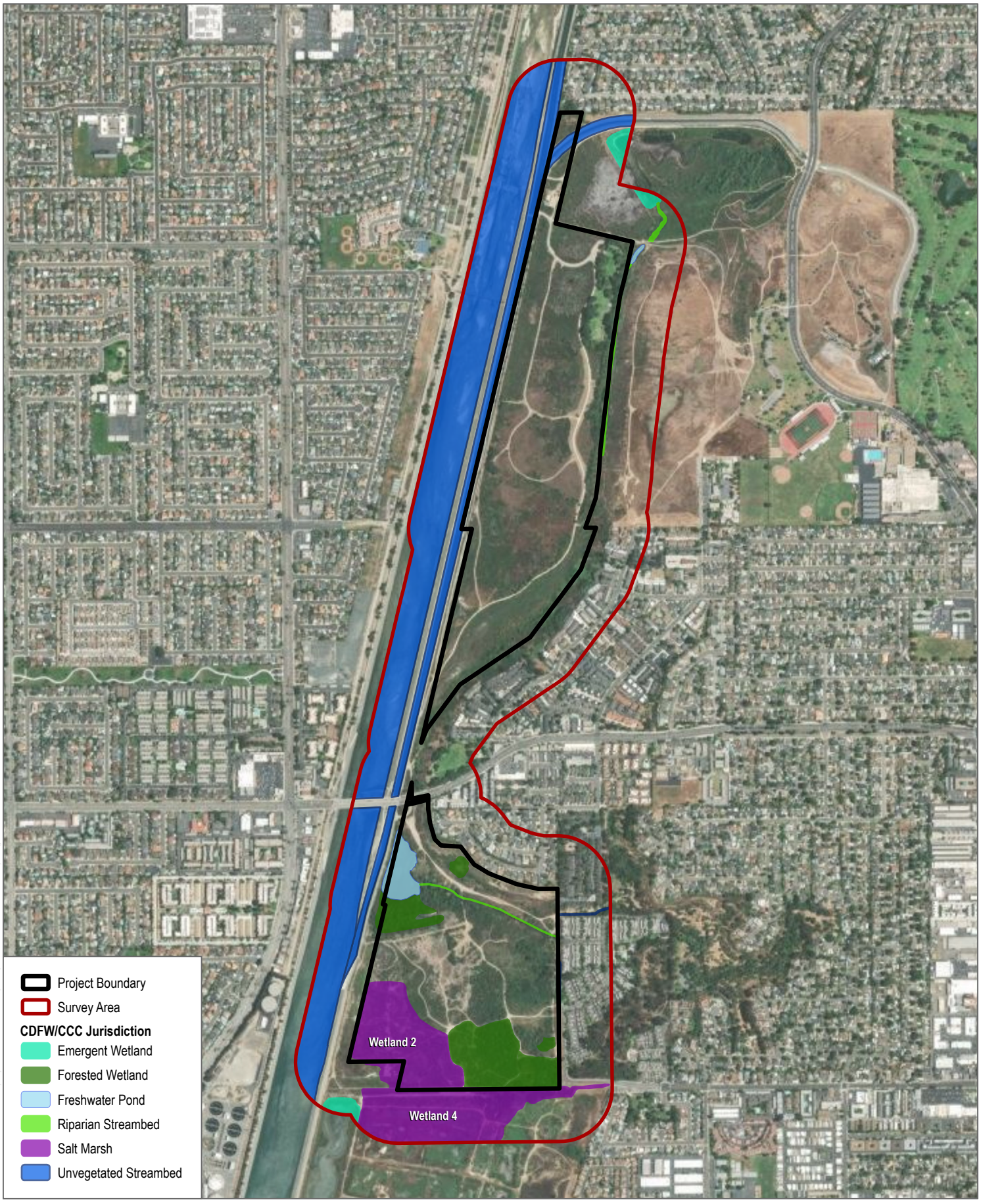

SOURCE:

DUDEK

0 500 1,000 Feet

FIGURE 6-1

CDFW/CCC Jurisdiction Overview

Talbert Regional Park

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SOURCE:

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0 125 250 Feet

FIGURE 6-2

CDFFW/CCC Jurisdiction

Talbert Regional Park

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SOURCE:

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FIGURE 6-3

CDFFW/CCC Jurisdiction

Talbert Regional Park

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FIGURE 6-4

CDFFW/CCC Jurisdiction

Talbert Regional Park

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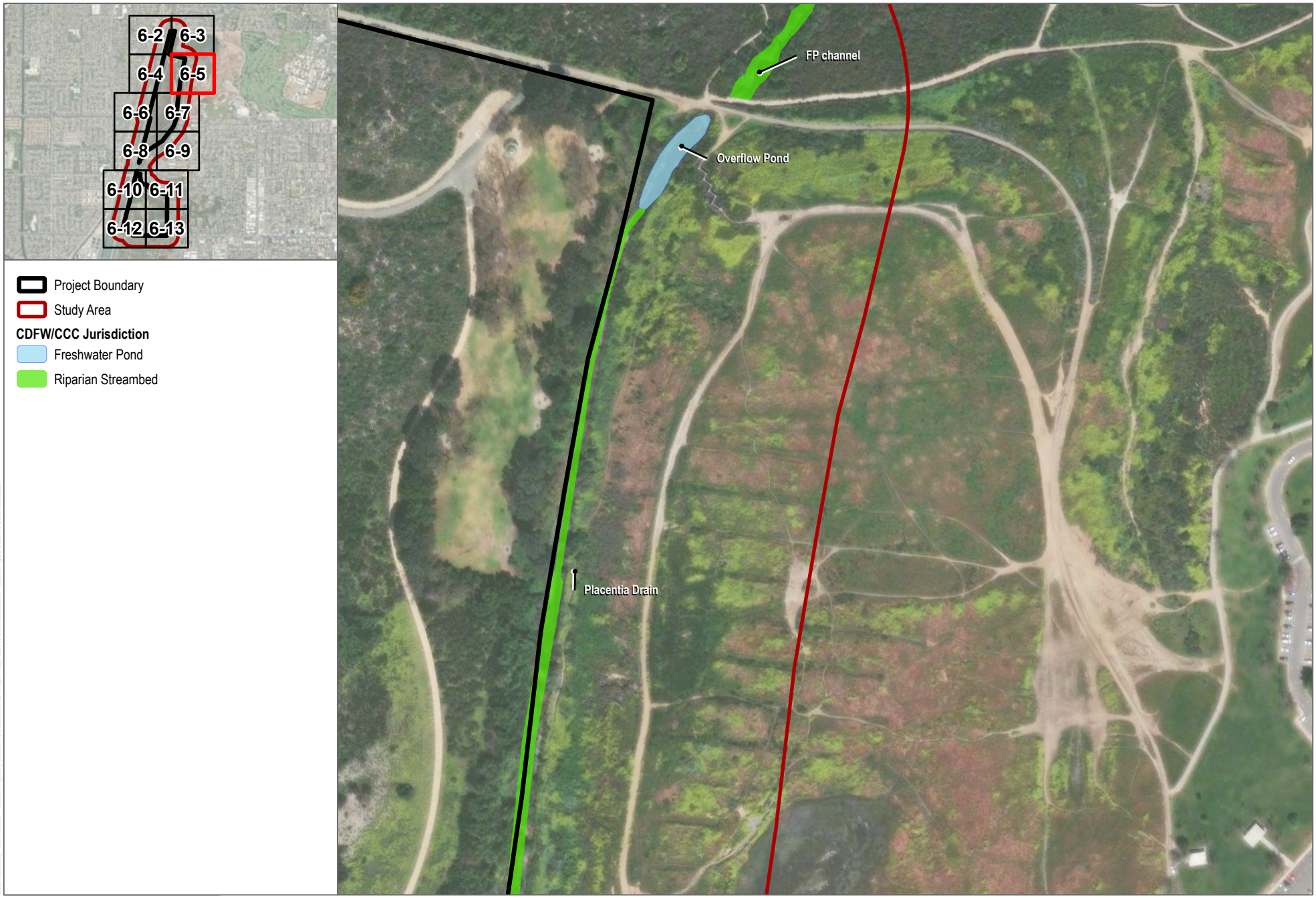

SOURCE:

DUDEK

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FIGURE 6-5

CDFFW/CCC Jurisdiction

Talbert Regional Park

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FIGURE 6-6

CDFFW/CCC Jurisdiction

Talbert Regional Park

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FIGURE 6-7

CDFFW/CCC Jurisdiction

Talbert Regional Park

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FIGURE 6-8

CDFFW/CCC Jurisdiction

Talbert Regional Park

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FIGURE 6-9

CDFFW/CCC Jurisdiction

Talbert Regional Park

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FIGURE 6-10

CDFFW/CCC Jurisdiction

Talbert Regional Park

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FIGURE 6-11

CDFFW/CCC Jurisdiction

Talbert Regional Park

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FIGURE 6-12

CDFFW/CCC Jurisdiction

Talbert Regional Park

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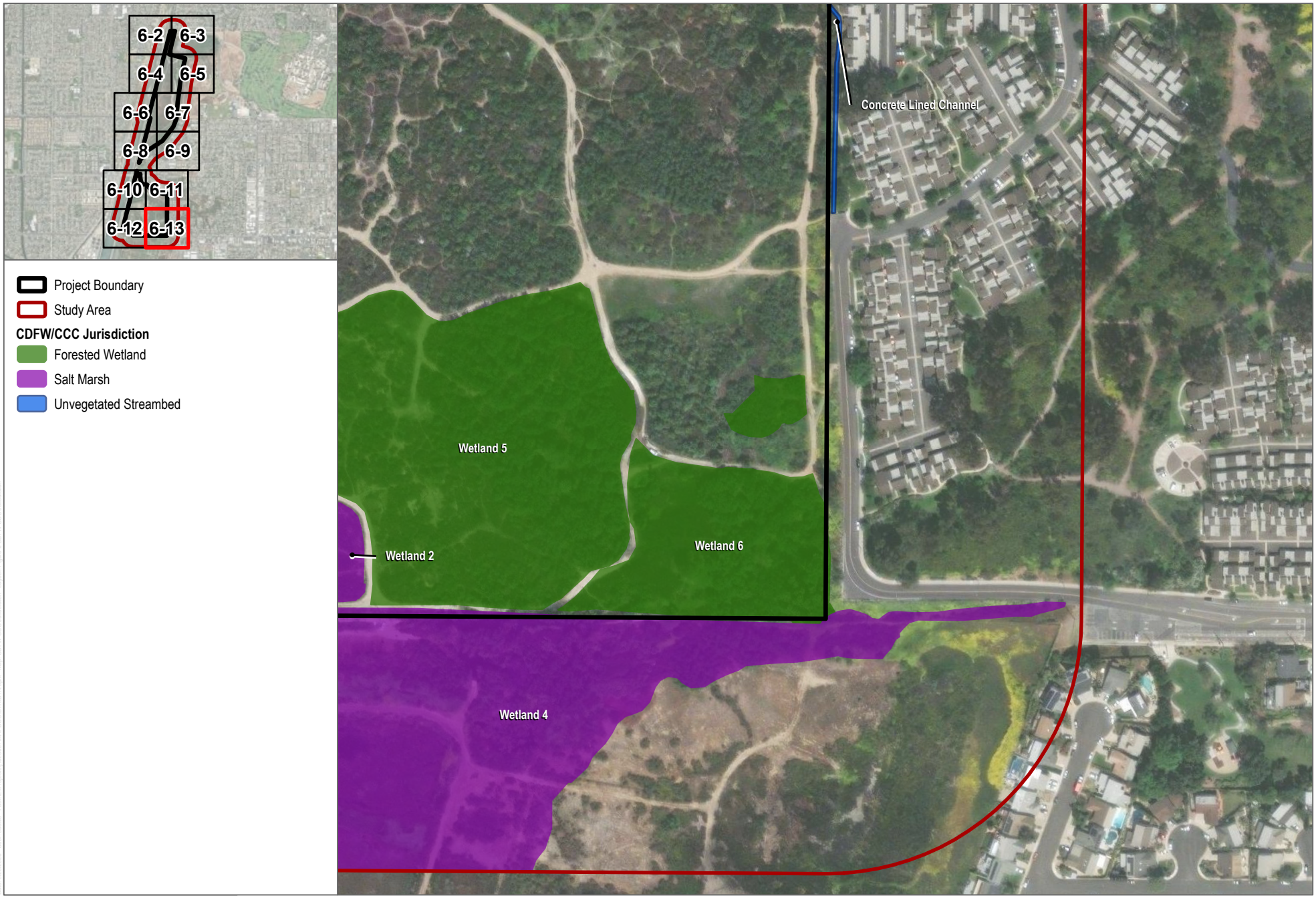

SOURCE:

DUDEK

0 125 250 Feet

FIGURE 6-13

CDFFW/CCC Jurisdiction

Talbert Regional Park

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SOURCE:

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FIGURE 7-1

Vegetation Communities and Land Covers - Impacts

Talbert Regional Park

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SOURCE:

DUDEK

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FIGURE 7-2

Vegetation Communities and Land Covers - Impacts

Talbert Regional Park

INTENTIONALLY LEFT BLANK



SOURCE:

DUDEK

0 120 240 Feet

FIGURE 7-3

Vegetation Communities and Land Covers - Impacts

Talbert Regional Park

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FIGURE 7-4

Vegetation Communities and Land Covers - Impacts

Talbert Regional Park

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DUDEK

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FIGURE 7-5

Vegetation Communities and Land Covers - Impacts

Talbert Regional Park

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FIGURE 7-6

Vegetation Communities and Land Covers - Impacts

Talbert Regional Park

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FIGURE 7-7

Vegetation Communities and Land Covers - Impacts

Talbert Regional Park

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DUDEK

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FIGURE 7-8

Vegetation Communities and Land Covers - Impacts

Talbert Regional Park

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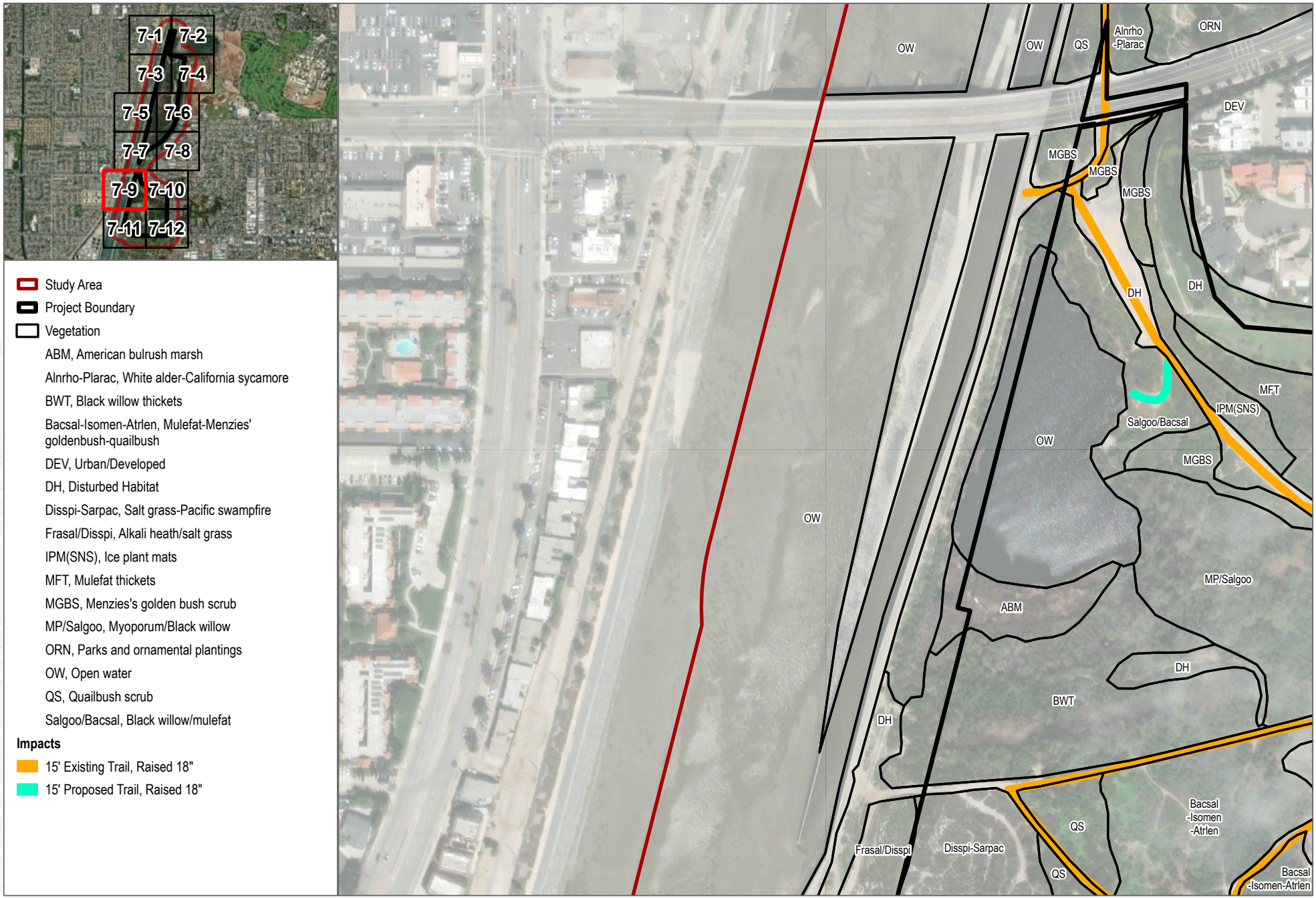

SOURCE:

DUDEK

0 120 240 Feet

FIGURE 7-9

Vegetation Communities and Land Covers - Impacts

Talbert Regional Park

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SOURCE:

DUDEK

0 120 240 Feet

FIGURE 7-10

Vegetation Communities and Land Covers - Impacts

Talbert Regional Park

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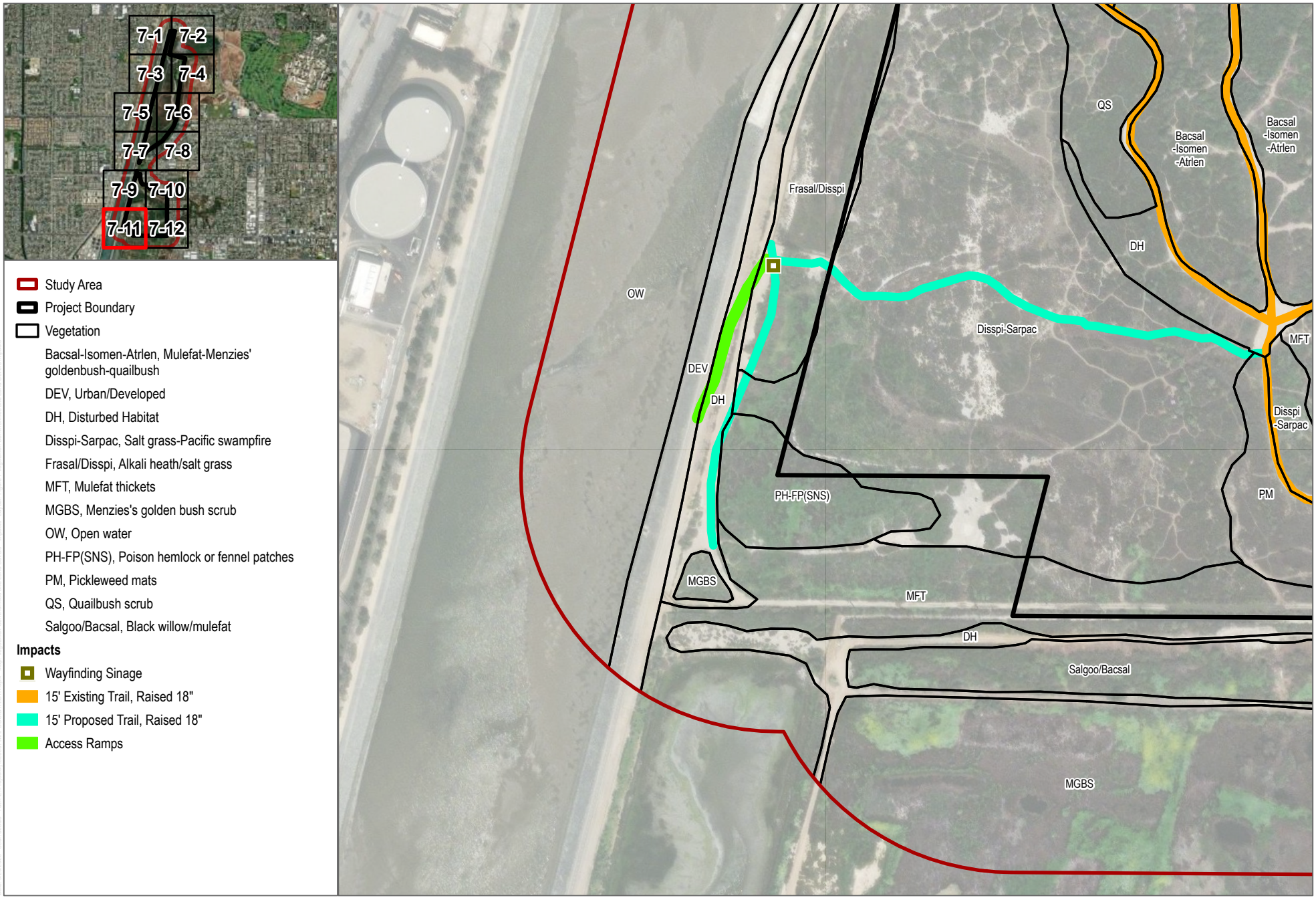

SOURCE:

DUDEK

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FIGURE 7-11

Vegetation Communities and Land Covers - Impacts

Talbert Regional Park

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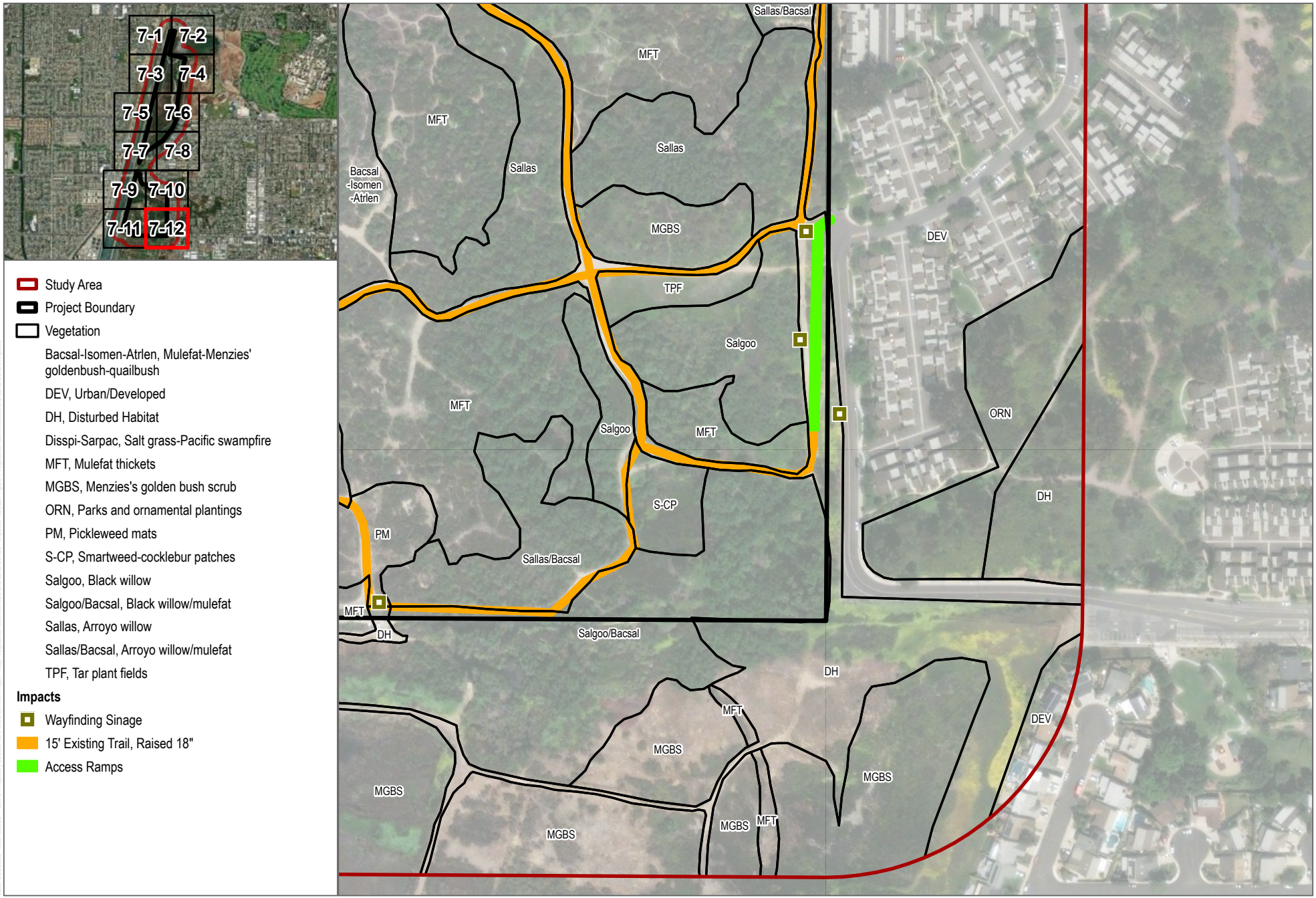

SOURCE:

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0 120 240 Feet

FIGURE 7-12

Vegetation Communities and Land Covers - Impacts

Talbert Regional Park

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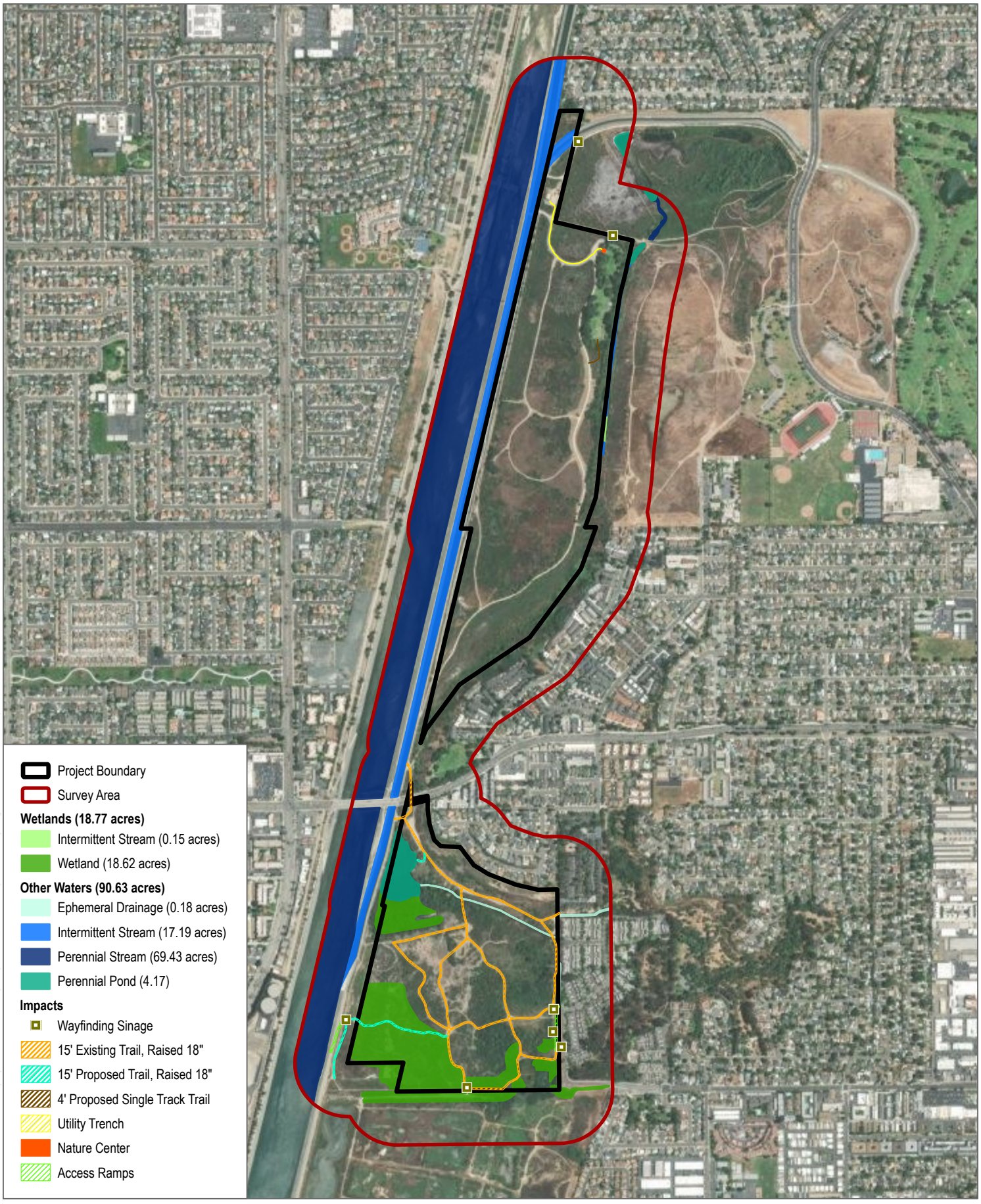

SOURCE:

FIGURE 8-1

ACOE/RWQCB Jurisdictional Impacts Overview

Talbert Regional Park

DUDEK

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SOURCE:

DUDEK

0 120 240 Feet

FIGURE 8-2

ACOE/RWQCB Jurisdictional Impacts

Talbert Regional Park

INTENTIONALLY LEFT BLANK



SOURCE:

DUDEK

0 120 240 Feet

FIGURE 8-3

ACOE/RWQCB Jurisdictional Impacts

Talbert Regional Park

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SOURCE:

DUDEK

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FIGURE 8-4

ACOE/RWQCB Jurisdictional Impacts

Talbert Regional Park

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SOURCE:

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FIGURE 8-5

ACOE/RWQCB Jurisdictional Impacts

Talbert Regional Park

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FIGURE 8-6

ACOE/RWQCB Jurisdictional Impacts

Talbert Regional Park

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SOURCE:

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FIGURE 8-7

ACOE/RWQCB Jurisdictional Impacts

Talbert Regional Park

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FIGURE 8-8

ACOE/RWQCB Jurisdictional Impacts

Talbert Regional Park

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FIGURE 8-9

ACOE/RWQCB Jurisdictional Impacts

Talbert Regional Park

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SOURCE:

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FIGURE 8-10

ACOE/RWQCB Jurisdictional Impacts

Talbert Regional Park

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FIGURE 8-11

ACOE/RWQCB Jurisdictional Impacts

Talbert Regional Park

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FIGURE 8-12

ACOE/RWQCB Jurisdictional Impacts

Talbert Regional Park

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FIGURE 8-13

ACOE/RWQCB Jurisdictional Impacts

Talbert Regional Park

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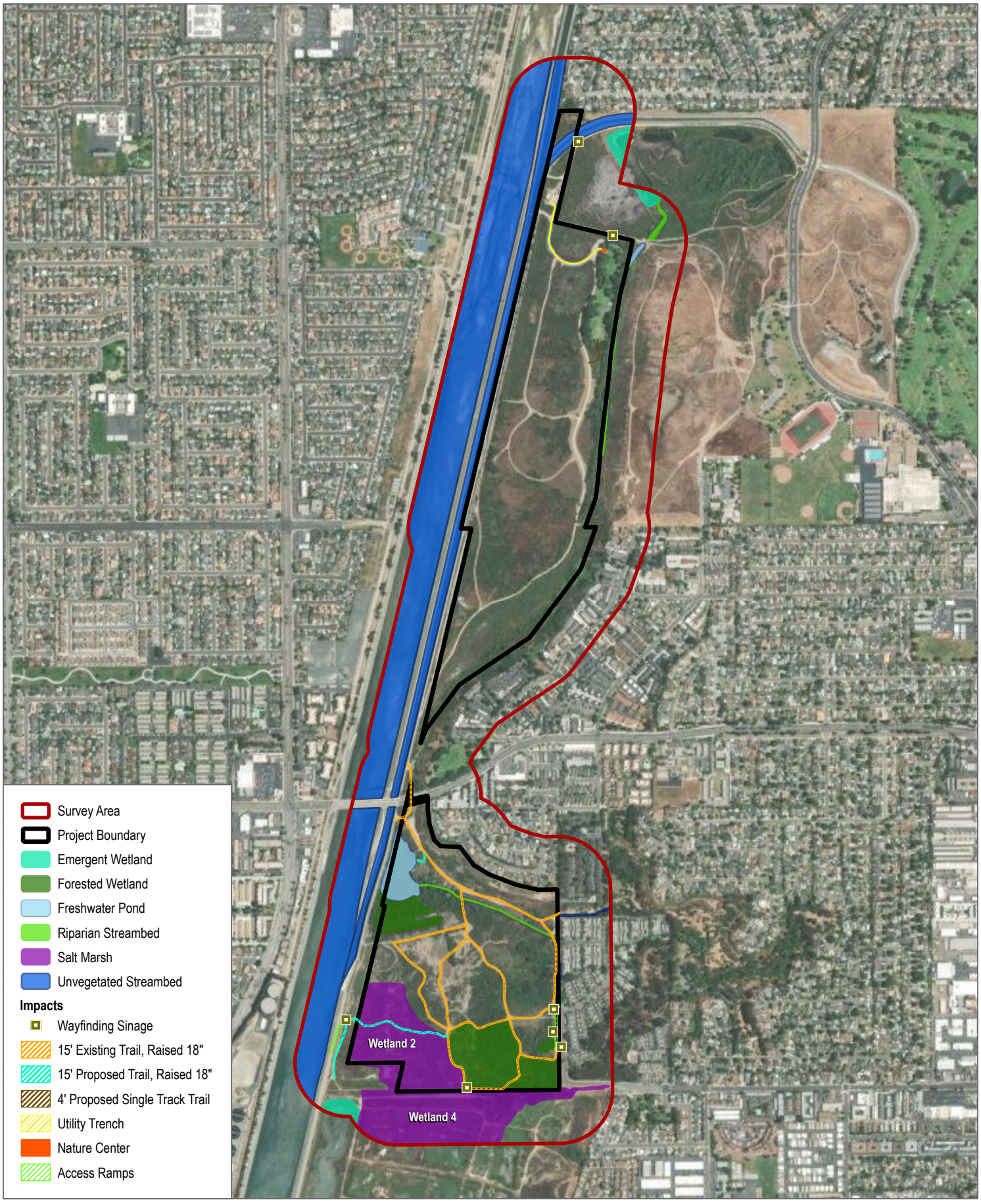

SOURCE:

DUDEK

0 700 1,400 Feet

FIGURE 9-1

CDFW/CCC Jurisdictional Impacts Overview

Talbert Regional Park

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SOURCE:

DUDEK

0 165 330 Feet

FIGURE 9-2

CDFW/CCC Jurisdictional Impacts

Talbert Regional Park

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SOURCE:

DUDEK

0 165 330 Feet

FIGURE 9-3

CDFW/CCC Jurisdictional Impacts

Talbert Regional Park

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SOURCE:

DUDEK

0 165 330 Feet

FIGURE 9-4

CDFW/CCC Jurisdictional Impacts

Talbert Regional Park

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DUDEK

0 165 330 Feet

FIGURE 9-5

CDFW/CCC Jurisdictional Impacts

Talbert Regional Park

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SOURCE:

DUDEK

0 165 330 Feet

FIGURE 9-6

CDFW/CCC Jurisdictional Impacts

Talbert Regional Park

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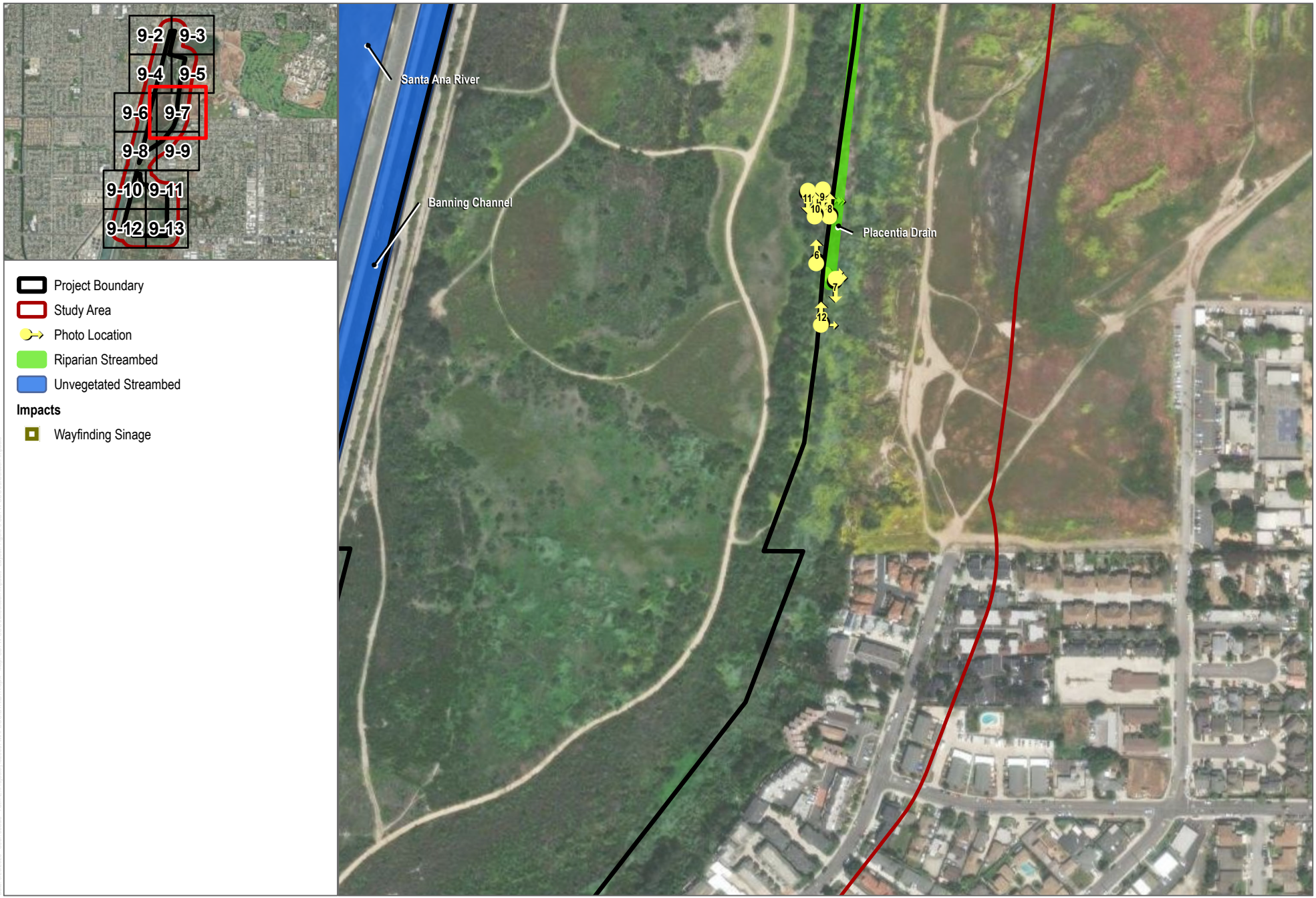

SOURCE:

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FIGURE 9-7

CDFW/CCC Jurisdictional Impacts

Talbert Regional Park

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SOURCE:

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FIGURE 9-8

CDFW/CCC Jurisdictional Impacts

Talbert Regional Park

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SOURCE:

DUDEK

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FIGURE 9-9

CDFW/CCC Jurisdictional Impacts

Talbert Regional Park

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DUDEK

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FIGURE 9-10

CDFW/CCC Jurisdictional Impacts

Talbert Regional Park

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SOURCE:

DUDEK

0 165 330 Feet

FIGURE 9-11

CDFW/CCC Jurisdictional Impacts

Talbert Regional Park

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FIGURE 9-12

CDFW/CCC Jurisdictional Impacts

Talbert Regional Park

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SOURCE:

DUDEK

0 165 330 Feet

FIGURE 9-13

CDFW/CCC Jurisdictional Impacts

Talbert Regional Park

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SOURCE:

DUDEK

0 500 1,000 Feet

FIGURE 10

Sensitive Biological Resources

Talbert Regional Park

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Appendix A
Species Compendium

Plant Species

Angiosperms (Dicots)

AIZOACEAE – FIG MARIGOLD FAMILY

* *Carpobrotus chilensis*—sea fig
* *Carpobrotus edulis*—hottentot fig
* *Mesembryanthemum crystallinum*—common iceplant
* *Mesembryanthemum nodiflorum*—slenderleaf iceplant

AMARANTHACEAE – AMARANTH FAMILY

* *Amaranthus albus*—prostrate pigweed

ANACARDIACEAE—SUMAC FAMILY

Malosma laurina—laurel sumac

Rhus integrifolia—lemonade berry

* *Schinus molle*—Peruvian peppertree
* *Schinus terebinthifolia*—Brazilian peppertree

APIACEAE – CARROT FAMILY

* *Anthriscus caucalis*—bur chervil
* *Apium graveolens*—wild celery
* *Conium maculatum*—poison hemlock
* *Foeniculum vulgare*—fennel

ARALIACEAE – GINSENG FAMILY

* *Hedera helix*—English ivy

ASTERACEAE—SUNFLOWER FAMILY

Ambrosia acanthicarpa—flatspine bur ragweed

Ambrosia chamissonis—silver bur ragweed

Ambrosia psilostachya—western ragweed

Artemisia californica—California sagebrush

Artemisia douglasiana—Douglas' sagewort

Artemisia dracunculus—wild tarragon

Baccharis pilularis ssp. consanguinea—coyotebrush

Baccharis salicifolia ssp. salicifolia—mulefat

* *Centaurea melitensis*—Maltese star-thistle

Centromadia parryi ssp. australis—southern tarplant

* *Cirsium vulgare*—bull thistle
* *Cotula coronopifolia*—brass buttons

Deinandra fasciculata—clustered tarweed
* *Dimorphotheca sinuata*—glandular Cape marigold
Encelia californica—California brittle bush
Encelia farinosa—brittle bush
* *Erigeron bonariensis*—asthmaweed
Erigeron canadensis—Canadian horseweed
Eriophyllum confertiflorum var. confertiflorum—golden-yarrow
* *Glebionis coronaria*—crowndaisy
Gnaphalium palustre—western marsh cudweed
Hazardia squarrosa—sawtooth golden bush
* *Helminthotheca echioides*—bristly oxtongue
Heterotheca grandiflora—telegraphweed
* *Hypochaeris glabra*—smooth cat's ear
Isocoma menziesii var. decumbens—decumbent goldenbush
Isocoma menziesii var. menziesii—Menzies' goldenbush
Iva hayesiana—San Diego marsh-elder
* *Lactuca serriola*—prickly lettuce
Laennecia coulteri—Coulter's horseweed
* *Logfia gallica*—narrowleaf cottonrose
* *Oncosiphon pilulifer*—stinknet
Pluchea sericea—arrow weed
Pseudognaphalium beneolens—Wright's cudweed
Pseudognaphalium californicum—ladies' tobacco
* *Pseudognaphalium luteoalbum*—Jersey cudweed
Pseudognaphalium stramineum—cottonbatting plant
Psilocarphus brevissimus—short woollyheads
* *Pulicaria paludosa*—Spanish false fleabane
* *Silybum marianum*—blessed milkthistle
* *Sonchus asper ssp. asper*—spiny sowthistle
* *Sonchus oleraceus*—common sowthistle
Stephanomeria exigua ssp. coronaria—whiteplume wirelettuce
Xanthium orientale—cocklebur

BORAGINACEAE—BORAGE FAMILY

* *Echium candicans*—pride of Madeira
Heliotropium curassavicum var. oculatum—seaside heliotrope

BRASSICACEAE—MUSTARD FAMILY

* *Brassica nigra*—black mustard
Descurainia pinnata—western tansymustard
* *Hirschfeldia incana*—shortpod mustard

* *Lepidium didymum*—lesser swinecress
* *Lepidium latifolium*—perennial pepper weed
  Lepidium nitidum—shining pepperweed
* *Lobularia maritima*—sweet alyssum
* *Raphanus sativus*—cultivated radish
* *Sisymbrium irio*—London rocket

CACTACEAE – CACTUS FAMILY

Opuntia littoralis—coast prickly pear

CAPRIFOLIACEAE – HONEYSUCKLE FAMILY

* *Lonicera japonica*—Japanese honeysuckle

CARYOPHYLLACEAE—PINK FAMILY

* *Polycarpon tetraphyllum ssp. tetraphyllum*—fourleaf manyseed
* *Spergularia bocconi*—Boccone's sandspurry
  Spergularia marina—saltmarsh sand-spurrey

CHENOPODIACEAE—GOOSEFOOT FAMILY

Atriplex lentiformis—quailbush
* *Atriplex prostrata*—fat hen
* *Atriplex semibaccata*—Australian saltbush
* *Bassia hyssopifolia*—fivehorn smotherweed
* *Chenopodium album*—lambsquarters
* *Chenopodium murale*—nettleleaf goosefoot
* *Dysphania ambrosioides*—Mexican tea
  Salicornia pacifica—Pacific swampfire
* *Salsola tragus*—prickly Russian thistle

CLEOMACEAE—CLEOME FAMILY

Cleomella arborea—bladderpod

CONVOLVULACEAE—MORNING-GLORY FAMILY

Cressa truxillensis—alkali weed

CRASSULACEAE—STONECROP FAMILY

Crassula connata—sand pygmyweed
* *Crassula ovata*—jade plant

ELATINACEAE—WATERWORT FAMILY

Elatine brachysperma—shortseed waterwort

EUPHORBIACEAE—SPURGE FAMILY

Croton californicus—California croton
* *Euphorbia maculata*—spotted sandmat
* *Euphorbia peplus*—petty spurge
* *Ricinus communis*—castorbean

FABACEAE—LEGUME FAMILY

* *Acacia cyclops*—coastal wattle
Acmispon glaber—deerweed
Lupinus albifrons—silver bush lupine
* *Medicago polymorpha*—burclover
* *Melilotus indicus*—annual yellow sweetclover

FRANKENIACEAE—FRANKENIA FAMILY

Frankenia salina—alkali heath

GERANIACEAE—GERANIUM FAMILY

* *Erodium cicutarium*—redstem stork's bill
* *Erodium moschatum*—musky stork's bill
* *Geranium dissectum*—cutleaf geranium

HYDROPHYLLACEAE—WATERLEAF FAMILY

Phacelia distans—distant phacelia
Phacelia tanacetifolia—lacy phacelia

JUGLANDACEAE—WALNUT FAMILY

Juglans californica—Southern California black walnut

LAMIACEAE—MINT FAMILY

* *Marrubium vulgare*—horehound
Salvia leucophylla—purple sage
Salvia mellifera—black sage

LYTHRACEAE—LOOSESTRIFE FAMILY

* *Lythrum hyssopifolia*—hyssop loosestrife

MALVACEAE—MALLOW FAMILY

Malvella leprosa—alkali mallow

MYRSINACEAE—MYRSINE FAMILY

* *Lysimachia arvensis*—scarlet pimpernel

MYRTACEAE—MYRTLE FAMILY

* *Eucalyptus camaldulensis*—river redgum

NAMACEAE—NAMA FAMILY

Nama stenocarpa—mud nama

OLEACEAE—OLIVE FAMILY

* *Fraxinus uhdei*—evergreen ash
* *Olea europaea*—olive

ONAGRACEAE—EVENING PRIMROSE FAMILY

Camissoniopsis cheiranthifolia—beach suncup
Camissoniopsis lewisii—Lewis' evening-primrose
Camissoniopsis micrantha—miniature suncup
Epilobium ciliatum—fringed willowherb
Oenothera elata ssp. hirsutissima—Hooker's evening primrose

OXALIDACEAE—OXALIS FAMILY

* *Oxalis pes-caprae*—Bermuda buttercup

PAPAVERACEAE—POPPY FAMILY

Eschscholzia californica—California poppy
Romneya coulteri—Coulter's matilija poppy

PHRYMACEAE—LOPSEED FAMILY

Diplacus longiflorus—southern bush monkeyflower

PLANTAGINACEAE—PLANTAIN FAMILY

* *Plantago lanceolata*—narrowleaf plantain

Veronica peregrina ssp. xalapensis—hairy purslane speedwell

PLATANACEAE—PLANE TREE, SYCAMORE FAMILY

* *Platanus hispanica*—London planetree

Platanus racemosa—California sycamore

PLUMBAGINACEAE—LEADWORT FAMILY

* *Limonium perezii*—Perez's sea lavender

POLYGONACEAE—BUCKWHEAT FAMILY

* *Emex spinosa*—spiny threecornerjack

Eriogonum fasciculatum—California buckwheat
Eriogonum giganteum—Saint Catherine's lace

Eriogonum parvifolium—seacliff buckwheat
Persicaria lapathifolia—smartweed
* *Rumex conglomeratus*—clustered dock
* *Rumex crispus*—curly dock

RANUNCULACEAE—BUTTERCUP FAMILY

* *Ranunculus muricatus*—spinyfruit buttercup

ROSACEAE—ROSE FAMILY

Heteromeles arbutifolia—toyon
Prunus ilicifolia—holly leaf cherry
Rosa californica—California rose

SALICACEAE—WILLOW FAMILY

Populus fremontii ssp. fremontii—Fremont cottonwood
Salix exigua—sandbar willow
Salix gooddingii—Goodding's willow
Salix lasiolepis—arroyo willow

SAURURACEAE—LIZARD'S-TAIL FAMILY

Anemopsis californica—yerba mansa

SCROPHULARIACEAE—FIGWORT FAMILY

* *Myoporum laetum*—myoporum

SIMAROUBACEAE—QUASSIA OR SIMAROUBA FAMILY

* *Ailanthus altissima*—tree of heaven

SOLANACEAE—NIGHTSHADE FAMILY

* *Datura stramonium*—jimsonweed*
Datura wrightii—sacred thorn-apple
* *Nicotiana glauca*—tree tobacco
Petunia parviflora—seaside petunia
Solanum douglasii—greenspot nightshade

TAMARICACEAE—TAMARISK FAMILY

* *Tamarix ramosissima*—tamarisk

TROPAEOLACEAE—NASTURTIUM FAMILY

* *Tropaeolum majus*—nasturtium

URTICACEAE—NETTLE FAMILY

Hesperocnide tenella—western stingingnettle

Parietaria hespera—rillita pellitory
Urtica dioica ssp. holosericea—stinging nettle

VERBENACEAE—VERVAIN FAMILY

Phyla nodiflora—turkey tangle fogfruit

VIBURNACEAE—MUSKROOT FAMILY

Sambucus mexicana—blue elderberry

Ferns and Fern Allies

MARSILEACEAE—MARSILEA FAMILY

Marsilea vestita ssp. vestita—hairy waterclover

Gymnosperms (Monocots)

PINACEAE – PINE FAMILY

* *Pinus halapensis* – Aleppo pine

AGAVACEAE—AGAVE FAMILY

* *Agave americana*—American century plant

ARECACEAE—PALM FAMILY

* *Phoenix canariensis*—Canary Island date palm
* *Washingtonia robusta*—Washington fan palm

CYPERACEAE—SEDGE FAMILY

Cyperus eragrostis—tall flatsedge
Eleocharis macrostachya—pale spike rush
Eleocharis parishii—Parish's spikerush
Schoenoplectus californicus—California bulrush

JUNCACEAE—RUSH FAMILY

Juncus acutus ssp. leopoldii—southwestern spiny rush
Juncus bufonius—toad rush
Juncus mexicanus—Mexican rush
Juncus xiphioides—irisleaf rush

POACEAE—GRASS FAMILY

* *Arundo donax*—giant reed
* *Avena barbata*—slender oat
* *Brachypodium distachyon*—purple false brome

* *Bromus catharticus var. catharticus*—rescuegrass
* *Bromus diandrus*—ripgut brome
* *Bromus hordeaceus*—soft brome
* *Bromus rubens*—red brome
* *Cortaderia selloana*—Uruguayan pampas grass
* *Cynodon dactylon*—Bermudagrass
  Distichlis spicata—salt grass
* *Ehrharta erecta*—panic veldtgrass
  Elymus condensatus—giant wild rye
* *Festuca myuros*—rat-tail fescue
* *Festuca perennis*—perennial rye grass
* *Hordeum murinum ssp. glaucum*—smooth barley
* *Paspalum dilatatum*—dallisgrass
* *Polypogon interruptus*—ditch rabbitsfoot grass
* *Polypogon monspeliensis*—annual rabbitsfoot grass
* *Schismus barbatus*—common Mediterranean grass
  Sporobolus airoides—alkali sacaton
* *Stipa miliacea var. miliacea*—smilograss

TYPHACEAE—CATTAIL FAMILY

Typha domingensis—southern cattail

* signifies introduced or non-native species

Wildlife Species

Vertebrates

Amphibians

RANIDAE – TONGUELESS FROGS

* *Lithobates catesbeianus* – American bullfrog

Birds

ACCIPITRIDAE—HAWKS, KITES, EAGLES, & ALLIES

Accipiter cooperii—Cooper's hawk

Buteo jamaicensis—red-tailed hawk

Buteo lineatus—red-shouldered hawk

Elanus leucurus—white-tailed kite

AEGITHALIDAE—LONG-TAILED TITS & BUSHTITS

Psaltriparus minimus—bushtit

ALCEDINIDAE – KINGFISHERS

Megaceryle alcyon – belted kingfisher

ANATIDAE—DUCKS, GEESE, & SWANS

Anas platyrhynchos—mallard

Branta canadensis—Canada goose

APODIDAE—SWIFTS

Aeronautes saxatalis—white-throated swift

ARDEIDAE—HERONS, BITTERNS, & ALLIES

Ardea alba—great egret

Ardea herodias—great blue heron

Butorides virescens—green heron

Egretta thula—snowy egret

Nycticorax nycticorax – black-crowned night heron

CARDINALIDAE—CARDINALS & ALLIES

Passerina amoena—lazuli bunting

Pheucticus melanocephalus – black-headed grosbeak

Piranga ludoviciana – western tanager

CATHARTIDAE—NEW WORLD VULTURES

Cathartes aura—turkey vulture

COLUMBIDAE—PIGEONS & DOVES

Zenaida macroura—mourning dove

* *Columbia livia* – rock pigeon, rock dove

CORVIDAE—CROWS & JAYS

Aphelocoma californica - California scrub jay

Corvus brachyrhynchos—American crow

Corvus corax—common raven

ESTRILIDAE – WAXBILLS

* *Lonchura punctulata* – scaly-breasted munia

FALCONIDAE – CARACARAS AND FALCONS

Falco mexicanus – prairie falcon

Falco sparverius – American kestrel

FRINGILLIDAE—FRINGILLINE & CARDUELINE FINCHES & ALLIES

Haemorhous mexicanus—house finch

Spinus psaltria—lesser goldfinch

Spinus tristis—American goldfinch

HIRUNDINIDAE—SWALLOWS

Hirundo rustica—barn swallow

Petrochelidon pyrrhonota—cliff swallow

Stelgidopteryx serripennis—northern rough-winged swallow

Tachycineta bicolor—tree swallow

Tachycinta thalassina – violet-green swallow

ICTERIDAE—BLACKBIRDS

Agelaius phoeniceus—red-winged blackbird

Icterus bullockii—Bullock's oriole

Icterus cucullatus – hooded oriole

* *Molothrus ater* – brown-headed cowbird

Quiscalus mexicanus—great-tailed grackle

ICTERIIDAE—YELLOW-BREASTED CHAT

Icteria virens—yellow-breasted chat

LARIDAE—GULLS, TERNS, & SKIMMERS

Hydroprogne caspia—Caspian tern
Larus californicus – California gull
Larus occidentalis—western gull
Sterna forsteri—Forster's tern

MIMIDAE—MOCKINGBIRDS & THRASHERS

Mimus polyglottos—northern mockingbird
Toxostoma redivivum—California thrasher

PANDIONIDAE—OSPREYS

Pandion haliaetus—osprey

PARULIDAE—WOOD-WARBLERS

Cardellina pusilla—Wilson's warbler
Geothlypis trichas—common yellowthroat
Setophaga petechia—yellow warbler
Leiothlypis celata—orange-crowned warbler

PASSERELLIDAE—NEW WORLD SPARROWS

Junco hyemalis – dark-eyed junco
Melospiza melodia—song sparrow
Melozone crissalis—California towhee
Pipilo maculatus—spotted towhee
Zonotrichia leucophrys – white-crowned sparrow

PHALACROCORACIDAE—CORMORANTS

Nannopterum auritum—double-crested cormorant

PICIDAE—WOODPECKERS & ALLIES

Colaptes auratus – northern flicker
Dryobates nuttallii—Nuttall's woodpecker
Dryobates pubescens—downy woodpecker

POLIOPTILIDAE—GNATCATCHERS

Polioptila caerulea – blue grey gnatcatcher
Polioptila californica californica—coastal California gnatcatcher

PTILOGONATIDAE – SILKY FLYCATCHERS

Phainopepla nitens – phainopepla

RALLIDAE – RAILS, GALLINULES & COOTS

Fulica americana – American coot

STRIGIDAE – TRUE OWLS

Athene cunicularia – burrowing owl

STURNIDAE—STARLINGS

* *Sturnus vulgaris*—European starling

SYLVIIDAE – SYLVIID WARBLERS

Chamaea fasciata – wrentit

THRESKIORNITHIDAE—IBISES & SPOONBILLS

Plegadis chihi—white-faced ibis

TROCHILIDAE—HUMMINGBIRDS

Archilochus alexandri – black-chinned hummingbird
Calypte anna — Anna's hummingbird
Calypte costae – Costa's hummingbird
Selasphorus rufus—rufous hummingbird
Selasphorus sasin—Allen's hummingbird

TROGLODYTIDAE—WRENS

Vistothorus palustris – marsh wren
Thryomanes bewickii—Bewick's wren
Troglodytes aedon—northern house wren

TURNIDAE – THRUSHES

Sialia mexicana – western bluebird

TYRANNIDAE—TYRANT FLYCATCHERS

Contopus sordidulus – western wood peewee
Empidonax difficilis – pacific slope flycatcher
Myiarchus cinerascens—ash-throated flycatcher
Sayornis nigricans—black phoebe
Sayornis saya—Say's phoebe
Tyrannus verticalis—western kingbird
Tyrannus vociferans—Cassin's kingbird
Empidonax difficilis—western flycatcher

VIREONIDAE—VIREOS

Vireo bellii pusillus—least Bell's vireo

ZOSTEROPIDAE – WHITE EYES

* *Zosterops japonicus* – warbling white eye

Mammals

CANIDAE—WOLVES & FOXES

Canis latrans—coyote

DIDELPHIDAE – NEW WORLD OPOSSUMS

* *Didelphis virginiana* – Virginia opossum

GEOMYIDAE – POCKET GOPHERS

Thomomys bottae – Botta's pocket gopher

LEPORIDAE—HARES & RABBITS

Sylvilagus audubonii—desert cottontail

Sylvilagus bachmani – brush rabbit

SCIURIDAE—SQUIRRELS

Otospermophilus beecheyi—California ground squirrel

Reptiles

ANGUIDAE—ALLIGATOR LIZARDS

Elgaria multicarinata—southern alligator lizard

EMYDIDAE—BOX & WATER TURTLES

* *Trachemys scripta*—pond slider

PHRYNOSOMATIDAE—IGUANID LIZARDS

Sceloporus occidentalis—western fence lizard

Uta stansburiana—common side-blotched lizard

Invertebrates

Butterflies

NYMPHALIDAE—BRUSH-FOOTED BUTTERFLIES

Danaus plexippus—monarch

Nymphalis antiopa – mourning cloak

PAPILIONIDAE—SWALLOWTAILS

Papillio eurymedon – pale swallowtail

Papilio rutulus—western tiger swallowtail

PIERIDAE—WHITES & SULFURS

Pieris rapae—cabbage white

Pontia protodice – checkered white

* signifies introduced (non-native) species

Appendix B

Special-Status Plants with a Potential to Occur

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Abronia maritima	red sand-verbena	None/None/4.2	Coastal dunes/perennial herb/Feb–Nov/ 0–330	Not expected to occur. No suitable vegetation or substrate present. Not observed during focused rare plant surveys conducted in 2020, and as such, is considered absent from the project site.
Abronia villosa var. *aurita*	chaparral sand-verbena	None/None/1B.1	Chaparral, Coastal scrub, Desert dunes; Sandy/annual herb/(Jan)Mar–Sep/ 245–5,245	Although suitable coastal scrub and chaparral habitats with sandy substrates are present, this species was not observed during focused rare plant surveys conducted in 2020. As such, it is considered absent from the project site.
Aphanisma blitoides	aphanisma	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub; Gravelly (sometimes), Sandy (sometimes)/annual herb/ Feb–June/5–1,000	Although suitable coastal scrub and chaparral with sandy soil is present, this species was not observed during focused rare plant surveys conducted in 2020. As such, it is considered absent from the project site.
Astragalus hornii var. *hornii*	Horn's milk-vetch	None/None/1B.1	Meadows and seeps, Playas; Alkaline, Lake Margins/annual herb/May–Oct/ 195–2,785	Not expected to occur. The site is outside of the species' known elevation range. Not observed during focused rare plant surveys conducted in 2020, and as such, is considered absent from the project site.
Astragalus pycnostachyus var. *lanosissimus*	Ventura Marsh milk-vetch	FE/SE/1B.1	Coastal dunes, Coastal scrub, Marshes and swamps/perennial herb/ (June)Aug–Oct/5–115	Although suitable coastal scrub and coastal marsh habitat on site, not observed during focused plant surveys conducted in 2020 and is considered absent from the project site.
Atriplex coulteri	Coulter's saltbush	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Valley and foothill grassland; Alkaline (sometimes), Clay (sometimes)/perennial herb/Mar–Oct/ 10–1,505	Although suitable coastal scrub and alkaline habitat is present, not observed during focused rare plant surveys conducted in 2020. As such, is considered absent from the project site.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Atriplex pacifica	south coast saltscale	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Playas/annual herb/ Mar–Oct/0–460	Although suitable coastal scrub habitat present, not observed during 2020 focused rare plant surveys and as such, is considered absent from the project site.
Atriplex parishii	Parish's brittlescale	None/None/1B.1	Chenopod scrub, Playas, Vernal pools; Alkaline/annual herb/June–Oct/ 80–6,230	Although suitable vernal pool and alkaline habitat is present, not observed during 2020 focused rare plant surveys and is considered absent from the project site.
Atriplex serenana var. *davidsonii*	Davidson's saltscale	None/None/1B.2	Coastal bluff scrub, Coastal scrub; Alkaline/annual herb/Apr–Oct/35–655	Although suitable coastal scrub habitat present, this species was not observed during 2020 focused rare plant surveys and as such, is considered absent from the project site.
Calochortus catalinae	Catalina mariposa lily	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/perennial bulbiferous herb/(Feb)Mar–June/50–2,295	Although suitable coastal scrub habitat present, this species was not observed during 2020 focused rare plant surveys and as such, is considered absent from the project site.
Calochortus weedii var. *intermedius*	intermediate mariposa-lily	None/None/1B.2	Chaparral, Coastal scrub, Valley and foothill grassland; Rocky/perennial bulbiferous herb/May–July/345–2,805	Not expected to occur. The site is outside of the species' known elevation range. Not observed during focused rare plant surveys conducted in 2020, and as such, is considered absent from the project site.
Calystegia felix	lucky morning-glory	None/None/1B.1	Meadows and seeps, Riparian scrub; Alkaline (sometimes), Loam (sometimes), Silt (sometimes)/annual rhizomatous herb/Mar–Sep/100–705	Although suitable riparian scrub present, this species was not observed during 2020 focused rare plant surveys and as such, is considered absent from the project site.
Camissoniopsis lewisii	Lewis' evening-primrose	None/None/3	Cismontane woodland, Coastal bluff scrub, Coastal dunes, Coastal scrub, Valley and foothill grassland; Clay (sometimes), Sandy (sometimes)/annual herb/Mar–May(June)/0–985	**Observed on site during 2020 focused rare plant surveys.**

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Centromadia parryi ssp.*australis*	southern tarplant	None/None/1B.1	Marshes and swamps, Valley and foothill grassland, Vernal pools/annual herb/May–Nov/0–1,570	**Observed on site during 2020 and 2025 focused rare plant surveys.**
Chaenactis glabriuscula var. *orcuttiana*	Orcutt's pincushion	None/None/1B.1	Coastal bluff scrub, Coastal dunes/annual herb/Jan–Aug/0–330	Not expected to occur. No suitable vegetation present. Not observed during focused rare plant surveys conducted in 2020, and as such, is considered absent from the project site.
Chloropyron maritimum ssp.*maritimum*	salt marsh bird's-beak	FE/SE/1B.2	Coastal dunes, Marshes and swamps/annual herb (hemiparasitic)/ May–Oct(Nov)/0–100	Although suitable marsh habitat present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Cistanthe maritima	seaside cistanthe	None/None/4.2	Coastal bluff scrub, Coastal scrub, Valley and foothill grassland; Sandy/annual herb/(Feb)Mar–June(Aug)/15–985	Although suitable sandy substrate and coastal scrub habitat is present, this species was not observed during 2020 focused rare plant surveys .As such, it is considered absent from the project site.
Comarostaphylis diversifolia ssp.*diversifolia*	summer holly	None/None/1B.2	Chaparral, Cismontane woodland/ perennial evergreen shrub/Apr–June/ 100–2,590	Although suitable chaparral habitat is present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Convolvulus simulans	small-flowered morning-glory	None/None/4.2	Chaparral, Coastal scrub, Valley and foothill grassland; Clay, Seeps, Serpentinite/annual herb/Mar–July/ 100–2,425	Although suitable chaparral habitat is present, this species was not observed during 2020 focused rare plant surveys .As such, it is considered absent from the project site.
Deinandra paniculata	paniculate tarplant	None/None/4.2	Coastal scrub, Valley and foothill grassland, Vernal pools; Sandy (sometimes), Vernally Mesic (usually)/ annual herb/(Mar)Apr–Nov/80–3,080	Although suitable coastal scrub, vernal pools, and sandy substrate is present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Dichondra occidentalis	western dichondra	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/perennial rhizomatous herb/(Jan)Mar–July/165–1,640	Not expected to occur. The site is outside of the species' known elevation range. Not observed during focused rare plant surveys conducted in 2020, and as such, is considered absent from the project site.
Dudleya multicaulis	many-stemmed dudleya	None/None/1B.2	Chaparral, Coastal scrub, Valley and foothill grassland; Clay (often)/perennial herb/Apr–July/50–2,590	Although suitable coastal scrub and chaparral habitats are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Dudleya stolonifera	Laguna Beach dudleya	FT/ST/1B.1	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland; Rocky/perennial stoloniferous herb/May–July/35–855	Although suitable coastal scrub and chaparral habitats are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Eleocharis parvula	small spikerush	None/None/4.3	Marshes and swamps/perennial herb/(Apr)June–Aug(Sep)/5–9,905	Although suitable marsh habitat is present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Eriastrum densifolium ssp.*sanctorum*	Santa Ana River woollystar	FE/SE/1B.1	Chaparral, Coastal scrub; Gravelly (sometimes), Sandy (sometimes)/ perennial herb/Apr–Sep/300–2,000	Not expected to occur. The site is outside of the species' known elevation range. Not observed during focused rare plant surveys conducted in 2020, and as such, is considered absent from the project site.
Eryngium aristulatum var. *parishii*	San Diego button-celery	FE/SE/1B.1	Coastal scrub, Valley and foothill grassland, Vernal pools; Mesic/ annual/perennial herb/Apr–June/ 65–2,030	Although suitable coastal scrub and vernal pool habitats are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Euphorbia misera	cliff spurge	None/None/2B.2	Coastal bluff scrub, Coastal scrub, Mojavean desert scrub; Rocky/perennial shrub/(Oct)Dec–Aug/35–1,640	Although suitable coastal scrub habitat is present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Harpagonella palmeri	Palmer's grapplinghook	None/None/4.2	Chaparral, Coastal scrub, Valley and foothill grassland; Clay, Openings/annual herb/Mar–May/65–3,130	Although suitable chaparral habitat is present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Helianthus nuttallii ssp.*parishii*	Los Angeles sunflower	None/None/1A	Marshes and swamps/perennial rhizomatous herb/Aug–Oct/35–5,000	Although suitable marsh habitat is present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Hordeum intercedens	vernal barley	None/None/3.2	Coastal dunes, Coastal scrub, Valley and foothill grassland, Vernal pools/annual herb/Mar–June/15–3,280	Although suitable vernal pools and coastal scrub habitats are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Horkelia cuneata var. *puberula*	mesa horkelia	None/None/1B.1	Chaparral, Cismontane woodland, Coastal scrub; Gravelly (sometimes), Sandy (sometimes)/perennial herb/ Feb–July(Sep)/230–2,655	Not expected to occur. The site is outside of the species' known elevation range.
Isocoma menziesii var. *decumbens*	decumbent goldenbush	None/None/1B.2	Chaparral, Coastal scrub/perennial shrub/Apr–Nov/35–445	Suitable chaparral habitat is present. While this species was not observed during 2020 focused rare plant surveys **it was observed during 2025 focused rare plant surveys.**
Iva hayesiana	San Diego marsh-elder	None/None/2B.2	Marshes and swamps, playas/perennial herb/Apr-Oct/35-1,640	**Observed on site during 2020 focused rare plant surveys.**
Juglans californica	Southern California black walnut	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland/ perennial deciduous tree/Mar–Aug/ 165–2,950	**Observed on site during 2020 focused rare plant surveys.**
Juncus acutus ssp.*leopoldii*	southwestern spiny rush	None/None/4.2	Coastal dunes, Marshes and swamps, Meadows and seeps/perennial rhizomatous herb/(Mar)May–June/ 10–2,950	**Observed on site during 2020 and 2025 focused rare plant surveys.**

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Lasthenia glabrata ssp.*coulteri*	Coulter's goldfields	None/None/1B.1	Marshes and swamps, Playas, Vernal pools/annual herb/Feb–June/5–4,000	Although suitable vernal pools and marsh habitats are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	None/None/4.3	Chaparral, Coastal scrub/annual herb/ Jan–July/5–2,900	Although suitable chaparral and coastal scrub habitats are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Lycium californicum	California box-thorn	None/None/4.2	Coastal bluff scrub, Coastal scrub/perennial shrub/ Mar–Aug(Dec)/15–490	Although suitable coastal scrub habitat is present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Malacothrix saxatilis var. *saxatilis*	cliff malacothrix	None/None/4.2	Coastal bluff scrub, Coastal scrub/ perennial rhizomatous herb/ Mar–Sep/10–655	Although suitable coastal scrub habitat is present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Nama stenocarpa	mud nama	None/None/2B.2	Marshes and swamps/annual/perennial herb/Jan–July/15–1,640	**Observed on site during 2020 focused rare plant surveys.**
Nasturtium gambelii	Gambel's water cress	FE/ST/1B.1	Marshes and swamps/perennial rhizomatous herb/Apr–Oct/15–1,080	Although suitable marsh habitat is present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Navarretia prostrata	prostrate vernal pool navarretia	None/None/1B.2	Coastal scrub, Meadows and seeps, Valley and foothill grassland, Vernal pools; Mesic/annual herb/Apr–July/ 10–3,965	Although vernal pools and coastal scrub habitat are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Nemacaulis denudata var. *denudata*	coast woolly-heads	None/None/1B.2	Coastal dunes/annual herb/Apr–Sep/ 0–330	Not expected to occur. No suitable vegetation present.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Orcuttia californica	California Orcutt grass	FE/SE/1B.1	Vernal pools/annual herb/Apr–Aug/ 50–2,165	Although vernal pools are present, this species was not observed during 2020 focused rare plant surveys and is considered absent from the project site.
Pentachaeta aurea ssp.*allenii*	Allen's pentachaeta	None/None/1B.1	Coastal scrub, Valley and foothill grassland/annual herb/Mar–June/ 245–1,705	Not expected to occur. The site is outside of the species' known elevation range. Although suitable coastal scrub habitat is present, this species was not observed on site during 2020 focused rare plant surveys and is considered absent from the project site.
Phacelia ramosissima var. *austrolitoralis*	south coast branching phacelia	None/None/3.2	Chaparral, Coastal dunes, Coastal scrub, Marshes and swamps; Rocky (sometimes), Sandy/perennial herb/Mar–Aug/15–985	Although suitable marsh, chaparral, and coastal scrub habitats are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Phacelia stellaris	Brand's star phacelia	None/None/1B.1	Coastal dunes, Coastal scrub/annual herb/Mar–June/5–1,310	Although suitable marsh, chaparral, and coastal scrub habitats are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Quercus dumosa	Nuttall's scrub oak	None/None/1B.1	Chaparral, Closed-cone coniferous forest, Coastal scrub; Clay, Loam, Sandy/ perennial evergreen shrub/ Feb–Apr(May–Aug)/50–1,310	Although suitable chaparral and coastal scrub habitats are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Romneya coulteri	Coulter's matilija poppy	None/None/4.2	Chaparral, coastal scrub; burned areas (often)/perennial rhizomatous herb/Mar-July(Aug)/65-3,935	**Observed during 2020 focused rare plant surveys.**
Sagittaria sanfordii	Sanford's arrowhead	None/None/1B.2	Marshes and swamps/perennial rhizomatous herb (emergent)/May–Oct(Nov)/0–2,130	Although suitable marsh habitats are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Senecio aphanactis	chaparral ragwort	None/None/2B.2	Chaparral, Cismontane woodland, Coastal scrub; Alkaline (sometimes)/ annual herb/Jan–Apr(May)/50–2,620	Although suitable chaparral and coastal scrub habitats are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Sidalcea neomexicana	salt spring checkerbloom	None/None/2B.2	Chaparral, Coastal scrub, Lower montane coniferous forest, Mojavean desert scrub, Playas; Alkaline, Mesic/perennial herb/Mar–June/50–5,015	Although suitable chaparral and alkaline habitats are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Suaeda esteroa	estuary seablite	None/None/1B.2	Marshes and swamps/perennial herb/(Jan–May)July–Oct/0–15	Although suitable marsh habitats are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Suaeda taxifolia	woolly seablite	None/None/4.2	Coastal bluff scrub, Coastal dunes, Marshes and swamps/perennial evergreen shrub/Jan–Dec/0–165	Although suitable marsh habitat is present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Symphyotrichum defoliatum	San Bernardino aster	None/None/1B.2	Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Marshes and swamps, Meadows and seeps, Valley and foothill grassland; Streambanks/perennial rhizomatous herb/July–Nov/5–6,690	Although suitable marsh and coastal scrub habitats are present, this species was not observed during 2020 focused rare plant surveys. As such, it is considered absent from the project site.
Verbesina dissita	big-leaved crownbeard	FT/ST/1B.1	Chaparral, Coastal scrub/perennial herb/(Mar)Apr–July/150–675	Not expected to occur. The site is outside of the species' known elevation range. Not observed during 2020 focused rare plant surveys and is considered absent from the project site.

Appendix C

Special-Status Wildlife with a Potential to Occur

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Amphibians				
Spea hammondii	western spadefoot	None/SSC	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, pastures, and other agriculture	Although suitable habitat present, not observed on site during any biological surveys conducted from 2019-2022 and no occurrence records within 5 miles (CDFW 2022). As such this species is considered absent from the project site.
Birds				
Accipiter cooperii (nesting)	Cooper's hawk	None/WL	Nests and forages in dense stands of live oak, riparian woodlands, or other woodland habitats often near water	**Observed on site during biological surveys conducted from 2019-2025.**
Agelaius tricolor (nesting colony)	tricolored blackbird	BCC/SSC, ST	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberrry; forages in grasslands, woodland, and agriculture	Although suitable cattail marshes suitable for nesting are present, not observed on site during any biological surveys and no occurrence records within 5 miles (CDFW 2022). Surveys conducted in the area for this species in the past have been negative. As such this species is considered absent from the project site.
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	None/WL	Nests and forages in open coastal scrub and chaparral with low cover of scattered scrub interspersed with rocky and grassy patches	Although suitable coastal scrub present, not observed on site during any biological surveys conducted from 2019-2022 and no occurrence records within 5 miles (CDFW 2022). As such this species is considered absent from the project site.
Ammodramus savannarum (nesting)	grasshopper sparrow	None/SSC	Nests and forages in moderately open grassland with tall forbs or scattered shrubs used for perches	Although there are few areas of open grassland with scattered shrubs on site, not observed during any biological surveys conducted from 2019-2022 and closest occurrence record is 5 miles away (CDFW 2022). As such this species is considered absent from the project site.
Ardea herodias (nesting colony)	great blue heron	None/None	Nests in large trees or snags; forages in wetlands, water bodies, watercourses, and opportunistically in uplands, including pasture and croplands	**Observed on site during biological surveys conducted from 2019-2025.**

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Athene cunicularia (burrow sites and some wintering sites)	burrowing owl	BCC/SSC	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	**Incidentally observed within the study area during the 2019 jurisdictional delineation. Observed within the study area (outside of the project site boundary) during 2020 focused surveys. Not observed during 2025 focused surveys.**
Buteo regalis (wintering)	ferruginous hawk	None/WL	Winters and forages in open, dry country, grasslands, open fields, agriculture	Although there is limited open grassland and open field on site, none observed during any biological surveys conducted from 2019-2022 and no occurrence records within 5 miles (CDFW 2022). As such this species is considered absent from the project.
Buteo swainsoni (nesting)	Swainson's hawk	None/ST	Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture	Although limited open woodland is present, not observed on site during any biological surveys conducted from 2019-2022 and no occurrence records within 5 miles (CDFW 2022). As such this species is considered absent from the project site.
Campylorhynchus brunneicapillus sandiegensis (San Diego and Orange Counties only)	coastal cactus wren	None/SSC	Southern cactus scrub patches	Although limited cacti are present, not observed on site during any biological surveys conducted from 2019-2022 and no occurrence records within 5 miles (CDFW 2022). As such this species is considered absent from the project site.
Charadrius nivosus nivosus (nesting)	western snowy plover	FT, BCC/SSC	On coasts nests on sandy marine and estuarine shores; in the interior nests on sandy, barren or sparsely vegetated flats near saline or alkaline lakes, reservoirs, and ponds	Suitable vegetation adjacent to wetlands present; however there is no suitable nesting habitat and the knonw locations of snowy plover in the area are restricted to Huntington Beach and Bolsa Chica State Beach. Not observed on site during any biological surveys conducted from 2019-2022, and as such, is considered absent from the project site.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Coccyzus americanus occidentalis (nesting)	western yellow-billed cuckoo	FT/SE	Nests in dense, wide riparian woodlands and forest with well-developed understories	There is no suitable dense woodland or forest present and no occurrence records within 5 miles of the project site. Not observed during focused special-status riparian bird surveys or other biological surveys conducted from 2019-2022. As such, this species is considered absent from the project site.
Coturnicops noveboracensis	yellow rail	BCC/SSC	Nesting requires wet marsh/sedge meadows or coastal marshes with wet soil and shallow, standing water	The project site lacks wetland meadows to support this species. Although limited coastal marsh is present, this species was not observed during any of the biological surveys conducted from 2019-2022 and as such, is considered absent from the project site.
Elanus leucurus (nesting)	white-tailed kite	None/FP	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands	**Observed on site during biological surveys conducted from 2019-2022.**
Eremophila alpestris actia	California horned lark	None/WL	This subspecies of horned lark occurs on the state's southern and central coastal slope and in the San Joaquin Valley. Nests and forages in grasslands, disturbed lands, agriculture, and beaches.	Not expected to occur. No suitable grassland or agriculture present. No known occurrence records within 5 miles, and not observed on site during any of the biological surveys conducted from 2019-2022. As such, this species is considered absent from the project site.
Falco mexicanus (nesting)	prairie falcon	BCC/WL	Forages in grassland, savanna, rangeland, agriculture, desert scrub, alpine meadows; nests on cliffs or bluffs.	**Observed on site during biological surveys conducted from 2019-2022 and again during 2025 surveys.**
Falco peregrinus anatum (nesting)	American peregrine falcon	FPD/FP, SCD	Nests on cliffs, buildings, and bridges; forages in wetlands, riparian, meadows, croplands, especially where waterfowl are present	Suitable foraging habitat within riparian areas; however, there are no cliffs or buildings suitable for nesting. No known occurrence records within 5 miles (CDFW 2022), and not observed on site during any of the biological surveys conducted from 2019-2022. As such, this species is considered absent from the project site.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Icteria virens (nesting)	yellow-breasted chat	None/SSC	Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush	**Observed on site during biological surveys conducted from 2019-2025.**
Laterallus jamaicensis coturniculus	California black rail	None/FP, ST	Tidal marshes, shallow freshwater margins, wet meadows, and flooded grassy vegetation; suitable habitats are often supplied by canal leakage in Sierra Nevada foothill populations	Suitable tidally-influenced marshland present and occurrence records are within 5 miles of the project site. However, this species was not observed during any of the biological surveys conducted from 2019-2022 and is considered absent from the project site.
Pandion haliaetus (nesting)	osprey	None/WL	Large waters (lakes, reservoirs, rivers) supporting fish; usually near forest habitats, but widely observed along the coast	**Observed on site during biological surveys conducted from 2019-2025.**
Passerculus sandwichensis beldingi	Belding's savannah sparrow	BCC/SE	Nests and forages in coastal saltmarsh dominated by pickleweed (Salicornia spp.)	Suitable pickleweed mats present, and occurrence records for this species are within 5 miles of the project site (CDFW 2022). However, not observed during any of the biological surveys conducted from 2019-2022 and is considered absent from the project site.
Polioptila californica californica	coastal California gnatcatcher	FT/SSC	Nests and forages in various sage scrub communities, often dominated by California sagebrush and buckwheat; generally avoids nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 feet above mean sea level	**Observed on site during biological surveys conducted from 2019-2022. Not observed during 2025 focused surveys.**
Rallus obsoletus levipes	Ridgway's rail	FE/FP, SE	Coastal wetlands, brackish areas, coastal saline emergent wetlands	Suitable coastal wetlands on site do not function as naturally tidally-influenced wetlands that could support foraging or nesting for this species. There are occurrence records for this species within 5 miles of the site (CDFW 2022). Not observed during the biological surveys conducted between 2019-2022 and is considered absent from the project site.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Riparia riparia (nesting)	bank swallow	None/ST	Nests in riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with sandy soils; open country and water during migration	Suitable riparian habitat on site; however, no vertical banks or cliffs with sandy soil suitable for nesting. CNDDB occurrences are within 5 miles of the project site (CDFW 2022). However, not observed on site during any of the biological surveys conducted between 2019-2022. As such, this species is considered absent from the project site.
Rynchops niger (nesting colony)	black skimmer	BCC/SSC	Nests on barrier beaches, shell banks, spoil islands, and saltmarsh; forages over open water; roosts on sandy beaches and gravel bars	Suitable foraging habitat; however there is no beach, bank, or island suitable for nesting. Observed adjacent to the project site in 2012 during previous surveys (Dudek 2012). No known occurrence records within 5 miles of the project site (CDFW 2022). Not observed during any of the biological surveys conducted from 2019-2022 and as such, this species is considered absent from the project site.
Setophaga petechia (nesting)	yellow warbler	None/SSC	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats	**Observed on site during biological surveys conducted from 2019-2022 and in 2025.**
Sternula antillarum browni (nesting colony)	California least tern	FE/FP, SE	Forages in shallow estuaries and lagoons; nests on sandy beaches or exposed tidal flats	Tidal flats on site could support foraging and nesting for this species. Observed adjacent to the project site in 2012 (Dudek 2012). However, not observed on site during any of the biological surveys conducted from 2019-2022; as such, this species is considered absent from the project site.
Vireo bellii pusillus (nesting)	least Bell's vireo	FE/SE	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season	**Observed on site during 2020 focused surveys and 2025 focused surveys.**

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Fishes				
Catostomus santaanae	Santa Ana sucker	FT/None	Small, shallow, cool, clear streams less than 7 meters (23 feet) in width and a few centimeters to more than a meter (1.5 inches to more than 3 feet) in depth; substrates are generally coarse gravel, rubble, and boulder	Not expected to occur. No suitable streams on site and no known occurrences within 5 miles (CDFW 2022).
Eucyclogobius newberryi	tidewater goby	FE/None	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County, to the mouth of the Smith River	Not expected to occur. There are no suitable brackish habitats on site and no known occurrence records within 5 miles (CDFW 2022).
Oncorhynchus mykiss irideus pop. 10	southern steelhead - southern California DPS	FE/SCE	Clean, clear, cool, well-oxygenated streams; needs relatively deep pools in migration and gravelly substrate to spawn	This species is known to occur within the Santa Ana River, which lies immediately west of the project site. Not expected to occur within the project site as no suitable streams or gravelly substrate are present.
Invertebrates				
Bombus crotchii	Crotch bumble bee	None/C	Open grassland and scrub communities supporting suitable floral resources	Suitable open scrub habitat present on site. However, this species prefers more arid and dry habitats. Not observed during any of the biological surveys conducted from 2019-2022 nor in the 2025 focused survey. As such, this species is considered absent from the project site.
Danaus plexippus	monarch	FC/None	Wind-protected tree groves with nectar sources and nearby water sources	Suitable eucalyptus groves and native vegetation on site could support foraging opportunities for this species. While not observed on site during biological surveys conducted from 2019-2022, the specie was observed during the 2025 surveying effort (no overwintering colonies were detected on the project site). As such, this species is considered absent from the project site.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Euphydryas editha quino	quino checkerspot butterfly	FE/SCE	Annual forblands, grassland, open coastal scrub and chaparral; often soils with cryptogamic crusts and fine-textured clay; host plants include *Plantago erecta, Antirrhinum coulterianum*, and *Plantago patagonica* (Silverado Occurrence Complex)	Although suitable coastal scrub is present, no host plants on site and no occurrence records within 5 miles of the project site (CDFW 2022). Not observed during any biological surveys conducted from 2019-2022. As such, this species is considered absent from the project site.
Streptocephalus woottoni	Riverside fairy shrimp	FE/None	Vernal pools, non-vegetated ephemeral pools	**Vernal pool habitat present. Nearest occurrence record is located immediately east of the project site in Fairview Park (CDFW 2022). Focused Fairy Shrimp surveys were not conducted as this species is assumed present.**
Mammals				
Choeronycteris mexicana	Mexican long-tongued bat	None/SSC	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon–juniper woodland; roosts in caves, mines, and buildings	No suitable desert scrub or caves present, and no occurrence records within 5 miles of the project site (CDFW 2022). As such, this species is considered absent from the project site.
Dasypterus xanthinus	western yellow bat	None/SSC	Valley–foothill riparian, desert riparian, desert wash, and palm oasis habitats; below 2,000 feet above mean sea level; roosts in riparian and palms	Not expected to occur. No suitable desert wash habitat present. No occurrence records within 5 miles of the project site (CDFW 2022). As such, this species is considered absent from the project site.
Eumops perotis californicus	western mastiff bat	None/SSC	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels	Suitable coastal scrub and woodland for foraging and roosting present. Occurrence records from an unknown date are approximately 5 miles northwest of the project site (CDFW 2022). Although not observed during any diurnal biological surveys conducted from 2019-2022, night roost surveys would be required to confidently consider this species absent from the project site.
Microtus californicus stephensi	south coast marsh vole	None/SSC	Tidal marshes	Suitable tidal marsh present but no occurrence records within 5 miles of the project site (CDFW 2022). Not observed during any biological surveys conducted from 2019-2022. As such, this species is considered absent from the project site.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Nyctinomops macrotis	big free-tailed bat	None/SSC	Rocky areas; roosts in caves, holes in trees, buildings, and crevices on cliffs and rocky outcrops; forages over water	Not expected to occur. Limited roosting habitat (trees) and foraging habitat (Victoria Pond) on site. No occurrence records within 5 miles of the project site (CDFW 2022). Not observed during biological surveys conducted from 2019-2022. As such, it is considered absent from the project site,
Perognathus longimembris pacificus	Pacific pocket mouse	FE/SSC	fine-grained sandy substrates in open coastal strand, coastal dunes, and river alluvium	No suitable habitat present and no occurrence records within 5 miles of the project site (CDFW 2022). Not observed during any biological surveys conducted from 2019-2022. As such, pacific pocket mouse is considered absent from the project site.
Sorex ornatus salicornicus	southern California saltmarsh shrew	None/SSC	Saltmarsh, saltgrass, dense willow, bulrush	Although suitable saltgrass, American bulrush, and saltmarsh habitat is present, this species was not observed on site during any biological surveys conducted from 2019-2022. Nearest occurrence record is 3 miles east, from 1993. As such, southern California saltmarsh shrew is considered absent from the project site.
Taxidea taxus	American badger	None/SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	Not expected to occur. Dense stands of coastal scrub and limited open areas. American badger was not observed on site during any biological surveys conducted from 2019-2022. Nearest occurrence record is 2 miles southeast, from 1998 (CDFW 2022). As such, this species is considered absent from the project site.
Reptiles				
Anniella stebbinsi	southern California legless lizard	None/SSC	Coastal dunes, stabilized dunes, beaches, dry washes, valley–foothill, chaparral, and scrubs; pine, oak, and riparian woodlands; associated with sparse vegetation and moist sandy or loose, loamy soils	Although suitable riparian woodlands present, no suitable substrate and no occurrence records within 5 miles of the project site. Not observed during biological surveys conducted from 2019-2022. As such, it is considered absent from the project site.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Potential to Occur
Aspidoscelis hyperythra	orange-throated whiptail	None/WL	Low-elevation coastal scrub, chaparral, and valley–foothill hardwood	Although suitable low-elevation coastal scrub is present, nearest occurrence record is historic (1950) and 5 miles southwest of the project site. Not observed during biological surveys conducted from 2019-2022. As such, it is considered absent from the project site.
Chelonia mydas	green sea turtle	FT/None	Shallow waters of lagoons, bays, estuaries, mangroves, eelgrass, and seaweed beds	Not expected to occur. No suitable aquatic habitat present and no occurrence records within 5 miles of the project site (CDFW 2022).
Crotalus ruber	red diamondback rattlesnake	None/SSC	Coastal scrub, chaparral, oak and pine woodlands, rocky grasslands, cultivated areas, and desert flats	Although coastal scrub is present, no occurrence records within 5 miles and not observed during biological surveys conducted from 2019-2022. As such, tis species is considered absent from the project site.
Emys marmorata	western pond turtle	None/SSC	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter	Not expected to occur. Although Victoria Pond could support this species, no occurrence records within 5 miles and not observed during biological surveys conducted from 2019-2022. As such, this species is considered absent from the project site.
Phrynosoma blainvillii	Blainville's horned lizard	None/SSC	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley–foothill hardwood, conifer, riparian, pine–cypress, juniper, and annual grassland habitats	Not expected to occur. No suitable vegetation present and site is not suitably arid. No occurrence records within 5 miles of the project site (CDFW 2022).

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Appendix D

Coastal California Gnatcatcher
Focused Survey Results Report

DUDEK
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July 15, 2025 13230.67

U.S. Fish and Wildlife Service
Attn: Recovery Permit Coordinator
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

Subject: 2025 Focused California Gnatcatcher Survey 45-Day Report for the Talbert Regional Park Master Plan Project, City of Costa Mesa, Orange County, California

Dear Recovery Permit Coordinator:

This report documents the method and results of protocol-level presence/absence surveys conducted for the coastal California gnatcatcher (*Polioptila californica californica*; CAGN). Focused surveys were conducted throughout all areas of suitable habitat for the Talbert Regional Park Master Plan Project (project) located in the City of Costa Mesa, Orange County, California (Attachment A: Figure 1). The project site totals approximately 180 acres and is located at coordinates: 33.652176, -117.949693. The proposed project includes restoration efforts within the existing park, that is divided into two portions, Talbert North and Talbert South.

As shown in Attachment A: Figure 2, the CAGN survey area consists of approximately 76 acres with suitable CAGN habitat characterized by stands of *Baccharis pilularis-Artemisia californica, Encelia californica-Artemisia californica-Salvia mellifera-Baccharis pilularis, Baccharis salicifolia-Sambucus mexicana,* and coyote bush scrub, and surrounded by a 500-foot survey buffer, for a total survey area of approximately 278 acres. The survey area included additional habitat types not typically suited for supporting nesting CAGN, however, due to previously observed occurrences of CAGN within these atypical habitat areas, the survey area was expanded to additional habitats not dominated by California sagebrush. Dudek's permitted biologist Tommy Molioo (ES02412D) conducted CAGN surveys from May 2025 to June 2025.

The CAGN is federally-listed as threatened and a California Department of Fish and Wildlife (CDFW) Species of Special Concern. It is closely associated with coastal sage scrub habitat and typically occurs below 950 feet elevation and on slopes less than 40% (Atwood 1990), but CAGN have also been observed at elevations greater than 2,000 feet. The species is primarily threatened by loss, degradation, and fragmentation of coastal sage scrub habitat, and is also impacted by brown-headed cowbird (*Molothrus ater*) nest parasitism (Braden et al. 1997).

Location and Existing Conditions

The project site is located along the northern edge of the City of Costa Mesa in Orange County, California. The surrounding area is primarily developed with the concrete-lined Santa Ana River running along the western edge of the survey area, and residential developments to the east and south. Restored wetland and riparian habitat occurs within the adjacent Fairview Regional Park and Banning Ranch to the immediate east and south, respectively, as well as within both Talbert North and Talbert South. The survey area consists of moderate quality coastal scrub

vegetation intersected by paved and dirt roads, with scattered riparian and salt marsh scrub, and fields of black mustard (*Brassica nigra*) and other non-native species.

Six soil types, listed below, are mapped within the survey area (USDA NRCS 2019). The majority of the soils mapped within the survey area are sandy loam and show evidence of surface-level disturbance.

- Bolsa silt loam
- Hueneme fine sandy loam
- Hueneme fine sandy loam, drained
- Metz loamy sand, moderately fine substratum
- Myford sandy loam, 9 to 30 percent slopes, eroded
- Pits

Vegetation Communities

The survey area for the project site includes a total of approximately 278 acres, encompassing both Talbert North and Talbert South, including a 500-foot buffer around approximately 76 acres of suitable habitat characterized by native upland scrub vegetation with scattered riparian vegetation communities. Vegetation communities that provide suitable CAGN habitat on the survey area that were included in the focused surveys include: California brittle bush-California sagebrush-black sage-coyote brush, coyote brush scrub, Coyote brush-California sagebrush, Menzies's golden bush scrub, and mulefat-blue elderberry. These vegetation communities are discussed in detail below.

California Brittle Bush-California Sagebrush-Black Sage-Coyote Brush Association

California brittle bush-California sagebrush-black sage-coyote (*Encelia californica-Artemisia californica-Salvia mellifera-Baccharis salicifolia*) brush is an association within the California brittle bush alliance (Sawyer et al. 2009). Within the study area, this community occurs along the western boundary of Talbert North.

Coyote Brush Scrub Alliance

The coyote brush scrub alliance (*Baccharis pilularis* scrub alliance) includes coyote brush as dominant or co-dominant in the canopy. The alliance has a variable canopy less than 3 feet (1 meter) in height with variable herbaceous layer (Sawyer et al. 2009). Some species associated with the alliance include California sagebrush, California buckwheat (*Eriogonum fasciculatum*), common deerweed (*Acmispon glaber* var. *glaber*), white sage (*Salvia apiana*), and purple sage (*Saliva leucophylla*) (Sawyer et al. 2009). Within the study area, this community occurs throughout Talbert North.

Coyote Brush-California Sagebrush Association

Coyote brush-California sagebrush association is an association within the coyote brush alliance (Sawyer et al. 2009). Within the study area, this community occurs within the northwestern corner of Talbert North.

Menzies's Golden Bush Scrub Alliance

The Menzies's golden bush scrub alliance (*Isocoma menziesii* scrub alliance) includes Menzies's golden bush as dominant or co-dominant in the canopy. The alliance has an open to intermittent shrub canopy less than 3 feet (1

meter) in height with an open to continuous herbaceous layer (Sawyer et al. 2009). Some species associated with the alliance include California saltbush (*Atriplex californica*), desertbroom (*Baccharis sarothroides*), San Joaquin snakeweed (*Gutierrezia californica*), and Virginia glasswort (*Salicornia depressa*) (Sawyer et al. 2009). Within the study area, this community occurs throughout Talbert South.

Mulefat-Blue Elderberry Association

The mulefat-blue elderberry (*Baccharis salicifolia-Sambucus nigra*) association has mulefat and blue elderberry as the co-dominant species in the shrub canopy (Sawyer et al. 2009). Within the survey area, this community was found throughout Talbert North.

Table 1. Vegetation Communities and Land Covers within the Project Site

Vegetation Community or Land Cover	Association	Map Label	Acreages
Forest and Woodland Alliances			
Arroyo willow	Salix lasiolepis	Sallas	5.81
Arroyo willow/mulefat	Salix lasiolepis/Baccharis salicifolia	Sallas/Bacsal	3.99
Black willow	Salix gooddingii	Salgoo	6.39
Black willow/mulefat	Salix gooddingii/Baccharis salicifolia	Salgoo/Bacsal	10.39
Blue elderberry-toyon	Sambucus nigra-Heteromeles arbutifolia	Samnig-Hetarb	5.05
California fan palm oasis	—	CFPO	0.12
California sycamore-coast live oak	Platanus racemosa-Quercus agrifolia	Plarac-Queagr	3.99
Eucalyptus groves	—	EG(SNS)	1.66
Mulefat thickets	—	MFT	23.76
Mulefat-blue elderberry	Baccharis salicifolia-Sambucus mexicana	Bacsal-Sammex	44.21
Mulefat-Menzies' goldenbush-quailbush	Baccharis salicifolia-Lepidospartum squamatum-Hazardia squarrosa	Bacsal-Isomen-Atrlen	7.20
White alder-California sycamore	Alnus rhombifolia-Platanus racemosa	Alnrho-Plarac	0.68
	Subtotal of Forest and Woodlands Alliances and Stands		*113.26*
Shrubland and Grassland Alliances			
Alkali heath/salt grass	Frankenia salina/Distichlis spicata	Frasal/Disspi	2.83
American bulrush marsh	—	ABM	0.83
Black mustard-ripgut brome	Brassica nigra-Bromus diandrus	BM-RB	2.17
California brittle bush-California sagebrush-black sage-coyote brush	Encelia californica-Artemisia californica-Salvia mellifera-Baccharis pilularis	Enccal-Artcal-Salmel-Bacpil	13.68
Cattail marshes	—	CM	0.45
Coyote brush scrub	—	CYS	16.76
Coyote brush-California sagebrush	Baccharis pilularis-Artemisia californica	Bacpil-Artcal	1.51
Ice plant mats	—	IPM(SNS)	2.07

Table 1. Vegetation Communities and Land Covers within the Project Site

Vegetation Community or Land Cover	Association	Map Label	Acreages
Menzies's golden bush scrub	—	MGBS	17.58
Pickleweed mats	—	PM	1.72
Poison hemlock or fennel patches	—	PH-FP(SNS)	1.54
Quailbush scrub	—	QS	2.28
Salt grass-Pacific swampfire	Distichlis spicata-Sarcocornia pacifica	Disspi-Sarpac	16.46
Smartweed-cocklebur patches	—	S-CP	0.61
Tar plant fields	—	TPF	0.50
Upland mustards	—	UM(SNS)	34.55
		Subtotal of Shrubland Alliance and Stands	*115.53*
Non-Natural Land Covers and Unvegetated Communities			
Bassia hyssopifolia	—	Bassia	1.62
Concrete channel	—	CC	2.06
Disturbed Habitat	—	DH	28.37
Myoporum/Black willow	—	MP/Salgoo	3.08
Open water	—	OW	88.59
Parks and ornamental plantings	—	ORN	35.15
Urban/Developed	—	DEV	85.37
		Subtotal of Non-Natural Land Covers and Unvegetated Communities	*244.23*
		Total	**473.02**

Methods

The presence/absence focused survey for CAGN was conducted for the project between May 1, 2025, and June 5, 2025. The survey was conducted within weather conditions and time frames appropriate for the detection of gnatcatchers. Weather conditions and survey dates are provided below in Table 2. Survey routes are shown in Attachment A – Figure 2. The survey routes focused on areas that contain typical suitable habitat to support CAGN (i.e. artemisia dominated scrub) as well as additional vegetation types that would not typically support CAGN but were included in the survey area due to the observation of foraging and dispersing CAGN within these vegetation types.

Table 2 Survey Dates and Conditions

Survey Pass	Date	Time	Personnel	Temperature[1]	Presence/Absence
1	05/01/2025	0730–1000	TM	65-67°F; 1-2 mph; 100% cc	Absent
2	05/8/2025	0900-1100	TM	66°F; 1-2 mph; 0% cc	Absent

Table 2 Survey Dates and Conditions

Survey Pass	Date	Time	Personnel	Temperature[1]	Presence/Absence
3	05/15/2025	0845–1045	TM	62°F; 1-3 mph; 50% cc	Absent
4	05/22/2025	1000-1130	TM	65°F; 0-1 mph; 50% cc	Absent
5	05/29/2025	1000-1130	TM	69°F; 0-1 mph; 70% cc	Absent
6	06/05/2025	0830-1000	TM	65°F; 1-2 mph; 100% cc	Absent

1 Survey Conditions: °F = degrees Fahrenheit; cc = cloud cover; mph = miles per hour

The survey was conducted following the currently accepted protocol of the U.S. Fish and Wildlife Service (USFWS), *Coastal California Gnatcatcher* (*Polioptila californica californica*) *Presence/Absence Survey Protocol* (USFWS 1997). The project site is located within the Orange County Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) and the project Applicant, the County of Orange, is a signatory to the NCCP/HCP. While this allows for three survey passes to be conducted, Dudek conducted six survey passes at a minimum of 7-day intervals between visits during the breeding season (March 14 through June 30). The six surveys were conducted in order to be consistent with agency protocol and provide an extended period to survey for CAGN. In accordance with the protocol, no more than 100 acres of suitable habitat were surveyed by a single permitted biologist during each site visit conducted. Survey routes completely covered all areas of suitable CAGN habitat within the survey area and allowed for complete audible and visual coverage of all suitable CAGN habitat on site (Attachment A: Figure 2).

A 200-scale topographic map (1 inch = 200 feet) overlain with vegetation polygons and the survey area was used during the survey. Additionally, digital mobile maps were utilized during the surveys to assist in navigating each survey area. Appropriate binoculars (e.g., 8x42 through 10x50 magnification) were used to aid in detecting and identifying bird species. A recording of gnatcatcher vocalizations was played approximately every 50–100 feet to induce responses from potentially present gnatcatchers. Vocalization-playback would have been terminated immediately upon detection of any gnatcatchers to minimize the potential for harassment.

Results

No CAGN individuals were observed or detected during the 2025 breeding season surveys. Previously, approximately three CAGN breeding pairs and two lone males were observed and detected within the survey area during 2020 focused surveys. This is a noticeable change in CAGN occupancy on the project site, particularly since vegetative cover and diversity has remained relatively unchanged since 2020. Additionally, the extended six survey period allowed Dudek's biologist to survey the site over an extended period of time from previous surveys. No active nesting was observed within the survey area during the focused surveys. Therefore, the project site is currently considered unoccupied by CAGN, however, the potential for CAGN to nest on site in the future remains high.

Other avian species observed during the focused surveys include: spotted towhee (*Pipilo maculatus*), song sparrow (*Melospiza melodia*), house wren (*Troglodytes aedon*), lesser goldfinch (*Spinus psaltria*), bushtit (*Psaltriparus*

minimus), house finch (*Haemorhous mexicanus*), Anna's hummingbird (*Calypte anna*), Allen's hummingbird (*Selasphorus sasin*), northern rough-winged swallow (*Stelgidopteryx serripennis*), California towhee (*Melozone crissalis*), white-throated swift (*Aeronautes saxatalis*), northern flicker (*Colaptes auratus*), great-tailed grackle (*Quiscalus mexicanus*), Nuttall's woodpecker (*Dryobates nuttallii*), dark-eyed junco (*Junco hyemalis*), barn swallow (*Hirundo rustica*), yellow warbler (*Setophaga petechia*), orange-crowned warbler (*Leiothlypis celata*), mallard (*Anas platyrhynchos*), red-winged blackbird (*Agelaius phoeniceus*), belted kingfisher (*Megaceryle alcyon*), white-faced ibis (*Plegadis chihi*), common yellowthroat (*Geothlypis trichas*), western tanager (*Piranga ludoviciana*), and Canada goose (*Branta canadensis*).

Other wildlife species observed during the surveys include California ground squirrel (*Otospermophilus beecheyi*), desert cottontail (*Sylvilagus audubonii*), and coyote (*Canis latrans*).

I certify that the information in this survey report and attached exhibits fully and accurately represent our work.

Sincerely,

Tommy Molioo
Permit # ES02412D

Att: *A –Figures*
B – Site Photographs

References

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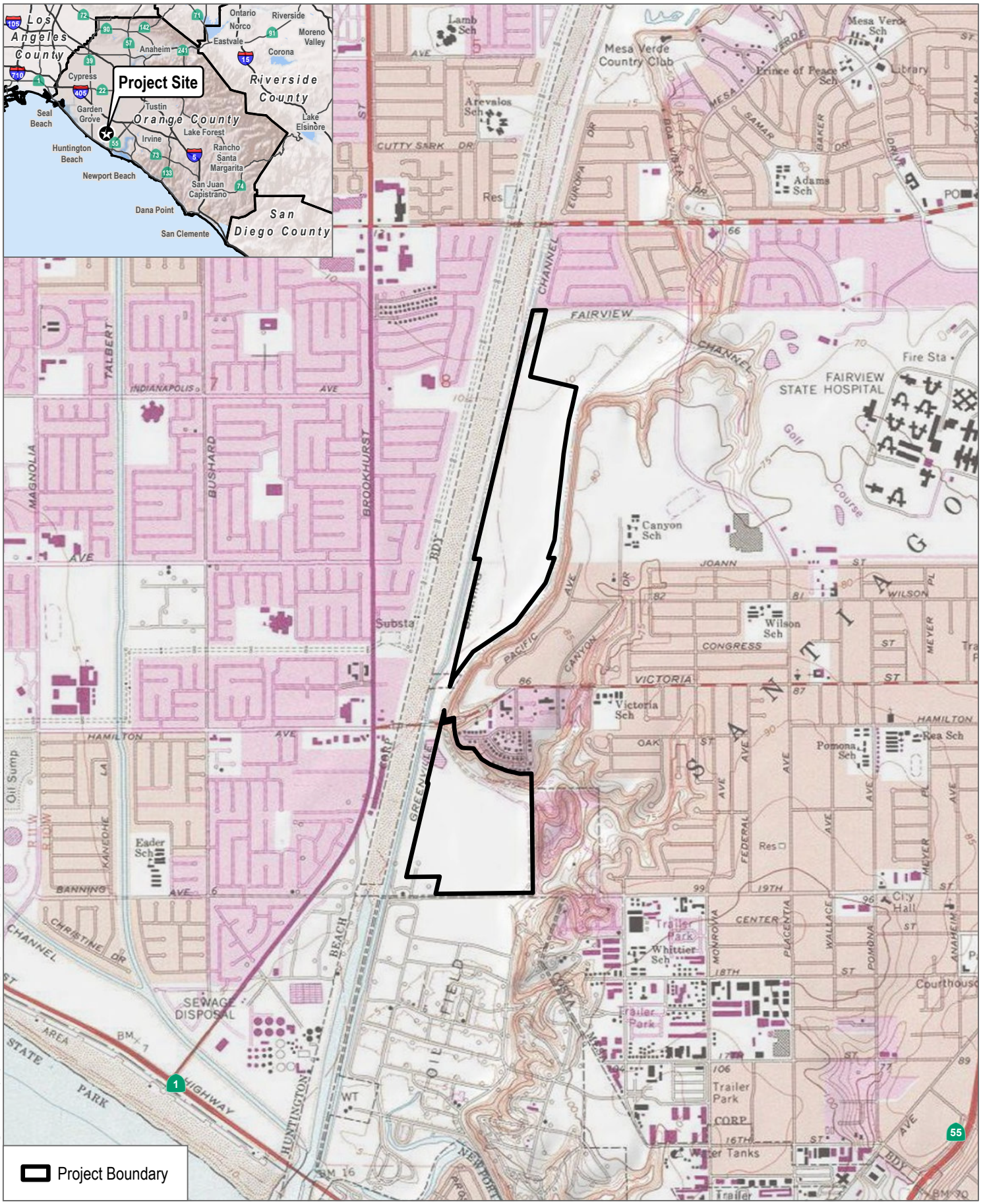
Attachment A

Figures



SOURCE: USGS 7.5-Minute Series Newport Beach Quadrangle
Township 6 S / Range 10 W / Sections 8, 17, 20

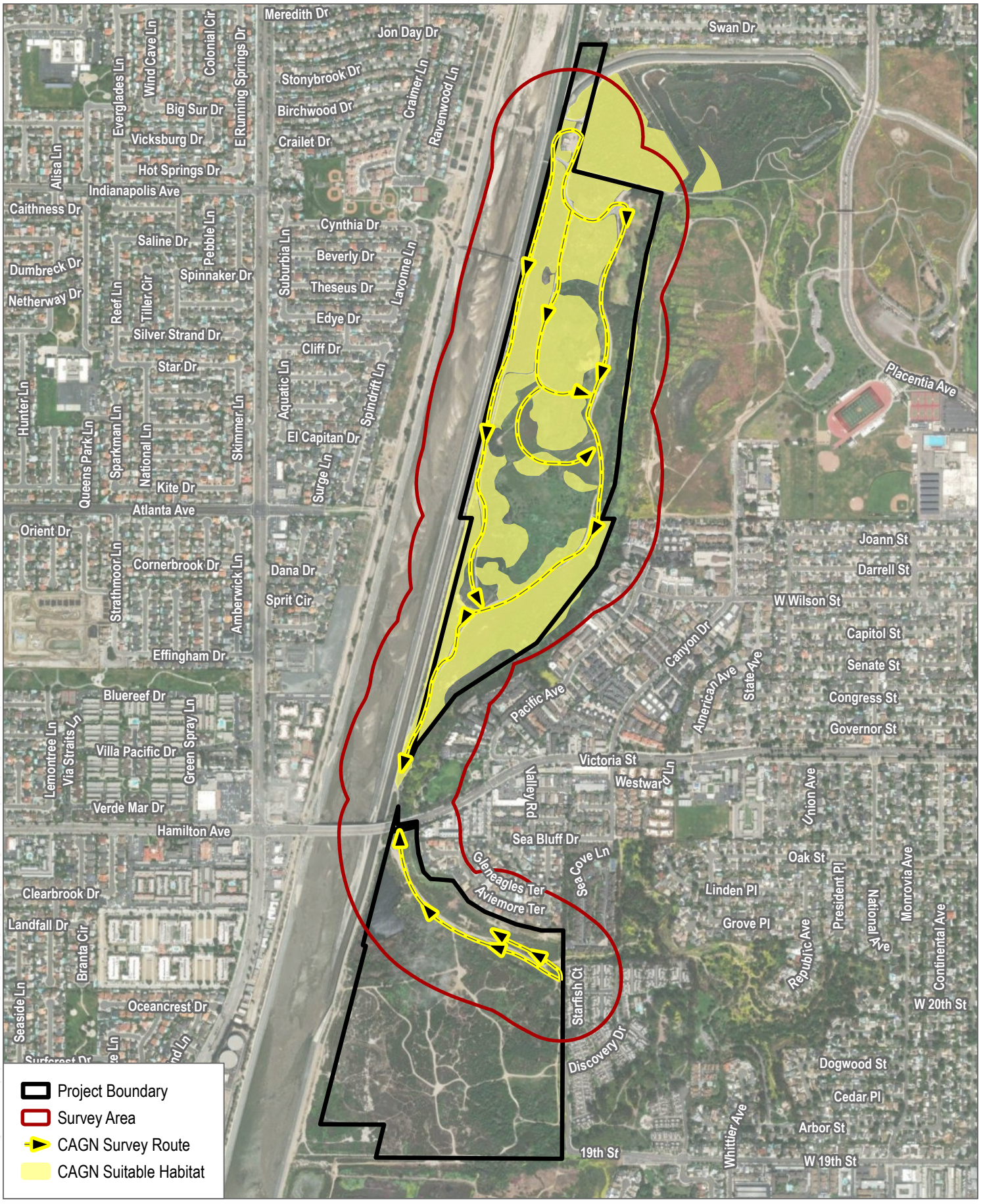
0 300 600 Meters
0 1,000 2,000 Feet

DUDEK

FIGURE 1

Project Location Map

Talbert Regional Park



SOURCE: Esri basemap; Open Street Map 2023

DUDEK

0 500 1,000 Feet

FIGURE 2

CAGN Survey Map

Talbert Regional Park

Attachment B

Site Photographs

Attachment B
Photo Documentation



Photo 1: Taken near the center of Talbert South, facing northeast. Note bassia in foreground and mulefat, willows, and eucalyptus in background.



Photo 2: Taken from northwest portion of Talbert North, facing east towards mulefat scrub in foreground.



Photo 3: Taken from the north-central portion of Talbert North, facing south towards coyote brush scrub with goldenbush and saltbush.



Photo 4: Taken near the central portion of Talbert North, facing southwest towards goldenbush and mulefat scrub.

Appendix E

Least Bell's Vireo and Southwestern Willow Flycatcher Focused Survey Results Report

DUDEK
MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 800.450.1818 F 760.632.0164

August 4, 2025 13230.67

U.S. Fish and Wildlife Service
Attn: Recovery Permit Coordinator
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

Subject: Focused Least Bell's Vireo and Southwestern Willow Flycatcher Survey Report for the Talbert Regional Park Master Plan Project, City of Costa Mesa, Orange County, California

Dear Recovery Permit Coordinator:

This report documents the results of eight protocol-level presence/absence surveys for the state- and federally listed endangered least Bell's vireo (*Vireo bellii pusillus*), and five protocol-level presence/absence surveys for the state- and federally listed endangered southwestern willow flycatcher (*Empidonax traillii extimus*). The surveys were conducted in all areas of suitable least Bell's vireo and southwestern willow flycatcher habitat.

The southwestern willow flycatcher and least Bell's vireo are closely associated with riparian habitats, especially densely vegetated willow scrub and riparian forest vegetation. These species are threatened primarily by loss, degradation, and fragmentation of riparian habitats. They also are impacted by brown-headed cowbird (*Molothrus ater*) nest parasitism.

1 Location and Existing Conditions

The Talbert Regional Park Master Plan Project (project) is located along the northern edge of the City of Costa Mesa in Orange County, California. The surrounding area is primarily developed with the concrete-lined Santa Ana River running along the western edge of the survey area, and residential developments to the east and south. Previously restored wetland and riparian habitat occurs within the adjacent Fairview Regional Park and Banning Ranch to the immediate east and south. The survey area consists of moderate to high quality riparian forest, woodland, and scrub vegetation. There is, however, high human activity within the study area including pedestrians, bicyclists, and homeless encampments within a network of dirt roads and trails.

2 Vegetation Communities

Vegetation communities identified within the study area as potentially suitable habitat for the southwestern willow flycatcher and/or least Bell's vireo include: arroyo willow, arroyo willow/mulefat, black willow, black willow/ mulefat, black willow thickets, blue elderberry-toyon, California fan palm oasis, California sycamore-coast live oak, mulefat thickets, mulefat-blue elderberry, mulefat-menzies' goldenbush-quailbush, and white alder-California sycamore

Arroyo Willow Alliance

The arroyo willow (*Salix lasiolepis*) thickets alliance includes arroyo willow as the dominant or co-dominant tree in the canopy. The alliance has an open to continuous tree canopy less than 65 feet (20 meters) in height with an open to intermittent shrub canopy and a variable ground layer (Sawyer et al. 2009). Species associated with the alliance include white alder (*Alnus rhombifolia*), coyote brush (*Baccharis pilularis*), mulefat (*Baccharis salicifolia*), California sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii*), blue elderberry (*Sambucus nigra*), and other willows (Sawyer et al. 2009). Within the study area, this community occurs throughout the central and eastern portions of Talbert north.

Arroyo Willow/Mulefat Association

Arroyo willow/mulefat association is an association within the arroyo willow thickets alliance, which consists of arroyo willow and mulefat as co-dominant species in the canopy (Sawyer et al. 2009). Within the study area, this community occurs throughout the southeastern portions of this site and a smaller community on the northeastern area of Talbert north.

Black Willow Alliance

The black willow thickets alliance (*Salix gooddingii* thickets alliance) includes black willow (*Salix gooddingii*) as the dominant or co-dominant tree in the canopy. The alliance has an open to continuous tree canopy less than 100 feet (30 meters) in height with an open to continuous shrub canopy, and variable ground layer (Sawyer et al. 2009). Species associated with the alliance include white alder, Fremont cottonwood, blue elderberry, red willow (*Salix laevigata*), arroyo willow, and shining willow (*Salix lucida* ssp. *lasiandra*) (Sawyer et al. 2009). Associated shrubs include coyote brush and mulefat (Sawyer et al. 2009). Within the study area, this community occurs on the northwestern and southeastern portions of Talbert south.

Black Willow/Mulefat Association

Black willow/mulefat (*Salix gooddingii/Baccharis salicifolia*) association is an association found within the black willow alliance, which consists of black willow and mulefat as co-dominant species within the canopy (Sawyer et al. 2009). Within the study area, this community was found on the northwestern and southern portions of Talbert south.

Black Willow Thickets

Black willow thickets consist of stands of black willows that are dominant in the tall shrub canopy rather than the tree canopy. Black willow thickets with scattered stands of red and arroyo willows occur south of Victoria Pond on Talbert south. This vegetation community is not considered sensitive by CDFW but may provide suitable habitat for special-status species and is often regulated as a jurisdictional aquatic resource.

Blue Elderberry-Toyon Association

The blue elderberry-toyon (*Sambucus nigra-Heteromeles arbutifolia*) association is an association within the blue elderberry alliance that has blue elderberry and toyon (*Heteromeles arbutifolia*) as the co-dominant species (Sawyer et al. 2009). The alliance has a continuous shrub canopy that is less than 26 feet (8 meters) in height. The herbaceous layer is variable and usually grassy. Other species that may occur in this community include: California

sagebrush (*Artemisia californica*), coyote brush, mulefat, bigpod ceanothus (*Ceanothus megacarpus*), bush monkeyflower (*Diplacus aurantiacus*), lemonade berry (*Rhus integrifolia*), and arroyo willow. Emergent trees may be present at low cover, including Southern California black walnut (*Juglans californica*), Fremont cottonwood, and California coast live oak (*Quercus agrifolia*). Within the study area, this community occurs along the northeastern boundary of Talbert north.

California Fan Palm Oasis Alliance

The California fan palm (*Washingtonia filifera*) oasis alliance includes the California fan palm as a dominant or co-dominant species in the tree canopy. In the shrub layer it has an open to intermittent canopy where in the herbaceous layer it is open to continuous and less than 100 feet (30 meters) in height. Species associated with this alliance are white alder, narrow-leaved willow (*Salix exigua*), arroyo willow, black willow, California sycamore, canyon live oak (*Quercus chrysolepis*), Fremont cottonwood, honey mesquite (*Prosopis glandulosa*), saltbushes (*Atriplex* sp.), Emory's baccharis (*Baccharis emoryi*), brittle bush (*Encelia farinosa*), and tamarisk (*Tamarix* sp.) (Sawyer et al. 2019). Within the study area, this community occurs in one area on the northern portion of Talbert south.

California Sycamore-Coast Live Oak Association

The California sycamore-coast live oak is an association within the California sycamore alliance. It is characterized as having California sycamore and coast live oak as co-dominant species in the tree canopy (Sawyer et al. 2009). Other associated species are Southern California black walnut, Fremont cottonwood, Valley oak (*Quercus lobata*), narrow-leaved willow, black willow, red willow, arroyo willow, Peruvian peppertree (*Schinus molle*) and California bay (*Umbellularia californica*). Within the study area, this community occurs within the northeastern corner of Talbert north.

Cattail Marshes Alliance

The cattail marshes alliance (*Typha [angustifolia, domingensis, latifolia]* herbaceous alliance) includes cattails as dominant or co-dominant in the herbaceous layer that is less than 5 feet (1.5 meters). The alliance has an intermittent to continuous cover and consists of a low cover of emergent trees (Sawyer et al. 2009). Cattail marshes occurs on semi-permanently flooded freshwater or brackish marshes. Some species associated with the alliance includes *Schoenoplectus* sp., *Juncus* sp., *Distichlis* sp., and *Salix* sp. Within the study area, this community occurs in one area on the northern boundary of Talbert north.

Mulefat Thickets Alliance

The mulefat (*Baccharis salicifolia* thickets alliance thickets alliance) includes mulefat as the dominant or co-dominant shrub. The community has a continuous shrub canopy with two tiers at less than 7 feet (2 meters) and less than 15 feet (5 meters) in height, a tree layer that may be present at low cover, and a sparse herbaceous layer (Sawyer et al. 2009). Species associated with the alliance include arroyo willow, narrow-leaved willow, California sagebrush, coyote brush, tree tobacco (*Nicotiana glauca*), and laurel sumac (*Malosma laurina*). Other tree species that may be present include California sycamore, Fremont cottonwood, oaks (*Quercus* sp.), and willows (*Salix* sp.) (Sawyer et al. 2009). Within the study area, this community occurs throughout Talbert south.

Mulefat-Blue Elderberry Association

The mulefat-blue elderberry (*Baccharis salicifolia-Sambucus nigra*) association has mulefat and blue elderberry as the co-dominant species in the shrub canopy (Sawyer et al. 2009). Within the study area, this community was found throughout Talbert north.

Mulefat-Menzies' Goldenbush-Quailbush Association

The mulefat-menzies' goldenbush-quailbush association has mulefat, menzies' goldenbush, and quailbush (*Atriplex lentiformis*) as the co-dominant species in the shrub canopy (Sawyer et al. 2009). Within the study area, this community was found centralized in Talbert north and surrounded by other communities like mulefat thickets and quailbush scrub.

White Alder-California Sycamore Association

The white alder-California sycamore (*Alnus rhombifolia-Platanus racemosa*) association is an association within the white alder alliance with white alder and California sycamore as the co-dominant species (Sawyer et al. 2009). Other species that may be associated with this community are: big-leaf maple (*Acer macrophyllum*), Port orford cedar (*Chamaecyparis lawsoniana*), Oregon Ash (*Fraxinus latifolia*), tanoak (*Notholithocarpus densiflorus*), California sycamore, Fremont cottonwood, black cottonwood (*Populus trichocarpa*), Douglas-fir (*Pseudotsuga menziesii*), Valley oak, and willows (*Salix* sp.). Within the study area, this community was found in one area in the southern portion of Talbert north.

3 Methods

Suitable habitat areas within the study area were surveyed eight times for vireo and five times for flycatcher. Flycatcher-permitted wildlife biologist Paul Lemons (Recovery Permit number ES051248) conducted all focused surveys (Table 1). Audio-playback techniques were used to elicit willow flycatcher responses during flycatcher surveys. Focused surveys were initiated on April 23, 2025, and continued through July 26, 2025.

Table 1. Least Bell's Vireo and Southwestern Willow Flycatcher Survey Results

Survey Pass #/ Focus	Date	Biologist	Hours	Conditions (temperature, cloud cover, wind speed)
1-LBVI	4-23-2025	Paul Lemons	5:50 AM–11:00 AM	54–63°F; 100% cc; 0–3 mph wind
2-LBVI	5-6-2025	Paul Lemons	5:45 AM–11:00 AM	56–64°F; 100% cc; 0–4 mph wind
1-SWFL 3-LBVI	5-17-2025	Paul Lemons	5:30 AM–11:00 AM	57–61°F; 100% cc; 0–7 mph wind
4-LBVI	5-28-2025	Paul Lemons	6:00 AM–11:00 AM	58–61°F; 100–80% cc; 1–5 mph wind
2- SWFL	6-1-2025	Paul Lemons	5:30 AM–11:00 AM	64–76°F; 100–70% cc; 0–5 mph wind
3-SWFL 5-LBVI	6-14-2025	Paul Lemons	5:40 AM–11:00 AM	63–69°F; 100% cc; 0–3 mph wind

Table 1. Least Bell's Vireo and Southwestern Willow Flycatcher Survey Results

Survey Pass #/ Focus	Date	Biologist	Hours	Conditions (temperature, cloud cover, wind speed)
6-LBVI	6-25-2025	Paul Lemons	7:00 AM–11:00 AM	64–73°F; 100–0% cc; 0–4 mph wind
4- SWFL	6-29-2025	Paul Lemons	6:00 AM–10:30 AM	62–71°F; 100–10% cc; 0–4 mph wind
5- SWFL	7-6-2025	Paul Lemons	5:45 AM–10:30 AM	63–74°F; 100-0% cc; 0–4 mph wind
7-LBVI	7-16-2025	Paul Lemons	5:45 AM–11:00 AM	64–72°F; 100–60% cc; 0–5 mph wind
8-LBVI	7-26-2025	Paul Lemons	6:00 AM–11:00 AM	63–71°F; 100–40% cc; 0–5 mph wind

Notes: LBVI = least Bell's vireo; SWFL = Southwestern willow flycatcher; cc = cloud cover; mph = miles per hour; °F = degrees Fahrenheit.

As directed by Stacey Love, United States Fish and Wildlife Service (USFWS) former Recovery Permit Coordinator (via email sent on April 27, 2016), surveys for vireo and flycatcher were not conducted concurrently. Due to differences in detectability, surveys were conducted sequentially, with surveys for the flycatcher first (i.e., first thing in the morning) and surveys for the vireo conducted afterwards. Additionally, for linear survey routes within a riparian corridor, flycatchers were surveyed from the starting point to the end, and vireos were surveyed on the way back. The route was arranged to cover all suitable habitat on site (as depicted on Figure 2). A vegetation map (1:2,400 scale; 1 inch=200 feet) of the study area was available to record any detected vireo or flycatcher. Binoculars (10×50) were used to aid in detecting and identifying wildlife species.

The five surveys conducted for flycatcher followed the currently accepted protocol (*A Natural History Summary and Survey Protocol for the Southwestern Willow Flycatcher* [Sogge et al. 2010]), which states that a minimum of five survey visits is needed to evaluate project effects on flycatchers. It is recommended that one survey is made between May 15 and 31, two surveys between June 1 and June 24, and two surveys between June 25 and July 17. Surveys during the final period (June 25 and July 17) were separated by at least five days. A tape of recorded flycatcher vocalizations was used, approximately every 50 to 100 feet within suitable habitat, to induce flycatcher responses. If a flycatcher had been detected, playing of the tape would have ceased to avoid harassment.

A Section 10(a)(1)(A) permit is not required to conduct presence/absence surveys for vireo. The eight surveys for vireo followed the currently accepted *Least Bell's Vireo Survey Guidelines* (USFWS, 2001), which states that a minimum of eight survey visits should be made to all riparian areas and any other potential vireo habitats between April 10 and July 31. The site visits are required to be conducted at least 10 days apart to maximize the detection of early and late arrivals, females, non-vocal birds, and nesting pairs. Taped playback of vireo vocalizations were not used during the surveys. Surveys were conducted between dawn and noon and were not conducted during periods of excessive or abnormal cold, heat, wind, rain, or other inclement weather.

Weather conditions, time of day, and season were appropriate for the detection of flycatcher and vireo (Table 1).

4 Results

No southwestern willow flycatchers were detected. Several least Bell's vireos were detected within the survey area during the 2025 focused survey effort (see Figure 2). Some vireos were observed directly; however most were detected aurally. No vireo nests were discovered during focused surveys, however nesting is likely to occur in at least three areas in the focused survey area in 2025. A total of 50 wildlife species were detected in the study area during focused surveys of the site (Appendix A). In addition, a completed Willow Flycatcher Survey and Detection Form is included as Appendix B. Overview photos of the habitat surveyed are included as Figure 3.

Please feel free to contact me at plemons@dudek.com with questions or if you require additional information.

I certify that the information in this survey report and attached exhibits fully and accurately represent my work.

Sincerely,



Paul Lemons
Wildlife Biologist

Att: *Figure 1, Project Location*
Figure 2, Survey Results Map
Figure 3, Habitat Photos
A, Wildlife Species Observed on the Project Site
B, Willow Flycatcher Survey and Detection Form
cc: *Tommy Molioo, Dudek*

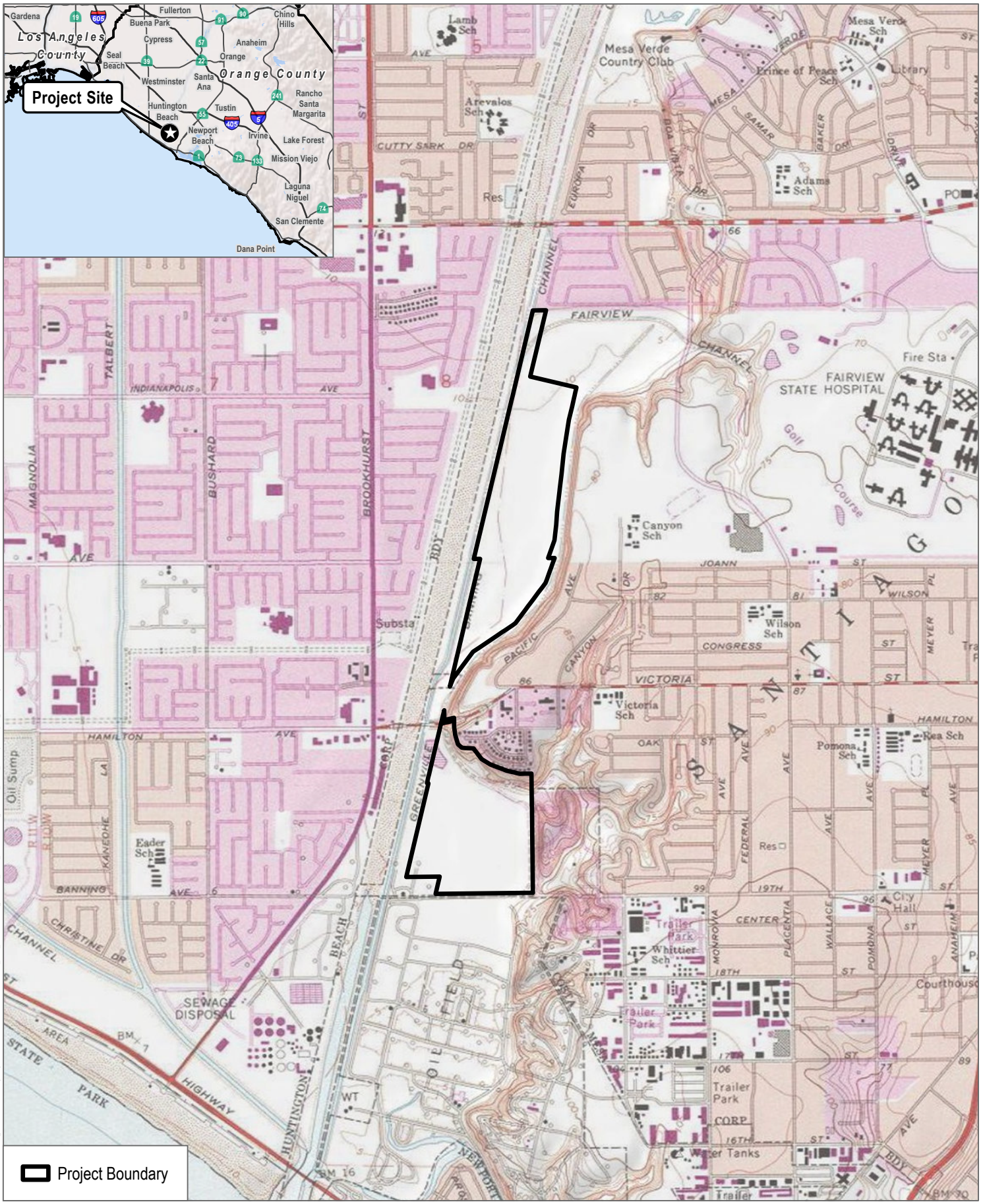
5 References

CDFG. 2010. List of Vegetation Alliances and Associations (Natural Communities List). Sacramento, California: CDFG, Vegetation Classification and Mapping Program. September 2010. http://www.dfg.ca.gov/biogeodata/vegcamp/natural_communities.asp.

Sawyer, J., T. Keeler-Wolf, and J. Evens. 2009. *A Manual of California Vegetation*. Second Edition. Sacramento, California: California Native Plant Society in collaboration with California Department of Fish and Game.

Sogge, M.K., Ahlers, Darrell, and S.J. Sferra. 2010. *A natural history summary and survey protocol for the southwestern willow flycatcher.* U.S. Geological Survey Techniques and Methods 2A-10. 38 p.

USFWS (U.S. Fish and Wildlife Service). 2001. Least Bell's Vireo Survey Guidelines. January 19.



SOURCE: USGS 7.5 Minute Series Newport Beach Quadrangle

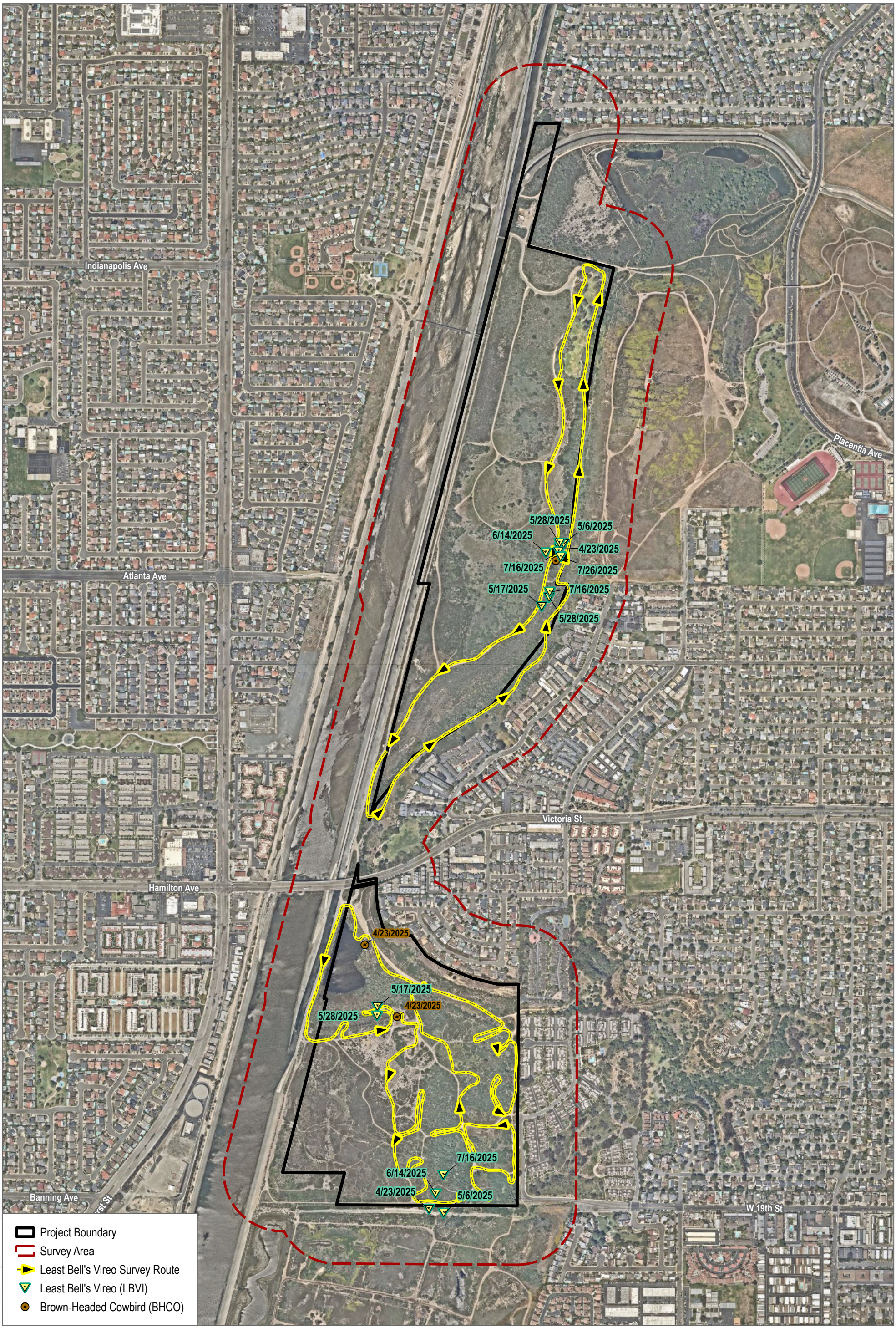
DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

2025 Focused Least Bell's Vireo and Southwestern Willow Flycatcher Survey Report for the Talbert Regional Park Master Plan Project, City of Costa Mesa, Orange County, California



SOURCE: Nearmap (Accessed 2025); Open Street Map 2023

DUDEK

N

0 355 710 Feet

FIGURE 2

Survey Results Map

2025 Focused Least Bell's Vireo and Southwestern Willow Flycatcher Survey Report for the Talbert Regional Park Master Plan Project, City of Costa Mesa, Orange County, California

Date: 7/30/2025 User: cpontifex Path: Z:\Projects\11094\07\MAPDOC\DOCUMENTS\WFL_LBVI_2025\TalbertRegionalMPP_SWLF_LBVITalbertRegionalMPP_Map_Fourie 2 Survey Results Map_Layout_Fourie 2 Survey Results Map





FIGURE 3

Habitat Photos

Attachment A

Wildlife Species Observed on the Project Site

Birds

Blackbirds, Orioles and Allies

ICTERIDAE—BLACKBIRDS

Agelaius phoeniceus—red-winged blackbird

Quiscalus mexicanus—great-tailed grackle

* *Molothrus ater*—brown-headed cowbird

Bushtits

AEGITHALIDAE—LONG-TAILED TITS AND BUSHTITS

Psaltriparus minimus—bushtit

Cardinals, Grosbeaks and Allies

CARDINALIDAE—CARDINALS AND ALLIES

Piranga ludoviciana—western tanager

Finches

FRINGILLIDAE—FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorhous mexicanus—house finch

Spinus psaltria—lesser goldfinch

Spinus tristis—American goldfinch

Flycatchers

TYRANNIDAE—TYRANT FLYCATCHERS

Sayornis nigricans—black phoebe

Tyrannus vociferans—Cassin's kingbird

Empidonax difficilis—western flycatcher

Hawks

ACCIPITRIDAE—HAWKS, KITES, EAGLES, AND ALLIES

Accipiter cooperii—Cooper's hawk

Hummingbirds

TROCHILIDAE—HUMMINGBIRDS

Calypte anna—Anna's hummingbird
Selasphorus rufus—rufous hummingbird
Selasphorus sasin—Allen's hummingbird

Ibises and Spoonbills

THRESKIORNITHIDAE—IBISES AND SPOONBILLS

Plegadis chihi—white-faced ibis

Jays, Magpies and Crows

CORVIDAE—CROWS AND JAYS

Corvus brachyrhynchos—American crow

New World Vultures

CATHARTIDAE—NEW WORLD VULTURES

Cathartes aura—turkey vulture

Pigeons and Doves

COLUMBIDAE—PIGEONS AND DOVES

Zenaida macroura—mourning dove

Rails, Gallinules and Coots

RALLIDAE—RAILS, GALLINULES, AND COOTS

Fulica americana—American coot

Starlings and Allies

STURNIDAE—STARLINGS

* *Sturnus vulgaris*—European starling

Swallows

HIRUNDINIDAE—SWALLOWS

Hirundo rustica—barn swallow
Stelgidopteryx serripennis—northern rough-winged swallow
Tachycineta bicolor—tree swallow
Tachycineta thalassina—violet-green swallow

Swifts

APODIDAE—SWIFTS

Aeronautes saxatalis—white-throated swift

Terns and Gulls

LARIDAE—GULLS, TERNS, AND SKIMMERS

Sterna forsteri—Forster's tern

Thrushes

TURDIDAE—THRUSHES

Sialia mexicana—western bluebird

Vireos

VIREONIDAE—VIREOS

Vireo bellii pusillus—least Bell's vireo

Waterfowl

ANATIDAE—DUCKS, GEESE, AND SWANS

Anas platyrhynchos—mallard

Wood Warblers and Allies

PARULIDAE—WOOD-WARBLERS

Geothlypis trichas—common yellowthroat
Setophaga petechia—yellow warbler
Leiothlypis celata—orange-crowned warbler

Woodpeckers

PICIDAE—WOODPECKERS AND ALLIES

Dryobates nuttallii—Nuttall's woodpecker
Dryobates pubescens—downy woodpecker

Wrens

TROGLODYTIDAE—WRENS

Cistothorus palustris—marsh wren
Troglodytes aedon—house wren

Waxbills

ESTRILDIDAE—WAXBILLS

* *Lonchura punctulata*—scaly-breasted munia

New World Sparrows

PASSERELLIDAE—NEW WORLD SPARROWS

Junco hyemalis—dark-eyed junco
Melospiza melodia—song sparrow
Melozone crissalis—California towhee
Pipilo maculatus—spotted towhee

Chats

ICTERIIDAE—YELLOW-BREASTED CHAT

Icteria virens—yellow-breasted chat

Invertebrates

Butterflies

NYMPHALIDAE—BRUSH-FOOTED BUTTERFLIES

Danaus plexippus—monarch
Nymphalis antiopa—mourning cloak

PAPILIONIDAE—SWALLOWTAILS

Papilio rutulus—western tiger swallowtail

Mammals

Canids

CANIDAE—WOLVES AND FOXES

Canis latrans—coyote

Hares and Rabbits

LEPORIDAE—HARES AND RABBITS

Sylvilagus bachmani—brush rabbit

Pocket Gophers

GEOMYIDAE—POCKET GOPHERS

Thomomys bottae—Botta's pocket gopher

Squirrels

SCIURIDAE—SQUIRRELS

Otospermophilus beecheyi—California ground squirrel

* signifies introduced (non-native) species

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Appendix B

Willow Flycatcher Survey and Detection Form

Appendix 1. Willow Flycatcher Survey and Detection Form

Always check the U.S. Fish and Wildlife Service Arizona Ecological Services Field Office web site (http://www.fws.gov/southwest/es/arizona/) for the most up-to-date version.

Willow Flycatcher (WIFL) Survey and Detection Form (revised April 2010)

Site Name Talbert Regional Park, Master Plan State CA County Orange
USGS Quad Name Newport Beach Elevation 4 (meters)
Creek, River, Wetland, or Lake Name Wetlands associated with Santa Ana River
Is copy of USGS map marked with survey area and WIFL sightings attached (as required)? *Yes* X *No* ___

Survey Coordinates: Start: E 412296.46 N 3723006.53 UTM Datum NAD83 (See instructions)
Stop: E 412496.96 N 3725450.19 UTM Zone 11S
If survey coordinates changed between visits, enter coordinates for each survey in comments section on back of this page.
** *Fill in additional site information on back of this page* **

Survey # / Observer(s) (Full Name)	Date (m/d/y) Survey time	Number of Adult WIFLs	Estimated Number of Pairs	Estimated Number of Territories	Nest(s) Found? Y or N / If Yes, number of nests	Comments (e.g., bird behavior, evidence of pairs or breeding; potential threats [livestock, cowbirds, *Diorhabda* spp.]). If *Diorhabda* found, contact USFWS and State WIFL coordinator	GPS Coordinates for WIFL Detections (this is an optional column for documenting individuals, pairs, or groups of birds found on each survey). Include additional sheets if necessary.			
							# Birds	Sex	UTM E	UTM N
Survey # 1 Observer(s) Paul Lemons	Date 5/17 Start 0530 Stop 1100 Total hrs 5.5	0	0	0	0					
Survey # 2 Observer(s) Paul Lemons	Date 6/1 Start 0530 Stop 1100 Total hrs 5.5	0	0	0	0					
Survey # 3 Observer(s) Paul Lemons	Date 6/14 Start 0510 Stop 1100 Total hrs 5.4	0	0	0	0					
Survey # 4 Observer(s) Paul Lemons	Date 6/29 Start 0600 Stop 1030 Total hrs 4.5	0	0	0	0					
Survey # 5 Observer(s) Paul Lemons	Date 7/6 Start 0515 Stop 1030 Total hrs 4.75	0	0	0	0					
Overall Site Summary Totals do not equal the sum of each column. Include only resident adults. Do not include migrants, nestlings, and fledglings. Be careful not to double count individuals. Total Survey Hrs 25.65		Total Adult Residents	Total Pairs	Total Territories	Total Nests	Were any Willow Flycatchers color-banded? Yes___ No N/A If yes, report color combination(s) in the comments section on back of form and report to USFWS.				
		0	0	0	0					

Reporting Individual Paul Lemons Date Report Completed August 2025
US Fish and Wildlife Service Permit # ES051248 State Wildlife Agency Permit # SC10080

***Submit** form to USFWS and State Wildlife Agency by September 1st. Retain a copy for your records.*

Fill in the following information completely. Submit form by September 1st. Retain a copy for your records.

Reporting Individual Paul Lemons Phone # 858-336-4030
Affiliation Consultant - Dudek E-mail plemons@dudek.com
Site Name Talbert Regional Park Master Plan Date Report Completed Aug 2025

Did you verify that this site name is consistent with that used in previous years? Yes ✓ No ____ Not Applicable ____
If site name is different, what name(s) was used in the past? ____
If site was surveyed last year, did you survey the same general area this year? N/A Yes ____ No ____ If no, summarize below.
Did you survey the same general area during each visit to this site this year? Yes ✓ No ____ If no, summarize below.

Management Authority for Survey Area : Federal____ Municipal/County ____ State ____ Tribal ____ Private ____
Name of Management Entity or Owner (e.g., Tonto National Forest) Orange County Dept of Public Works

Length of area surveyed: 2200 (meters)

Vegetation Characteristics: Mark the category that best describes the predominant tree/shrub foliar layer at this site (check one):

X Native broadleaf plants (entirely or almost entirely, > 90% native, includes high-elevation willow)

____ Mixed native and exotic plants (mostly native, 50 - 90% native)

____ Mixed native and exotic plants (mostly exotic, 50 - 90% exotic)

____ Exotic/introduced plants (entirely or almost entirely, > 90% exotic)

Identify the 2-3 predominant tree/shrub species in order of dominance. Use scientific name.
Baccharis salicifolia, Salix lasiolepis, Salix goodingii

Average height of canopy (Do not include a range): 9 (meters)

Attach copy of USGS quad/topographical map (REQUIRED) of survey area, outlining survey site and location of WIFL detections.
Attach sketch or aerial photo showing site location, patch shape, survey route, location of any WIFLs or WIFL nests detected.
Attach photos of the interior of the patch, exterior of the patch, and overall site; describe any unique habitat features.

Comments (attach additional sheets if necessary)
No WIFL

Territory Summary Table. Provide the following information for each verified territory at your site.

Territory Number	All Dates Detected	UTM N	UTM E	Pair Confirmed? Y or N	Nest Found? Y or N	Description of How You Confirmed Territory and Breeding Status (e.g., vocalization type, pair interactions, nesting attempts, behavior)

Attach additional sheets if necessary

Appendix F

Aquatic Resources Delineation Report

DUDEK
3600 LIME STREET, BLDG 2
RIVERSIDE, CALIFORNIA 92501
T 951.300.2100

December 10, 2025 13230

Sheila Cedervall
Senior Landscape Architect
OC Parks, Planning and Design Division
13042 Old Myford Road
Irvine, California 92602

Subject: Preliminary Jurisdictional Waters Delineation Report for the Talbert Regional Park Master Plan Project, City of Costa Mesa, Orange County, California

Dear Sheila Cedervall,

This report documents the results of a delineation of potentially jurisdictional waters for the Talbert Regional Park Master Plan Project (project) located in the City of Costa Mesa, California. The approximately 180-acre project site is located to the north and south of Victoria Avenue (Figure 1, Project Location). The study area consists of the proposed project and a 100-foot buffer, totaling approximately 473 acres. This aquatic resources report is intended to (1) describe the existing conditions of jurisdictional waters within the study area, (2) quantify the jurisdictional waters mapped within the study area, and (3) provide a discussion of potential water resource permits required for implementation of the project.

1 Project Location and Description

The proposed project study area is located in Orange County, California, on the grounds of the Talbert Regional Park, owned and operated by the County of Orange (County). The proposed project follows the northern, southern, and western boundary of Talbert Regional Park and the northwestern section of Canyon Park. The study area is located on the U.S. Geological Survey (USGS) 7.5-Minute map, Newport Beach quadrangle, Sections 8, 17 and 20, Township 6 South, and Range 10 West (Figure 2, Local Vicinity). The Principal Meridian of the project is at latitude 33.652176° N and longitude -117.949693°W. The site is approximately 1.5 miles west of State Route 55 (SR-55) and 1.0 mile north of SR-1.

The Park is divided into six separate plant groups, identified as "zones" and based upon the progression of plant groups and changing conditions found along the Santa Ana River. The first zone is designated "Intensive Use Area" and the plant material has been selected based on use instead of its origins on the site. The second zone, a "Border Planting" zone is planted with vegetation designed to maintain boundaries and screen the embankment of the Greenville-Banning Channel. Another zone, the "Coastal Strand" consists of gentle slopes and dunes, a habitat largely destroyed by the advance of civilization in the area. The "Native Grassland" zone is the largest zone in the park and provides opportunities for wildlife habitats. An "Alluvial Woodland" zone contains a wide variety of plant and animal life and is the most secluded area in the park. Finally, the "Wetland Zone" consists of the southern 14.8 acres of the Park and contains elements of riparian woodland and mulefat scrub.

The Park consists of a small active park that allows picnicking and informal recreation, while the trail system allows for observation of natural resources and linkage to other parks up and down stream along the Santa Ana River. Group use within the habitat areas is permitted by guided walks and individual use is facilitated by interpretive signage.

To date, OC Parks has completed the Talbert Regional Park Final Habitat Restoration Plan (Restoration Plan), a planning document that identifies existing park conditions, and provides recommendations for park restoration and passive recreational use. This Plan addresses natural preservation through non-native plant removal, habitat restoration, passive recreation and public use of multiple interest areas (Victoria Pond and a BMX bicycle area). Highlights of the Restoration Plan address the water resources of the Park within South Talbert containing elements of riparian woodland and mulefat scrub, and North Talbert along an area referred to as Placentia Drain. OC Parks intends to use a hybrid of select pieces of the three restoration alternatives (minimal, medium, and maximum touch) detailed in the Restoration Plan, as well as potentially other design ideas that arise during the Master Plan process.

2 Regulatory Background

2.1 Federal Statutes and Regulations – U.S. Army Corps of Engineers

Pursuant to Section 404 of the Clean Water Act, any person or public agency proposing to discharge dredged or fill material into waters of the United States, including jurisdictional wetlands, must obtain a permit from the U.S. Army Corps of Engineers (ACOE). Title 33 of the Code of Federal Regulations, Part 328.3, defines waters of the United States with an amendment published in the Federal Register on June 29, 2015, effective on August 28, 2015. The newly modified Section 328.3(a) defines waters of the United States as follows:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters, including interstate wetlands;
3. The territorial seas;
4. All impoundments of waters otherwise identified as water of the United States under this section;
5. All tributaries, as defined in this section;
6. All waters adjacent to a water identified in 1 through 5 above;
7. Additional waters (as defined in the section) where they are determined, on a case-specific basis, to have a significant nexus to a water in 1 through 3 above.

Please note that the proposed (revised) Clean Water Rule 2025 was released for a 45-day public comment period on November 20, 2025 and the final rule will likely be published in early to mid-2026.

For non-tidal waters of the United States, the lateral limits of ACOE jurisdiction extend to the ordinary high water mark (OHWM) when no adjacent wetlands are present. As defined in 33 Code of Federal Regulations 328.3(c)(6), the OHWM is “that line on the shore established by the fluctuations of water and indicated by physical characteristics such as [a] clear, natural line impressed on the bank, shelving, changes in the character of soil,

destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas." If adjacent wetlands are present, the jurisdiction extends to the limit of the wetlands.

Wetlands are "those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3). Wetlands are jurisdictional if they meet this definition as well as the definition of waters of the United States. Three criteria must be satisfied to classify an area as a wetland under ACOE jurisdiction: (1) a predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation); (2) soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils); and (3) permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology). The ACOE uses the methodology in the Regional Supplements to the Corps of Engineers Wetland Delineation Manual to determine whether an area meets these three criteria. In the project area, the supplement for the Arid West Region (ACOE 2008a) is used.

ACOE-Regulated Activities

Under Section 404 of the Clean Water Act, the ACOE regulates activities that involve a discharge of dredged or fill material, including but not limited to grading, placing riprap for erosion control, pouring concrete, laying sod, and stockpiling excavated material into waters of the United States. Activities that generally do not involve a regulated discharge (if performed specifically in a manner to avoid discharges) include driving pilings, providing some drainage channel maintenance activities, and excavating without stockpiling.

2.2 State Statutes and Regulations – Regional Water Quality Control Board

The State of California has concurrent jurisdiction with the federal government over Section 401 Water Quality Certification for jurisdictional waters and wetlands of the United States. Where isolated waters and wetlands (not subject to federal jurisdiction) are involved, the state will exert independent jurisdiction via the Porter-Cologne Water Quality Control Act.

Section 401 of the Clean Water Act

Section 401 of the Clean Water Act requires that any applicant for a federal permit for activities that involve a discharge to waters of the United States shall provide the federal permitting agency a certification from the state in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the federal Clean Water Act. Therefore, in California, before the ACOE will issue a Section 404 permit, applicants must apply for and receive a Section 401 Water Quality Certification or waiver from the Regional Water Quality Control Board (RWQCB).

Under Section 401 of the Clean Water Act, the RWQCB regulates at the state level all activities that are regulated at the federal level by ACOE.

Porter-Cologne Water Quality Control Act

The RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state" (California Water Code, Section 13260(a)), pursuant to provisions of the state Porter-Cologne Water Quality Control Act. "Waters of the state" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code, Section 13050(e)).

Under the Porter-Cologne Water Quality Control Act, the RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into waters of the state, that are not regulated by the ACOE due to a lack of connectivity with a navigable water body.

2.3 State Statutes and Regulations – California Department of Fish and Wildlife

The California Fish and Game Code, Sections 1600–1616, mandates that "it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity."

California Department of Fish and Wildlife (CDFW) jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes characterized by the presence of (1) definable bed and banks and (2) existing fish or wildlife resources. Furthermore, CDFW jurisdiction extends to riparian habitat and may include oak woodlands in canyon bottoms. Historical court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear, but reemerge elsewhere. Under the CDFW definition, a watercourse need not exhibit evidence of an OHWM to be claimed as jurisdictional. CDFW does not have jurisdiction over ocean or shoreline resources.

Under the California Fish and Game Code, Sections 1600–1616, CDFW has the authority to regulate work that will substantially divert or obstruct the natural flow of, or substantially change or use any material from, the bed, channel, or bank of any river, stream, or lake. CDFW also has the authority to regulate work that will deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. This regulation takes the form of a requirement for a Lake or Streambed Alteration Agreement and is applicable to all projects.

2.4 State Statutes and Regulations – California Coastal Commission

The California Coastal Commission (CCC) regulates activities within wetlands in the coastal zone. The Coastal Act Section 30121 (California Coastal Act as of January 1, 2005) defines wetlands as "lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens". Subsequent Statewide Interpretive guidelines has refined the definition based upon the U.S. Fish and Wildlife Service definition (Cowardin et al. 1979),

which is as follows: "Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For the purposes of this classification wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes, (2) the substrate is predominantly undrained hydric soil, and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year." This definition is used as a guide for defining wetlands. The Coastal Commission can also rely on other information, advice and judgment of other experts in determining jurisdiction.

3 Methods

3.1 Literature Review

The following available resources were reviewed to assess the potential for jurisdictional waters:

- aerial photographs (Google Earth 2019; Historic Aerials 2019);
- the U.S. Geological Survey 7.5-minute topographic quadrangle (USGS 2019);
- a Natural Resources Conservation Service soil map (USDA 2019a);
- U.S. Environmental Protection Agency Watershed Assessment, Tracking & Environmental Results System (EPA 2019), which includes the National Hydrography Dataset;
- the National Wetland Inventory (USFWS 2018).

3.2 Jurisdictional Delineation

On October 23 and 30, 2019, Dudek biologists Tommy Molioo, Eilleen Salas, and Tracy Park conducted a formal delineation of potentially jurisdictional waters and wetlands within the study area, where access was available. The study area was surveyed on foot where potential jurisdictional features were observed and was surveyed for the following types of features:

- Waters of the United States, including wetlands, under the jurisdiction of the ACOE, pursuant to Section 404 of the federal Clean Water Act
- Waters of the state under the jurisdiction of the RWQCB, pursuant to Section 401 of the federal Clean Water Act and the Porter-Cologne Water Quality Control Act as wetlands or drainages
- Streambeds under the jurisdiction of the CDFW, pursuant to Section 1602 of the California Fish and Game Code
- It is assumed for the purpose of this report that CDFW-jurisdictional areas are also under the jurisdiction of the CCC, and have been delineated using the same methodology.

Non-wetland waters of the United States were delineated based on the presence of an OHWM as determined using the methodology in A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (ACOE 2008b). Wetland waters of the United States were delineated based on methodology described in the 1987 Corps of Engineers Wetland Delineation Manual (ACOE 1987) and the ACOE Regional Supplement (ACOE 2008a). Pursuant to the federal Clean Water Act, ACOE and RWQCB jurisdictional areas include those supporting all three wetlands criteria described in the ACOE manual: hydric soils, hydrology, and

hydrophytic vegetation. Areas regulated by the RWQCB are generally coincident with the ACOE, but can also include isolated features that have evidence of surface water inundation pursuant to the state Porter-Cologne Water Quality Control Act. Isolated features are delineated at the OHWM, at the outer limits of hydrophytic vegetation, or at the outer rim of depressional features if relevant.

Streambeds are typically delineated from top of bank to top of bank or the extent of associated riparian vegetation beyond the top of bank. For shallow drainages and washes that do not support riparian vegetation, the top-of-bank measurement may be the same as the OHWM measurement.

To aid in the delineation, data was collected at three data stations (Attachment B, Jurisdictional Delineation Forms). Hydrology, vegetation, and soils were assessed, and data were collected on an approved ACOE Arid West Wetland Determination Data form. The site was evaluated for wetland vegetation, wetland hydrology, and hydric soils. Photos of the jurisdictional features were taken in accordance with ACOE guidelines and are provided in Attachment C, Site Photos.

4 Environmental Setting

4.1 Land Uses

The project site is within the Talbert Regional Park and is crossed with a network of dirt trails that are open to the public. Multiple areas within the site contain various stages of habitat restoration as part of several non-related projects. The current and proposed land uses on-site would be consistent with the currently designated Public/Institutional land use mapped for the site (Costa Mesa 2016). The study area is relatively flat and occurs at the elevation range of 5 feet above mean sea level (amsl) to 16 feet amsl.

The project site contains residential development to the east and north, the Banning Ranch property to the south, and the Santa Ana River to the immediate west followed by additional residential development further to the west. The site is bisected by Victoria Street, which divides the project site into North Talbert and South Talbert.

4.2 Climate

The study area is located within the Peninsular Range, less than 1 mile from the Pacific Ocean. It is in a Mediterranean climate characterized by mild, dry summers and wet winters. Average temperatures near Newport Beach range from approximately 55° Fahrenheit (F) to 68°F, and the area generally receives an average rainfall of less than 11 inches per year (WRCC 2025).

4.3 Soils

According to U.S. Department of Agriculture there are five soil types found in the project area: Bolsa silt loam; Hueneme fine sandy loam; Hueneme fine sandy loam, drained; Myford sandy loam, 9 to 30% slopes, eroded; and Metz loamy sand, moderately fine substratum (Figure 3 Soils) (USDA 2025).

Bolsa silt loam is a poorly drained soil that derived from mixed alluvium and contains silt loam and silty clay loam. Hueneme fine sandy loam is comprised of fine sandy loam and stratified sand to silt loam. Myford sandy loam, 9 to 30% slopes, eroded, is similar to the previous description but often very shallow because of erosion. Metz loamy sand is deep, excessively drained soil formed in alluvial material from mixed, but dominantly sedimentary rocks (USDA 2025).

4.4 Vegetation

Thirty-five vegetation communities and land covers (including disturbed forms) were mapped in the study area based on general physiognomy and species composition, including 28 native or naturalized vegetation types and 7 non-native land covers. These natural vegetation communities and land covers were mapped based on general physiognomy, species composition, and/or ground cover and are discussed in detail further below (Figure 4, Vegetation Communities and Soils). Table 1 summarizes the extent of each vegetation community or land cover within the study area.

Table 1. Vegetation Communities and Land Covers within the Study Area

Vegetation Community or Land Cover	Association	Map Label	Acreages
Forest and Woodland Alliances			
Arroyo willow association	*Salix lasiolepis*	Sallas	5.81
Arroyo willow/mulefat	*Salix lasiolepis/Baccharis salicifolia*	Sallas/Bacsal	3.99
Black willow association	*Salix gooddingii*	Salgoo	2.51
Black willow/mulefat	*Salix gooddingii/Baccharis salicifolia*	Salgoo/Bacsal	10.39
Black Willow Thickets	*Salix gooddingii*	BWT	3.88
Blue elderberry-toyon association	*Sambucus nigra-Heteromeles arbutifolia*	Samnig-Hetarb	5.05
California sycamore-coast live oak association*	*Platanus racemosa-Quercus agrifolia*	Plarac-Queagr	3.99
Eucalyptus groves	*Eucalyptus* sp.	EG(SNS)	1.66
Mulefat thickets	Baccharis salicifolia	MFT	23.88
Mulefat-blue elderberry	*Baccharis salicifolia/Sambucus nigra* sp. *caerulea*	Bacsal-Sammex	44.21
Mulefat-Menzies' goldenbush-quailbush association	*Baccharis salicifolia/Isocoma menziesii/Atriplex lentiformis*	Bacsal-Isomen-Atrlen	7.20
White alder-California sycamore association*	*Alnus rhombifolia-Platanus racemosa*	Alnrho-Plarac	0.68
	Subtotal of Forest and Woodlands Alliances and Stands		*113.25*
Shrubland and Grassland Alliances			
Alkali heath/salt grass association	*Frankenia salina/Distichlis spicata*	Frasal/Disspi	2.83
American bulrush marsh*	*Schoenoplectus americanus*	ABM	0.82
Black mustard-ripgut brome association	*Brassica nigra-Bromus diandrus*	BM-RB	2.17

Table 1. Vegetation Communities and Land Covers within the Study Area

Vegetation Community or Land Cover	Association	Map Label	Acreages
California brittle bush-California sagebrush-black sage-coyote brush association	*Encelia californica-Artemisia californica-Salvia mellifera-Baccharis pilularis*	Enccal-Artcal-Salmel-Bacpil	13.69
Cattail marshes	*Typha*	CM	0.45
Coyote brush scrub	*Baccharis pilularis*	CYS	16.76
Coyote brush-California sagebrush association	*Baccharis pilularis-Artemisia californica*	Bacpil-Artcal	1.5
Ice plant mats	*Carpobrotus edulis*	IPM(SNS)	2.07
Menzies's golden bush scrub*	*Isocoma menziesii*	MGBS	17.58
Pickleweed mats*	*Salicornia*	PM	1.72
Poison hemlock or fennel patches	*Conium maculatum / Foeniculum vulgare*	PH-FP(SNS)	1.54
Quailbush scrub	*Atriplex lentiformis*	QS	2.29
Salt grass-Pacific swampfire association	*Distichlis spicata-Sarcocornia pacifica*	Disspi-Sarpac	16.46
Smartweed-cocklebur patches	*Persicaria / Xanthium strumarium*	S-CP	0.61
Tarplant fields*	*Centromadia parryi sp. australis*	TPF	0.50
Upland mustards	*Hirschfeldia incana*	UM(SNS)	34.55
		Subtotal of Shrubland Alliance and Stands	*115.54*
Non-Natural Land Covers and Unvegetated Communities			
Fivehook Bassia	*Bassia hyssopifolia*	Bassia	1.62
Myoporum/Black willow	*Myoporum* sp. / *Salix gooddingii*	CC	3.08
Disturbed Habitat	—	DH	28.37
Concrete channel	—	MP/Salgoo	2.06
Open water	—	OW	88.59
Parks and ornamental plantings	—	ORN	35.14
Urban/Developed	—	DEV	85.36
		Subtotal of Non-Natural Land Covers and Unvegetated Communities	*244.23*
		Total	**473.01**

Note:
* Ranked by CDFW as Sensitive Vegetation Communities (S1-3).

4.4.1 Native or Naturalized Vegetation Community

Alkali Heath/Salt Grass Association

The alkali heath/salt grass association (*Frankenia salina/Distichlis spicata* association) includes alkali heath and salt grass as the dominant or co-dominant in the herbaceous and subshrub layer. The community has an open to continuous cover less than 25 inches (60 centimeters) in height (Sawyer et al. 2009). This community occurs in

coastal salt marshes and alkali meadows. Species associated with the association include *Atriplex* sp., *Batis* sp., and *Suaeda* sp. Within the study area, this community occurs along the western boundary of South Talbert.

American Bulrush Marsh Alliance

The American bulrush marsh alliance (*Schoenoplectus americanus* herbaceous alliance) includes American bulrush as the dominant or co-dominant herb in the herbaceous layer. The community has an intermittent to continuous cover less than 13 feet (4 meters) in height (Sawyer et al. 2009). Species associated with the alliance include yerba mansa (*Anemopsis californica*), salt grass, common reed (*Phragmites australis*), hardstem bulrush (*Schoenoplectus acutus*), California bulrush (*Schoenoplectus californicus*), and cattail (*Typha* sp.) (Sawyer et al. 2009). Within the study area, this community occurs in one area within the western portion of South Talbert.

Arroyo Willow Alliance

The arroyo willow (*Salix lasiolepis*) thickets alliance includes arroyo willow as the dominant or co-dominant tree in the canopy. The alliance has an open to continuous tree canopy less than 65 feet (20 meters) in height with an open to intermittent shrub canopy and a variable ground layer (Sawyer et al. 2009). Species associated with the alliance include white alder (*Alnus rhombifolia*), coyote brush (*Baccharis pilularis*), mulefat (*Baccharis salicifolia*), California sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii*), blue elderberry (*Sambucus nigra*), and other willows (Sawyer et al. 2009). Within the study area, this community occurs throughout the central and eastern portions of North and South Talbert.

Arroyo Willow/Mulefat Association

Arroyo willow/mulefat association is an association within the arroyo willow thickets alliance, which consists of arroyo willow and mulefat as co-dominant species in the canopy (Sawyer et al. 2009). Within the study area, this community occurs throughout the southeastern portions of this site and a smaller community on the northeastern area of North Talbert.

Black Mustard-Ripgut Brome

This nonnative vegetation community consists of black mustard (*Brassica nigra*) and ripgut brome (*Bromus diandrus*) as the co-dominant species in the herbaceous layer. Its cover is open to continuous with herbs less than 10 feet (3 meters) in height. Other species that can be found with this alliance include field mustard (*Brassica rapa*), artichoke thistle (*Cynara cardunculus*), carnation spurge (*Euphorbia terracina*), shortpod mustard (*Hirschfeldia incana*), woad (*Isatis tinctoria*), wild radish (*Raphanus sativus*), false brome (*Brachypodium distachyon*), ripgut brome and/or soft brome (*Bromus hordeaceus*) (Sawyer at al. 2009). Within the study area, this community occurs along the northern boundary of North Talbert.

Black Willow Alliance

The black willow thickets alliance (*Salix gooddingii* thickets alliance) includes black willow (*Salix gooddingii*) as the dominant or co-dominant tree in the canopy. The alliance has an open to continuous tree canopy less than 100 feet (30 meters) in height with an open to continuous shrub canopy, and variable ground layer (Sawyer et al. 2009). Species associated with the alliance include white alder, Fremont cottonwood, blue elderberry, red willow (*Salix laevigata*), arroyo willow, and shining willow (*Salix lucida* ssp. *lasiandra*) (Sawyer et al. 2009). Associated shrubs

include coyote brush and mulefat (Sawyer et al. 2009). Within the study area, this community occurs on the northwestern and southeastern portions of South Talbert.

Black Willow/Mulefat Association

Black willow/mulefat (*Salix gooddingii/Baccharis salicifolia*) association is an association found within the black willow alliance, which consists of black willow and mulefat as co-dominant species within the canopy (Sawyer et al. 2009). Within the study area, this community was found on the northwestern and southern portions of South Talbert.

Blue Elderberry-Toyon Association

The blue elderberry-toyon (*Sambucus nigra-Heteromeles arbutifolia*) association is an association within the blue elderberry alliance that has blue elderberry and toyon (*Heteromeles arbutifolia*) as the co-dominant species (Sawyer et al. 2009). The alliance has a continuous shrub canopy that is less than 26 feet (8 meters) in height. The herbaceous layer is variable and usually grassy. Other species that may occur in this community include: California sagebrush (*Artemisia californica*), coyote brush, mulefat, bigpod ceanothus (*Ceanothus megacarpus*), bush monkeyflower (*Diplacus aurantiacus*), lemonade berry (*Rhus integrifolia*), and arroyo willow. Emergent trees may be present at low cover, including Southern California black walnut (*Juglans californica*), Fremont cottonwood, and California coast live oak (*Quercus agrifolia*). Within the study area, this community occurs along the northeastern boundary of North Talbert.

California Brittle Bush-California Sagebrush-Black Sage-Coyote Brush Association

California brittle bush-California sagebrush-black sage-coyote (*Encelia californica-Artemisia californica-Salvia mellifera-Baccharis salicifolia*) brush is an association within the California brittle bush alliance (Sawyer et al. 2009). Within the study area, this community occurs along the western boundary of North Talbert.

California Sycamore-Coast Live Oak Association

The California sycamore-coast live oak is an association within the California sycamore alliance. It is characterized as having California sycamore and coast live oak as co-dominant species in the tree canopy (Sawyer et al. 2009). Other associated species are Southern California black walnut, Fremont cottonwood, Valley oak (*Quercus lobata*), narrow-leaved willow, black willow, red willow, arroyo willow, Peruvian peppertree (*Schinus molle*) and California bay (*Umbellularia californica*). Within the study area, this community occurs within the northeastern corner of North Talbert.

Cattail Marshes Alliance

The cattail marshes alliance (*Typha [angustifolia, domingensis, latifolia]* herbaceous alliance) includes cattails as dominant or co-dominant in the herbaceous layer that is less than 5 feet (1.5 meters). The alliance has an intermittent to continuous cover and consists of a low cover of emergent trees (Sawyer et al. 2009). Cattail marshes occurs on semi-permanently flooded freshwater or brackish marshes. Some species associated with the alliance includes *Schoenoplectus* sp., *Juncus* sp., *Distichlis* sp., and *Salix* sp. Within the study area, this community occurs in one area on the northern boundary of North Talbert.

Coyote Brush Scrub Alliance

The coyote brush bush scrub alliance (*Baccharis pilularis* scrub alliance) includes coyote brush as dominant or co-dominant in the canopy. The alliance has a variable canopy less than 3 feet (1 meter) in height with variable herbaceous layer (Sawyer et al. 2009). Some species associated with the alliance include California sagebrush, California buckwheat (*Eriogonum fasciculatum*), common deerweed (*Acmispon glaber* var. *glaber*), white sage (*Salvia apiana*), and purple sage (*Saliva leucophylla*) (Sawyer et al. 2009). Within the study area, this community occurs throughout North Talbert.

Coyote Brush-California Sagebrush Association

Coyote brush-California sagebrush association is an association within the coyote brush alliance (Sawyer et al. 2009). Within the study area, this community occurs within the northwestern corner of North Talbert.

Eucalyptus Groves Alliance

The eucalyptus grove alliance is a semi-natural community which includes *Eucalyptus* spp. as the dominant species in the tree canopy. It has a tree canopy of less than 200 feet (60 meters) and is open to continuous (Sawyer et al. 2009). The shrub layer and herbaceous layer is sparse to intermittent. Within the study area, this community occurs along the southern boundary of North Talbert.

Ice Plant Mats

Ice plant mats alliance (*Carpobrotus* sp. alliance) is a semi-natural alliance that is characterized by areas dominated or co-dominated by sea fig (*Carpobrotus chilensis*), hottentot fig (*Carpobrotus edulis*), common iceplant (*Mesembryanthemum crystallinum*) or other ice plant taxa. This community is intermittent to continuous cover in the herb layer with less 20 inches (50 centimeters) in height (Sawyer et al. 2009). Emergent trees and shrubs may be present at low cover. Within the study area, this community occurs within the southern portion of North Talbert, and the northern portion of South Talbert.

Menzies's Golden Bush Scrub Alliance

The Menzies's golden bush scrub alliance (*Isocoma menziesii* scrub alliance) includes Menzies's golden bush as dominant or co-dominant in the canopy. The alliance has an open to intermittent shrub canopy less than 3 feet (1 meter) in height with an open to continuous herbaceous layer (Sawyer et al. 2009). Some species associated with the alliance include California saltbush (*Atriplex californica*), desertbroom (*Baccharis sarothroides*), San Joaquin snakeweed (*Gutierrezia californica*), and Virginia glasswort (*Salicornia depressa*) (Sawyer et al. 2009). Within the study area, this community occurs throughout South Talbert.

Mulefat Thickets Alliance

The mulefat (*Baccharis salicifolia* thickets alliance thickets alliance) includes mulefat as the dominant or co-dominant shrub. The community has a continuous shrub canopy with two tiers at less than 7 feet (2 meters) and less than 15 feet (5 meters) in height, a tree layer that may be present at low cover, and a sparse herbaceous layer (Sawyer et al. 2009). Species associated with the alliance include arroyo willow, narrow-leaved willow, California sagebrush, coyote brush, tree tobacco (*Nicotiana glauca*), and laurel sumac (*Malosma laurina*). Other tree species

that may be present include California sycamore, Fremont cottonwood, oaks (*Quercus* sp.), and willows (*Salix* sp.) (Sawyer et al. 2009). Within the study area, this community occurs throughout South Talbert.

Mulefat-Blue Elderberry Association

The mulefat-blue elderberry (*Baccharis salicifolia-Sambucus nigra*) association has mulefat and blue elderberry as the co-dominant species in the shrub canopy (Sawyer et al. 2009). Within the study area, this community was found throughout North Talbert.

Mulefat-Menzies' Goldenbush-Quailbush Association

The mulefat-menzies' goldenbush-quailbush association has mulefat, menzies' goldenbush, and quailbush (*Atriplex lentiformis*) as the co-dominant species in the shrub canopy (Sawyer et al. 2009). Within the study area, this community was found centralized in North Talbert and surrounded by other communities like mulefat thickets and quailbush scrub.

Pickleweed Mats Alliance

The pickleweed mats alliance (*Salicornia pacifica* herbaceous alliance) includes pickleweed as the dominant or co-dominant herb in the subshrub or herbaceous layer. The community has an intermittent to continuous cover less than 5 feet (1.5 meters) in height (Sawyer et al. 2009). Species associated with the alliance include salt bulrush (*Bolboschoenus maritimus*), Veatch's dodder (*Cuscuta nevadensis*), salt grass, alkali heath, gum plant (*Grindelia stricta*), marsh jaumea (*Jaumea carnosa*), smartweed (*Persicaria lapathifolia*), and estuary seablite (*Suaeda esteroa*) (Sawyer et al. 2009). Within the study area this community is found in the southern portion of South Talbert.

Poison Hemlock or Fennel Patches Alliance

Poison hemlock or fennel patches (*Conium maculatum* or *Foeniculum vulgare* semi-natural alliance) are characterized by areas dominated or co-dominated by poison hemlock or fennel, or another non-native invasive plant of the *Apiaceae* family in the herbaceous layer. The semi-natural community has an open to continuous cover less than 7 feet (2 meters) in height. Emergent trees and shrubs may be present at low covers, including oak (*Quercus* sp.) or coyote bush (Sawyer et al. 2009). Within the study area, this community occurs in one area on the southwestern corner of South Talbert.

Quailbush Scrub Alliance

The quailbush scrub alliance (*Atriplex lentiformis* scrub alliance) includes quailbush as dominant shrub in the canopy. The alliance has an open to intermittent shrub canopy less than 16 feet (5 meters) in height with variable herbaceous layer (Sawyer et al. 2009). Some species associated with the alliance include California sagebrush, fourwing saltbush (*Atriplex canescens*), coyote brush, California brittle bush, laurel sumac, arrow weed (*Pluchea sericea*), alkali sacaton (*Sporobolus airoides*), and woolly seablite (*Suaeda taxifolia*) (Sawyer et al. 2009). Within the study area, this community occurs along the southern boundary of the North Talbert and within the central portion of South Talbert.

Salt Grass-Pacific Swampfire Association

Salt grass-Pacific swampfire association (*Distichlis spicata-Sarcocornia pacifica*), is an association within the salt grass alliance, which consists of salt grass and Pacific swampfire as co-dominant species in the subshrub and herbaceous layer (Sawyer et al. 2009). Within the study area, salt grass-Pacific swampfire communities were found in South Talbert on a relatively large portion of the project site's southwestern area.

Smartweed-Cocklebur Patches Alliance

The smartweed-cocklebur patches (*Polygonum lapathifolium* and/or *Xanthium strumarium*) alliance includes smartweed and cocklebur as dominant or co-dominant in the herbaceaous layer with devil's beggartick (*Bidens frondosa*), fiveangled dodder (*Cuscuta campestris*), *Echinochloa* sp., pale spike rush (*Eleocharis macrostachya*), and *Polygonum* sp. (Sawyer et al. 2009). Within the study area, this community occurs in one area within the southeastern corner of South Talbert.

Tar Plant Field Alliance

The tar plant fields alliance (*Centromadia* sp.) includes *Centromadia* sp. as the dominant or co-dominant in the herbaceous layer. Other common species associated with this alliance includes: *Atriplex* sp., *Bromus* sp., redstem stork's bill (*Erodium cicutarium*), alkali heath, shortpod mustard, mouse barley (*Hordeum murinum*), *Lasthenia* sp., and *Trifolium* sp. (Sawyer et al. 2009). Emergent shrubs may be present at low cover, including bush seepweed (*Suaeda nigra*). Within the study area, this community occurs in one area within the southeastern portion of South Talbert.

Upland Mustards

This community is a naturalized vegetation type that has an herbaceous layer dominated by black mustard, shortpod mustard, or other mustards with an open to continuous canopy less than 10 feet (3 meters) in height (Sawyer et al. 2009). Upland mustards typically occur in recently disturbed areas such as fallow fields, grasslands, and roadsides (Sawyer et al. 2009). Within the study area, this community was found throughout the central portion of North Talbert.

White Alder-California Sycamore Association

The white alder-California sycamore (Alnus rhombifolia-Platanus racemosa) association is an association within the white alder alliance with white alder and California sycamore as the co-dominant species (Sawyer et al. 2009). Other species that may be associated with this community are: big-leaf maple (Acer macrophyllum), Port orford cedar (Chamaecyparis lawsoniana), Oregon Ash (Fraxinus latifolia), tanoak (Notholithocarpus densiflorus), California sycamore, Fremont cottonwood, black cottonwood (Populus trichocarpa), Douglas-fir (Pseudotsuga menziesii), Valley oak, and willows (Salix sp.). Within the study area, this community was found in one area in the southern portion of North Talbert.

4.4.2 Non-Natural Land Covers and Unvegetated Communities

Fivehook Bassia

This non-native community is naturalized in California with five hook bassia (*Bassia hyssopifolia*) as the dominant or co-dominant species (Sawyer et al. 2009). Fivehook bassia tends to occur in disturbed habitat in either wetland or non wetland communities. Within the study area, this community is centralized in South Talbert, directly adjacent to the disturbed habitat and mulefat thicket communities.

Concrete Channel

Concrete channel refers to a non-native land cover that consists of open sections of engineered concrete-lined channel that have been constructed and do not have vegetated present. These channels have a bed and bank that is clearly visible. Within the study area, this land cover occurs along the northern boundary of North Talbert.

Disturbed Habitat

Disturbed habitat typically occurs in areas where soils have been recently or repeatedly disturbed by grading or compaction, resulting in the growth of very few native perennials. It is usually dominated by bare ground or non-native dicotyledonous species including redstem stork's bill, black mustard, thistles (e.g., artichoke thistle, Italian plumeless thistle [*Carduus pycnocephalus*], and Maltese star-thistle [*Centaurea melitensis*]), dove weed (*Croton setigerus*), and others. Within the study area, disturbed land includes the dirt paths that are present throughout North and South Talbert.

Myoporum/Black Willow Association

Myoporum/black willow (*Myoporum/Salix gooddingii*) association is an association found within the black willow alliance, which consists of Myoporum and black willow as co-dominant species within the canopy (Sawyer et al. 2009). Within the study area, this community occurs within the central portion of South Talbert.

Open Water

This mapping unit is not recognized by the CNPS's Manual of California Vegetation (Sawyer et al. 2009); however, is included within Oberbauer et al. (2008). According to Oberbauer et al. (2008), open water—freshwater is comprised of year-round bodies of fresh water (extremely low salinity) in the form of reservoirs/lakes, streams, ponds, or rivers. Open water areas are aquatic areas that generally lack emergent vegetation, but typically support hydrophytic vegetation around their margins (e.g., mulefat scrub, southern willow scrub, freshwater marsh, or herbaceous wetland). Within the study area, this community occurs in the northeastern corner of North Talbert area, in the northwestern portion of South Talbert within Victoria Lake, and along the western boundary of the study area within the Santa Ana River.

Parks and Ornamental Plantings

This mapping unit is not recognized by the CNPS's Manual of California Vegetation (Sawyer et al. 2009); however, is included within disturbed land (11300) in Oberbauer et al. (2008). Ornamental plantings refer to areas where non-native ornamentals and landscaping have been installed. Ornamental plantings occur in the northeastern portion of the study area. These plantings are generally associated with landscaping for the park. Within the study

area, this community occurs within the central portion of North Talbert, along the northern boundary of South Talbert, and along the eastern portion of the study area.

4.5 Topography

The topography within the study area is relatively flat and varies from approximately 5 feet amsl in the southern portion to approximately 16 feet amsl in the northern portion. The eastern portion of the study area is bordered by a mesa that is approximately 50-80 feet amsl, and the western portion of the study area is bordered by the concrete-lined Santa Ana River and Banning Channel. The study area was historically part of the Santa Ana River floodplain prior to channelization of the Santa Ana River, and is currently indirectly connected to the River through groundwater sources.

4.6 Hydrology

The study area occurs within the Lower Santa Ana River watershed, and specifically within the Santa Ana River hydrologic unit (Figure 5). The study area historically functioned as part of the flood plain of the Santa Ana River, as the study area served as an upper terrace for overflows from the River during flood events. Once the Santa Ana River was channelized in the late 1920s, the study area no longer received a regular inundation of flows from the River except in extreme flooding events. A levee was later built along the Santa Ana River, which further cut off direct hydrologic connectivity to the River from the study area. However, there is still an indirect hydrologic connection to the Santa Ana River through underground connectivity and groundwater infiltration. In addition, due to the infiltration of seawater from the Pacific Ocean upstream into the Santa Ana River, which have caused brackish conditions to occur within the lower reach of the River, the resulting groundwater infiltration contains a high concentration of salt, as observed in the salt deposits and salt marsh vegetation on site.

Hydrology is also provided to the study area through stormwater runoff from upland areas to the east (via concrete channels or sheet flow off the mesa) and overflow from a restoration area to the north within Fairview Regional Park. This restoration area removed the historic Placentia Drain (an intermittent stream that historically connected to the Fairview Channel), and created a closed-loop system of ponds that receives water pumped in from the Banning Channel to the west, with associated planted riparian/upland native habitat. The southernmost pond is supposed to function as an overflow pond, however, this closed-loop system is not functioning properly and water is flowing out of the pond and flowing downstream (south) following the same path as the historic Placentia Drain. This overflow of water does not connect downstream to any Relatively Permanent Water (RPW) or Traditional Navigable Water (TNW).

5 Results of Survey

5.1 Database Review

A review of the National Wetland Inventory dataset revealed there are several wetland habitat types mapped within the study area including: freshwater pond (PUBHx and PUSA), freshwater emergent wetland (PEM1A, PEM1Ah, PEM1Fx, and PEM1Cx), freshwater forested/shrub wetland (PSSAx, PSSCx, PFOCx, PFO/SSA, PFOA, and PFOAh),

riverine (R1USQx, R4SBAr, and R1UBVr), estuarine and marine deepwater (E1UBLx), and estuarine and marine wetland (E2USNx and E2EM1Nh). Additional wetland types occur within offsite areas to the south, within the Banning Ranch property, and to the east, within Fairview Regional Park. The most significant feature in the study area is the Santa Ana River that occurs to the immediate west and due to previous channelization has no direct connectivity to the study area.

5.2 Jurisdictional Delineation

The study area contains thirteen features that demonstrate hydrologic connectivity and facilitate water flow that are potentially subject to regulatory agency jurisdiction under Sections 404 and 401 of the CWA, and Section 1600 et seq. of CFG Code. These features occur on both North Talbert and South Talbert, and within the 500-foot buffer, and have been modified over the decades through onsite and adjacent development. These features are described in more detail below and summarized in Table 3. The mapped limits of potentially jurisdictional waters are provided on Figures 6 and 7 (Attachment A), and representative photos are provided in Attachment C. The results of all data stations are listed in Table 4, Data Station Point Summary, and included in Attachment B.

Table 3. Summary of ACOE/RWQCB Aquatic Resources in the Study Area

Feature Name	Cowardin	Dominant Vegetation (wetlands) OHWM Indicators (non-wetland water)	Location (Latitude/ Longitude)	Acreage/ Linear Feet
ACOE/RWQCB Jurisdictional Aquatic Resources				
Wetlands				
Placentia Drain (Intermittent Stream)	PEM1A	Mulefat-blue elderberry	33.660330678075, -117.94382039280	0.15/250
Wetland 1 (Wetland)	PEM1Cx PFOCx	American bulrush marsh Black willow thickets	33.648011651062, -117.95012974659	3.26/281
Wetland 2 (Wetland)	PEM1Ah	Mulefat thickets Salt grass-Pacific swampfire	33.644710645791, -117.95017748930	15.36/1,066
			USACE Wetlands Subtotal	*18.77/1,597*
Non-Wetland Waters				
Santa Ana River (Perennial Stream)	R1USQx E1UBL E2USNx	Open Water Break in bank slope	33.656471504387, -117.94958461991	69.17/9,830
Banning Channel (Intermittent Stream)	R2UBHr	Open Water Break in bank slope	33.658214030204, -117.94825053704	15.19/8,634
Fairview Channel (Intermittent Stream)	R2UBFr	Open Water Concrete Channel Break in bank slope	33.667628618322, -117.94515478237	0.78/343

Table 3. Summary of ACOE/RWQCB Aquatic Resources in the Study Area

Feature Name	Cowardin	Dominant Vegetation (wetlands) OHWM Indicators (non-wetland water)	Location (Latitude/ Longitude)	Acreage/ Linear Feet
Pond E (Perennial Pond)	none	Cattail Marsh Open Water Change in vegetation cover Break in bank slope	33.665659746548, -117.94200684660	0.63/290
FP Channel (Perennial Pond)	none	Open Water Break in bank slope	33.665659746548, -117.94200684660	0.26/455
Overflow Pond (Perennial Pond)	PEM1A	Open Water Change in vegetation species Change in vegetation cover Break in bank slope	33.664888418003, -117.94282619843	0.19/234
Placentia Drain (Intermittent Stream)	PEM1A	Open Water Blue elderberry-toyon Mulefat-blue elderberry Upland mustards Change in vegetation species Change in vegetation cover Break in bank slope	33.659809246249, -117.94387549326	0.61/1,563
Victoria Pond (Perennial Pond)	PUBHx	Open Water Change in average sediment texture Change in vegetation species Change in vegetation cover Break in bank slope	33.649062979378, -117.95017874462	3.35 /668
Unnamed Drainage (Ephemeral Drainage)	PSSAx	Myoporum/Black willow Arroyo willow Disturbed habitat Mulefat thickets Urban/developed Change in vegetation cover Break in bank slope	33.647200760658, -117.94533539148	0.15/1,413
Concrete-Lined Channel (Ephemeral Drainage)	R4SBAr	Urban/developed Change in vegetation cover Break in bank slope	32.68488215190, -116.90497125900	0.30/4,374
			Non-Wetland Waters Total	*90.63/27,804*
			USACE Grand Total	***109.4/29,401**

* Acreage may not total due to rounding.

5.2.1 Waters of the U.S.

Potentially jurisdictional Waters of the U.S. that may be subject to ACOE jurisdiction includes features on the study area that exhibit connectivity to a TNW and display an OHWM, such as three wetland features, including the historic Placentia Drain, and ten non-wetland features, including the channelized Santa Ana River and Banning Channel. Each feature is described in further detail below and depicted on Figures 6-1 through 6-13.

5.2.1.1 Wetland Features

Placentia Drain

An approximately 0.15 acre portion of the intermittent stream mapped within the historic limits of the Placentia Drain was determined to be a wetland feature within the eastern portion of North Talbert within the study area. The Cowardin classification for the Placentia Drain is PEM1A (Palustrine Emergent Persistent Temporary Flooded). The portion of the historic Placentia Drain that exhibits wetland indicators occurs near the downstream end of the mapped channel (Figure 6-7). The Placentia Drain receives flows from an overflowing pond to the north (upstream) that is part of the wetland restoration project for Fairview Park. Although this offsite project is supposed to be a closed-loop system, hydrologic input is received from water pumped from the Banning Channel to the west. Therefore, there is a hydrologic connection to a RPW upstream. Additionally, the Placentia Drain displays an observable OHWM on the adjacent slopes due to the observed change in topography and vegetation cover.

Paired data pits were dug within the channel (DP5) and in the adjacent upland area (DP6) to determine if all three wetland parameters were present, and map the extent of the observed wetland. The data stations summary for each Data Point (DP) taken during the delineation is included in Table 4. DP5 contains a prevalence of hydrophytic vegetation due to the dominance of tall cyperus (*Cyperus eragrostis*; FACW) and sub-dominance of salt marsh fleabane (*Pluchea odorata*; FACW); however, adjacent species consist of upland species such as lemonade berry (UPL) and blue elderberry (FACU) are also present within the tree stratum for DP5 (Photos 8 and 9). The soil pit dug for DP5 resulted in an organic layer in the first 3 inches, followed by a matrix color of 2.5Y 3/1 for the remaining 18 inches. The bottom 15 inches of the soil pit exhibited redox features with a color of 2.5Y 5/6 at 20 percent concentrations observed in the pore lining, with a soil texture of silty loam. The hydric soil indicator observed in DP5 based on the matrix and redox colors is Redox Dark Surface (F6), indicating the soil within DP5 is hydric. The observed hydrology indicators for DP5 include a high water table at 1 inch from the surface, and saturation in the soil at 1 inch from the surface. Therefore, DP5 contains all three parameters to be considered a federally protected wetland Water of the U.S. subject to ACOE jurisdiction.

The paired data point DP6 was dug adjacent to DP5 but within an upland area outside the channel. Vegetation within DP6 is dominated by upland species such as lemonade berry (UPL), blue elderberry (FACU), nightshade (*Solanum* sp.; FACU), and Canadian horseweed (*Erigeron canadensis*; FACU). The soil pit dug at DP6 contains an uniform sample with a matrix color of 10YR 3/2 throughout the entire 18 inch sample, with a silty loam texture. No redoximorphic features or hydric soil indicators were observed within this soil sample. Additionally, no wetland hydrology indicators were observed, although a water table was observed at the bottom of the 18-inch soil pit. Therefore, DP6 does not contain any wetland parameters and this data station occurs within an upland area that designates the boundary for the wetland area observed in DP5.

Wetland 1

Wetland 1 is located within an approximately 3.26 acre area in South Talbert, immediately south of the Victoria Pond. The Cowardin classification for Wetland 1 is PEM1Cx (Palustrine Emergent Persistent Seasonally Flooded Excavated) and PFOCx (Palustrine Forested Seasonally Flooded Excavated). This wetland receives inundation from the adjacent Victoria Pond, which is supplied by groundwater infiltration, and from an ephemeral unnamed drainage that originates in offsite areas. Additionally, the wetland is located adjacent to a TNW, the Santa Ana River, and is separated by a man-made levee where historically, this wetland would occur within the floodplain of the Santa Ana River. Therefore, Wetland 1 has a hydrologic connection to a TNW through groundwater connection as an adjacent wetland.

Three data stations were dug within Wetland 1 to determine the limits of this wetland feature, DP7, DP8, and DP9. Data station DP7 was dug on the eastern boundary of Wetland 1 where vegetation is dominated by American bulrush marsh and black willow thickets habitat consisting of black willow in the tree layer with an understory of saltmarsh fleabane (FAC) and dotted smartweed (*Persicaria punctata*; OBL). DP7 contains both a dominance and prevalence of hydrophytic vegetation. The soil within DP7 consists of an organic layer in the top 3 inches, followed by a matrix color of 2.5Y 3/2 in 80% of the remaining 12 inches of the sample, with observed redoximorphic features with a color of 7.5YR 4/6 in 20% of the sample displayed as concentrations in the matrix. The texture of the soil is sandy loam and a Depleted Matrix (F3) was determined to occur within the sample. A primary indicator of wetland hydrology was observed in DP7 in the form of Water-Stained Leaves (B9). Riverine water marks were also observed as a secondary indicator of hydrology. Therefore, DP7 contains all three wetland parameters to be considered a wetland.

Data station DP8 occurs in the southern portion of Wetland 1, in an area dominated by black willow (FACW), mulefat (FAC), and fivehook bassia (*Bassia hyssopifolia*; FACU). Due to the total cover of the vegetation, DP8 contains both a dominance and prevalence of hydrophytic vegetation. The soils within DP8 contain an organic layer in the top 2 inches, followed by a matrix color of 2.5Y 4/2 in 95% of the sample from 2-12 inches. Redoximorphic features were observed as concentrations in the matrix with a color of 7.5YR 4/6. The soil had a sandy clay loam texture and observed salt deposits. Based on the observed soil and redox concentrations, DP8 exhibits a Depleted Matrix (F3) hydric soil indicator. Hydrology indicators of a salt crust (B11) were observed within the sample as well. Therefore, DP8 contains all three wetland parameters to be considered a wetland.

Data station DP9 was taken to the southwest of Wetland 1, in an upland area that delineates the boundary of the wetland feature. The vegetation within DP9 consists of a dominance of pickleweed (UPL) and Myoporum (UPL), and lacks a dominance and prevalence of hydrophytic vegetation. The soils within DP9 consists of a matrix color of 2.5Y 4/3 throughout the entire 10 inch sample, with a silty loam texture and no evidence of redoximorphic features. No hydric soil indicators were observed within the soil sample indicating a lack of hydric soils. A salt crust (B11) was observed on the surface of the soil, indicating a wetland hydrology indicator. However, DP9 lacks two of the three wetland parameters to be considered a wetland.

Wetland 2

Wetland 2 is a large (approximately 15.36 acre) wetland feature located at the southwestern boundary of the project site within South Talbert. The Cowardin classification for Wetland 2 is PEM1Ah (Palustrine Emergent Persistent Temporary Flooded Impounded). This wetland feature is not connected to a drainage feature and appears to receive

hydrologic input from groundwater infiltration due to the wetland's adjacency to the Santa Ana River. Additionally, due to the saltwater infiltration upstream of the Santa Ana River from the Pacific Ocean, the groundwater has a high salinity that is observable in the salt crusts in the surface of the soil within Wetland 2. Therefore, the hydrologic connection to the Santa Ana River, a TNW, occurs through the groundwater.

Two data stations were dug within Wetland 2 to determine if all three wetland parameters exist. DP13 was taken in the southeastern portion of Wetland 2 in an area dominated by Pacific swampfire (OBL), salt grass (FAC), and alkali heath (FACW). The total cover of this hydrophytic species demonstrates a dominance and prevalence of hydrophytic vegetation at DP13. The soil sample dug within DP13 includes an organic layer in the top 3 inches, followed by 9 additional inches of a matrix color of 10YR 3/1 in 95% of the sample, and redoximorphic concentrations in the matrix with a soil color of 10YR 3/6 in 5% of the sample. A Depleted Matrix (F3) was determined to occur, indicating presence of hydric soils. Additionally, the Salt Crust (B11) hydrology indicator observed within DP13 indicates the presence of adequate hydrology to support a wetland. Therefore, DP13 is considered a wetland point.

DP14 occurs in the northern portion of Wetland 2 in an area dominated by Pacific swampfire (OBL), alkali sacaton (*Sporobolus airoides*; FAC), and saltgrass (FAC) which passes the prevalence index test for total cover by hydrophytic species. Soils within DP14 contain an uniform soil sample of a soil matrix with color 10YR 4/2 in 99% of the sample, and a small inclusion (1%) of redox concentrations in the matrix and a sandy clay loam texture. This sample displays a Depleted Matrix (F3) hydric soil indicator, indicating hydric soils are present. Additionally, a salt crust (B11) hydrology indicator was present on the surface of the soil at DP14 and therefore this area meets the three parameter wetland test for hydrophytic vegetation, hydric soils, and hydrology.

Table 4. Data Station Point Summary

Data Station	Wetland Determination Field Indicators			Vegetation Community	Determination	Waters Type
	Vegetation	Hydric Soils	Hydrology			
DP1	None	✓	✓	Mulefat-blue elderberry	Jurisdictional	Non-Wetland
DP2	None	None	None	Mulefat-blue elderberry	Jurisdictional	Non-Wetland
DP3	None	None	None	Mulefat-blue elderberry	Jurisdictional	Non-Wetland
DP4	None	None	None	Mulefat-blue elderberry	Jurisdictional	Non-Wetland
DP5	✓	✓	✓	Mulefat-blue elderberry	Jurisdictional	Wetland
DP6	None	None	None	Blue elderberry-toyon	Jurisdictional	Non-Wetland
DP7	✓	✓	✓	Myoporum/black willow	Jurisdictional	Wetland
DP8	✓	✓	✓	Black willow thickets	Jurisdictional	Wetland

Table 4. Data Station Point Summary

Data Station	Wetland Determination Field Indicators			Vegetation Community	Determination	Waters Type
	Vegetation	Hydric Soils	Hydrology			
DP9	None	None	✓	Black willow thickets	Jurisdictional	Non-Wetland
DP10	✓	✓	None	Salt grass-Pacific swampfire	Jurisdictional	Non-Wetland
DP11	None	None	None	Arroyo willow	Jurisdictional	Non-Wetland
DP12	✓	None	None	Black willow/mulefat	Jurisdictional	Non-Wetland
DP13	✓	✓	✓	Pickleweed mats	Jurisdictional	Wetland
DP14	✓	✓	✓	Salt grass-Pacific swampfire	Jurisdictional	Wetland

5.2.1.2 Non-Wetland Features

Santa Ana River

During the jurisdictional delineation survey the channelized Santa Ana River located to the west of the project site, was entirely inundated with water and no vegetation was observed within the channel or surrounding banks. The Santa Ana River is a RPW classified as a perennial stream that is regularly inundated from both freshwater flows from upstream areas and saltwater infiltration from the Pacific Ocean downstream. The Cowardin classifications for the Santa Ana River are R1USQx (Riverine Tidal Unconsolidated Shore Regularly Flooded Excavated), E1UBL (Estuarine Subtidal Unconsolidated Bottom Subtidal), and E2USNx (Estuarine Intertidal Unconsolidated Shore Regularly Flooded Excavated). No portions of the Santa Ana River occur within the project boundary and approximately 69.17 acres occurs within the survey buffer. Due to the lack of access to the Santa Ana River, a data station was not placed within the river. However, the determination of non-wetland waters was made due to the lack of hydrophytic riparian vegetation and regular presence of surface water. Due to the river's direct connectivity to the Pacific Ocean, a TNW, this feature is considered a non-wetland water of the U.S.

Banning Channel

The concrete-lined Banning Channel is an intermittent stream that occurs immediately adjacent to the Santa Ana River and the western boundary of the project site. It conveys flows from upstream areas in the City of Costa Mesa, downstream to the Santa Ana River, a RPW. The Cowardin classification for the Banning Channel is R2UBHr (Riverine Lower Perennial Unconsolidated Bottom Permanently Flooded Artificial). This channel is devoid of vegetation and consists of concrete-lined channel and banks. Due to the lack of vegetation, the Banning Channel does not pass the three-parameter test to be considered a wetland. Therefore, approximately 15.19 acre of the Banning Channel within the study area is considered a non-wetland water of the U.S.

Fairview Channel

The Fairview Channel is a concrete-lined flood control channel that occurs in the northernmost portion of North Talbert. This channel originates at a box culvert near Placentia Avenue and connects directly to the Banning Channel downstream, which directly connects to the Santa Ana River a RPW. The Cowardin classification for the Fairview Channel is R2UBFr (Riverine Lower Perennial Unconsolidated Bottom Semipermanently Flooded Artificial). The Fairview Channel lacks vegetation and does not pass the three-parameter test for a wetland. Therefore, approximately 0.78 acre of the Fairview Channel within the study area is considered a non-wetland water of the U.S.

Pond E

Pond E is a perennial pond that was installed as a portion of the Fairview Park wetland restoration project to the north of the project site but within the survey buffer. This pond is part of closed-loop system that receives hydrologic input pumped in from the Banning Channel, and eventually drains into the Overflow Pond that is itself overflowing into the historic Placentia Drain. There is no Cowardin classification for Pond E because this pond is entirely artificial and was not present when the area was mapped by the USFWS. The vegetation mapped within Pond E consists of cattail marsh and open water, where the cattails (*Typha angustifolia*; OBL) are planted within concrete planter boxes below the water surface. Because the ponds are man-made, concrete-lined features that are regularly inundated, any sediment that would have accumulated in the pond would not be subjected to the chemical process to create hydric soils. Therefore, a total of approximately 0.63 acre of Pond E within the study area is considered a non-wetland water of the U.S.

FP Channel

The Fairview Park (FP) Channel is located within the Fairview Park wetland restoration project to the north of the project site, and connects Pond E with the Overflow Pond in the northern portion of North Talbert. This channel was installed as part of the restoration project and is part of the closed-loop system, similar to Pond E. Due to its hydrologic input from the Banning Channel, the FP Channel is connected to an intermittent stream that connects to a RPW. There is no Cowardin classification for this channel because it is entirely artificial and was not present when the area was mapped. This channel is concrete-lined and completely inundated, and although riparian vegetation occurs immediately adjacent to the channel, the mapped soils are sandy loam and would not be able to support hydric conditions. Therefore, a total of approximately 0.26 acre of the FP Channel is considered a non-wetland water of the U.S.

Overflow Pond

The Overflow Pond is a 0.90-acre perennial pond located in the northern portion of North Talbert, and connects to the FP Channel through a culvert beneath a dirt access road. The pond is supposed to function as an overflow collection pond for Pond E but is not currently functioning properly and is allowing impounded water to flow downstream into the Placentia Drain. The Cowardin classification for the artificial Overflow Pond is PEM1A (Palustrine Emergent Persistent Temporarily Flooded) because this feature is located within the limits of the historic Placentia Drain. The pond is surrounded by upland vegetation on the surrounding banks, such as blackberry (*Rubus ursinus*; UPL), and California buckwheat (*Eriogonum fasciculatum*; UPL), and portions of the surface water are covered in with a mat of duckweed

(*Lemna minor*; OBL). Due to the perennial inundation of water within this pond, the soils would not function as hydric soils. Therefore, the Overflow Pond is considered a non-wetland water of the U.S.

Placentia Drain

The non-wetland portions of the Placentia Drain include approximately 0.61 acre of the channel from the Overflow Pond, south towards its current terminus approximately 1,560 feet downstream. The hydrology for the Placentia Drain is provided as overflow from the Overflow Pond to the immediate north, as described in the wetland discussion for this channel further above. The Cowardin classification for the Placentia Drain is PEM1A (Palustrine Emergent Persistent Temporarily Flooded). Vegetation within the channel generally consists of mulefat-blue elderberry scrub, with scattered non-native species. Four data stations were placed within the Placentia Drain to determine the presence/absence of wetland indicators. Paired Data Points at DP1 and DP2 were placed within a non-inundated area immediately adjacent to the Placentia Drain and in an upland area, respectively.

Vegetation within DP1 consists of a dominance of blackberry (UPL), duckweed (OBL), and Canada horseweed (FACU). Due to the total cover of upland species, the vegetation within DP1 does not pass the dominance test or prevalence index to be considered a dominance of hydrophytic vegetation. The soils within DP1 consist of a soil color in the top 6 inches of 2.5Y 2.5/1 in 98% of the matrix and redoximorphic concentrations in 2% of the matrix with a texture of silty clay loam. An organic layer occurs from 6 to 7 inches, followed by a color of 2.5Y 3/1 in 90% of the matrix from 7 to 9 inches, with redoximorphic features with a Gley1 2.5/N in 10% of the matrix displaying a reduced matrix and silty loam texture. The bottom 9 to 12 inches consist of a color of 2.5Y 3/1 in 95% of the matrix with a redox of Gley1 2.5N as a reduced matrix in 5% of the matrix with a silty loam texture. These soils and redox colors display a Loamy Gleyed Matrix (F2) which is considered a hydric soil indicator. Wetland hydrology indicators were observed including Surface Water (A1), High Water Table (A2), Inundation Visible on Aerial Imagery (B7), and Water-Stained Leaves (B9). A water table and surface water were both present at DP1 at 4 inches. While DP1 contains adequate hydric soils and hydrology, it does not contain hydrophytic vegetation to be considered a wetland.

DP2 is located adjacent to and upslope from DP1, and is dominated by Canadian horseweed (FACU) and blackberry (FAC). The vegetation within DP1 does not contain a dominance or prevalence of hydrophytic vegetation. The soils within DP2 consist of silty loam with a color of 2.5Y 4/3 throughout the entire 18 inches of the soil sample, and do not display any redox features or hydric soil indicators. Additionally, no wetland hydrology indicators were observed within DP2, and therefore, DP2 is located within a non-wetland area.

DP3 is located at the downstream terminus of the Placentia Drain in an area dominated by blue elderberry (FACU) and Canadian horseweed (FACU), which are upland species and are not hydrophytic. Soils within DP3 consist of silty loam with a color of 10YR 3/2 in 90% of the sample from 0 to 12 inches, with redox concentrations in 10% of the sample with a color of 10YR 5/4 in the matrix. Despite the presence of redox features, no hydric soil indicators were present. Additionally, no wetland hydrology indicators were observed and therefore, DP3 occurs in a non-wetland area.

DP4 occurs to the west of DP3 in an upland area outside of the channel. The vegetation within DP4 is dominated by blue elderberry (FACU) and Canadian horseweed (FACU), which are upland and not hydrophytic species. Soils within DP4 consist of silty loam with a soil color of 10YR 3/2 in the entire 18 inch soil sample, and do not display any redox features or hydric soil indicators. Additionally, no wetland hydrology indicators were observed within DP4.

Therefore, DP4 is within a non-wetland area, and the majority of the Placentia Drain is considered a non-wetland water of the U.S.

Victoria Pond

The Victoria Pond is located in the northern portion of South Talbert, and was installed in the late 1960's/early 1970's from dredging soil down to the groundwater table. The Cowardin classification for Victoria Pond is PUBHx (Palustrine Unconsolidated Bottom Permanently Flooded Excavated). Vegetation surrounding the pond consists of willows and myoporum, and the majority of the 3.35-acre pond is dominated by open water. Because soils within this pond are regularly inundated they do not contain hydric conditions. Hydrology to the Victoria Pond is supplied via groundwater infiltration. Therefore, the Victoria Pond contains suitable hydrology, but lack hydrophytic vegetation and hydric soils to contain wetland conditions, and is considered a non-wetland water of the U.S.

Unnamed Drainage

A single unnamed drainage feature occurs near the northern portion of South Talbert, and originates at a concrete-lined channel and large box culvert at the eastern project boundary that conveys flows offsite areas onto the project site and drains into the Victoria Pond. This unnamed drainage is earthen bottom and displays an OHWM that is approximately 2 feet wide. The Cowardin classification for the unnamed drainage is PSSAx (Palustrine Scrub-Shrub Temporarily Flooded Excavated). A single data station was placed within the dry channel bottom. DP11 occurs in an area dominated by black willow (FACW) and English ivy (*Hedera helix*; FACU) that is not dominated by hydrophytic vegetation. Soils within DP11 consist of sandy loam with a color of 10YR 3/1 throughout the entire 6 inch soil sample. No redox features or hydric soil indicators were observed in the soil sample. Additionally, no wetland hydrology indicators were observed. Therefore, due to connectivity with the Victoria Pond and lack of wetland indicators, the unnamed drainage is considered a non-wetland water of the U.S.

Concrete-Lined Channel

A single concrete-lined channel originates in upland areas offsite to the northeast and southeast of the project site and drains local runoff, conveying it downstream to the west into the project site boundary and connecting to the unnamed drainage channel via a small culvert. The OWHM of the concrete-lined channel is approximately 5 feet wide north of the confluence with the unnamed drainage, and approximately 2 feet wide south of the confluence. The northern portion of the channel is devoid of vegetation and soil, and the southern portion of the drainage contains Bermuda grass (*Cynodon dactylon*; FACU) growing on sediment that settled in the channel. No hydrophytic vegetation occurs within the concrete-lined channel. No soils that could exhibit hydric indicators occur in the concrete-lined channel, and no wetland hydrology indicators were observed. Therefore, 0.30 acre of concrete-lined channel is considered a non-wetland water of the U.S.

5.2.2 Waters of the State

The features described above as subject to ACOE's jurisdiction as Waters of the U.S. also potentially fall under the authority of the Santa Ana RWQCB in accordance with Section 401 of the CWA. Therefore, a total of approximately 18.77 acres of wetland waters, and a total of approximately 109.4 acres of non-wetland waters delineated within the study area would be subject to RWQCB jurisdiction.

5.2.3 CDFW and CCC Jurisdictional Features

Areas under CDFW and CCC jurisdiction mapped on the study area include a total of 16 features that encompass all wetland and non-wetland waters of the U.S./State, including the top of channel banks and associated riparian habitats (Figures 7-1 through 7-13). Additionally, areas that contained one or two wetland parameters, but did not contain all three to pass the three-parameter test for a federally protected wetland, are also considered wetland waters under CDFW/CCC jurisdiction. The extent of CDFW/CCC jurisdiction for each feature on the study area determined to meet the CDFW/CCC definition of waters are summarized in Table 5 below and account for a total of approximately 140.5 acres.

Table 5. CDFW Jurisdiction Summary

Feature Name	Habitat Type Waters Type	On-Site Acres	Off-Site Acres	Total
Santa Ana River	Open Water Unvegetated Streambed	0.0	69.17	69.17
Banning Channel	Open Water Unvegetated Streambed	0.41	14.78	15.19
Fairview Channel	Concrete Channel Unvegetated Streambed	0.77	1.39	2.16
Pond E	Cattail Marsh/Open Water Emergent Wetland (Lacustrine)	0.0	1.71	1.71
FP Channel	Open Water Riparian Streambed	0.0	0.24	0.24
Overflow Pond	Open Water Freshwater Pond	0.0	0.19	0.19
Placentia Drain	Mulefat/Blue Elderberry Riparian Streambed	0.08	0.68	0.76
Victoria Pond	Open Water Freshwater Pond	2.82	0.53	3.35
Wetland 1	American Bulrush/Black Willow Thickets Forested Wetland (Palustrine)	2.89	0.37	3.26
Unnamed Drainage	Arroyo Willow Riparian Streambed	0.15	0.0	0.15
Concrete-Lined Channel	Concrete Channel Unvegetated Streambed	0.05	0.0	0.05
Wetland 2	Saltgrass-Pacific Swampfire Salt Marsh (Palustrine)	14.15	1.10	15.25
Wetland 3	Mulefat Thickets Emergent Wetland (Palustrine)	0.0	1.10	1.10
Wetland 4	Black Willow/Mulefat Salt Marsh (Palustrine)	0.30	17.19	17.49
Wetland 5	Mulefat Thickets Black Willow Forested Wetland (Palustrine)	7.65	0.0	7.65

Table 5. CDFW Jurisdiction Summary

Feature Name	Habitat Type Waters Type	On-Site Acres	Off-Site Acres	Total
Wetland 6	Black Willow Forested Wetland (Palustrine)	2.75	0.03	2.78
	Total	**32.02**	**108.48**	**140.5**

* Acreage may not total due to rounding.

5.3 Jurisdictional Delineation Conclusion

The study area supports thirteen features that are considered waters of the U.S. and state, and an additional four features that are also under the jurisdiction of CDFW and the CCC. Table 6 below summarizes the extent of each regulatory agency's jurisdiction within the project site and survey buffer, for each type of waters/wetlands. The study area contains a total of approximately 90.82 acres of non-wetland waters of the U.S. and state, and a total of approximately 24.86 acres of wetland waters of the U.S. and state, for a total potential ACOE/RWQCB jurisdiction of 115.68 acres. Additionally, the delineation determined that a total of approximately 140.32 acres of CDFW/CCC jurisdiction, consisting of 49.92 acres of CDFW/CCC wetlands and 90.4 acre of non-wetland waters that occurs within the study area.

Table 6. Jurisdictional Delineation Summary

Jurisdiction	Cowardin Classification/Waters Type	Project Area (On-Site) Acres	Project Survey Buffer (Off-Site) Acres	Total Acres
Jurisdictional Waters of the U.S. and State				
ACOE/RWQCB	**Wetland Waters**			
	Intermittent Stream	0.15	0.001	0.151
	Perennial Pond	2.82	0.53	3.35
	Wetland	17.02	4.34	21.36
	Wetland Waters Subtotal	*19.99*	*4.87*	*24.86*
	Non-Wetland Water			
	Ephemeral Drainage	0.20	0.25	0.45
	Intermittent Stream	1.26	15.47	16.73
	Perennial Pond	2.82	1.35	4.17
	Perennial Stream	–	69.47	69.47
	Non-Wetland Waters Subtotal	*4.28*	*86.47*	*90.82*
	ACOE/RWQCB Waters Total	***24.27***	***91.34***	***115.68***
CDFW and CCC Jurisdictional Waters				
CDFW/CCC Wetlands/Riparian Habitat	**Wetland Waters**			
	Lacustrine Emergent	–	1.71	1.71
	Palustrine Emergent (Forested Wetland and Salt Marsh)	28.1	18.96	47.06

Table 6. Jurisdictional Delineation Summary

Jurisdiction	Cowardin Classification/Waters Type	Project Area (On-Site) Acres	Project Survey Buffer (Off-Site) Acres	Total Acres
	Streambed - Riparian	0.23	0.92	1.15
	Wetland Waters Subtotal	28.33	21.59	49.92
	Non-Wetland Waters			
	Freshwater Pond	2.82	0.72	3.54
	Unvegetated Streambed	1.23	85.63	86.86
	Non-Wetland Waters Subtotal	4.05	86.35	90.4
	CDFW/CCC Jurisdiction Total	***32.38***	***107.94***	***140.32***

Notes:
* Acreage may not total due to rounding.

6 Recommendations

The proposed project includes the restoration of the project site for a public park facility with mixed uses. The final restoration design has not been completed, however, any restoration treatments that result in temporary or permanent impacts to potentially jurisdictional waters would be considered significant and require regulatory agency permitting prior to implementation. If the final design results in project-related impacts to jurisdictional features an ACOE 404 permit, RWQCB 401 Certification, CDFW Streambed Alteration Agreement, and CCC Coastal Development Permit will be required to permit the impacts to waters. Mitigation to offset these impacts would also be required, however, the proposed project is a restoration project and the applicant may be able to mitigate impacts on site through the project. A pre-application meeting is recommended with the regulatory agencies to ensure the project will include adequate mitigation for the proposed impacts.

Should you have any questions regarding this report or require additional information, please do not hesitate to contact me at tmolioo@dudek.com or 949.373.8308.

Sincerely,

Tommy Molioo
Senior Biologist

Att.: *Attachment A – Figures*
Attachment B – Jurisdictional Delineation Forms
Attachment C – Site Photos

7 References

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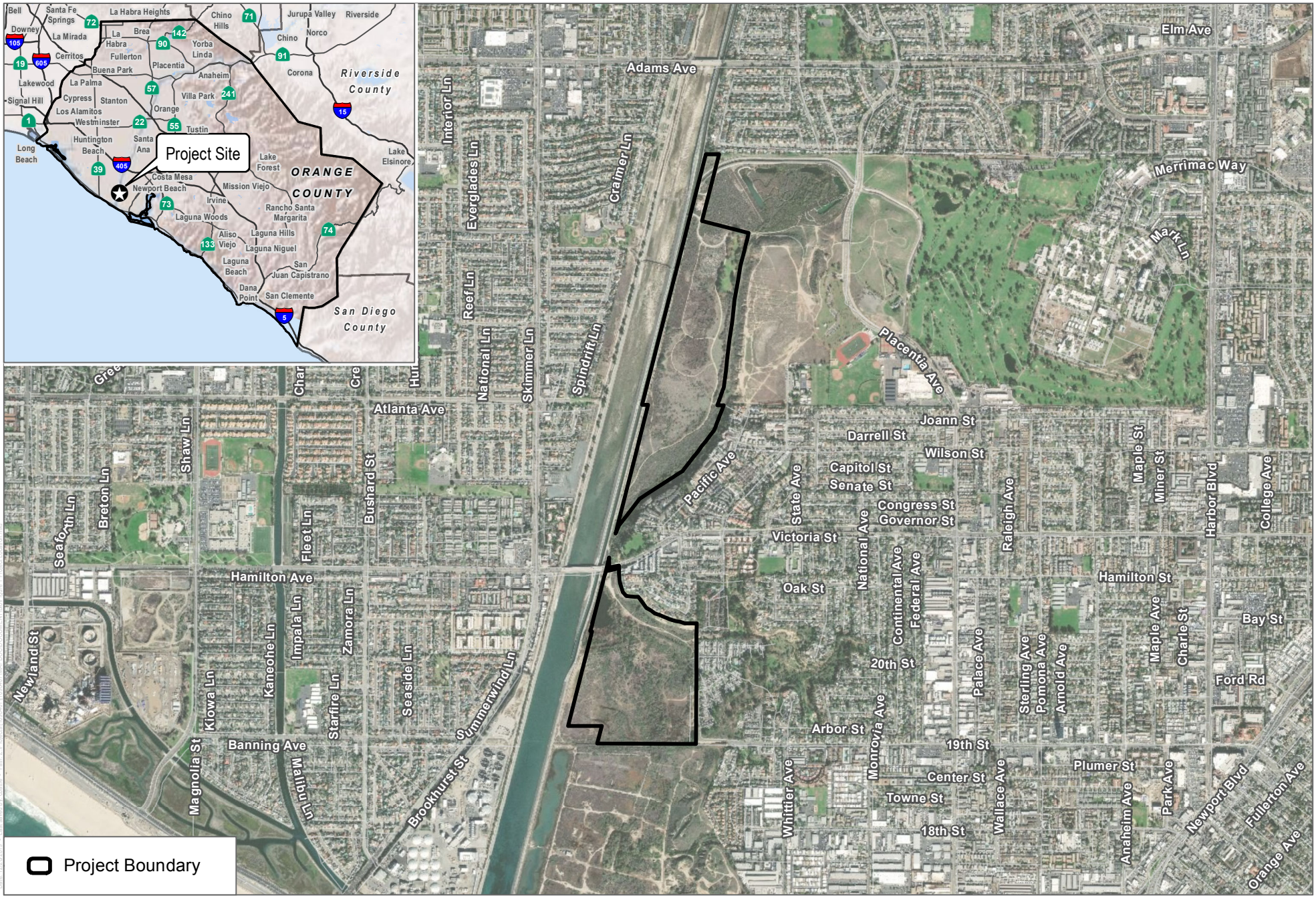
Attachment A

Figures



SOURCE: DigitalGlobe 2017

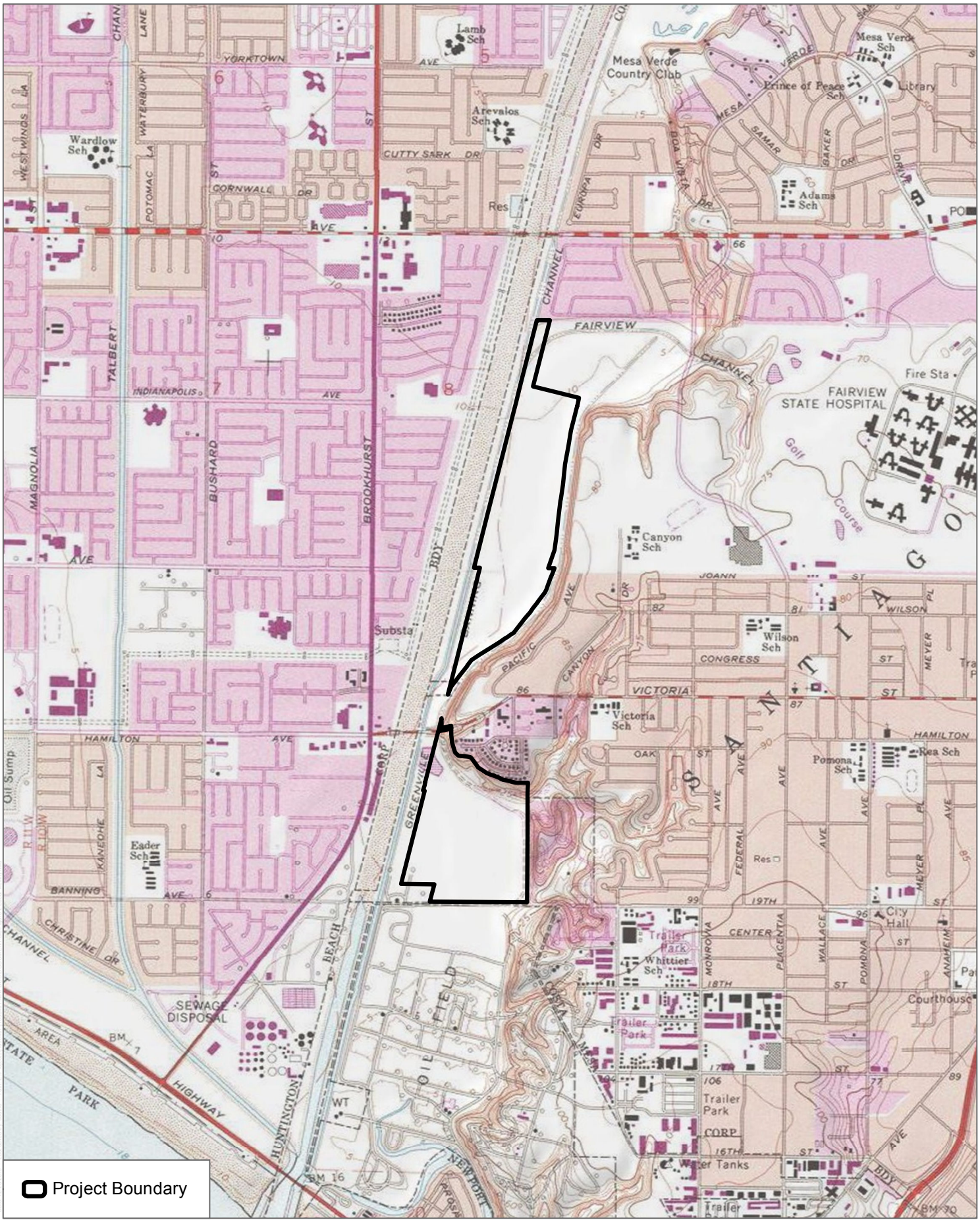
DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

Talbert Regional Park



SOURCE: USGS 7.5-Minute Series Newport Beach Quadrangle

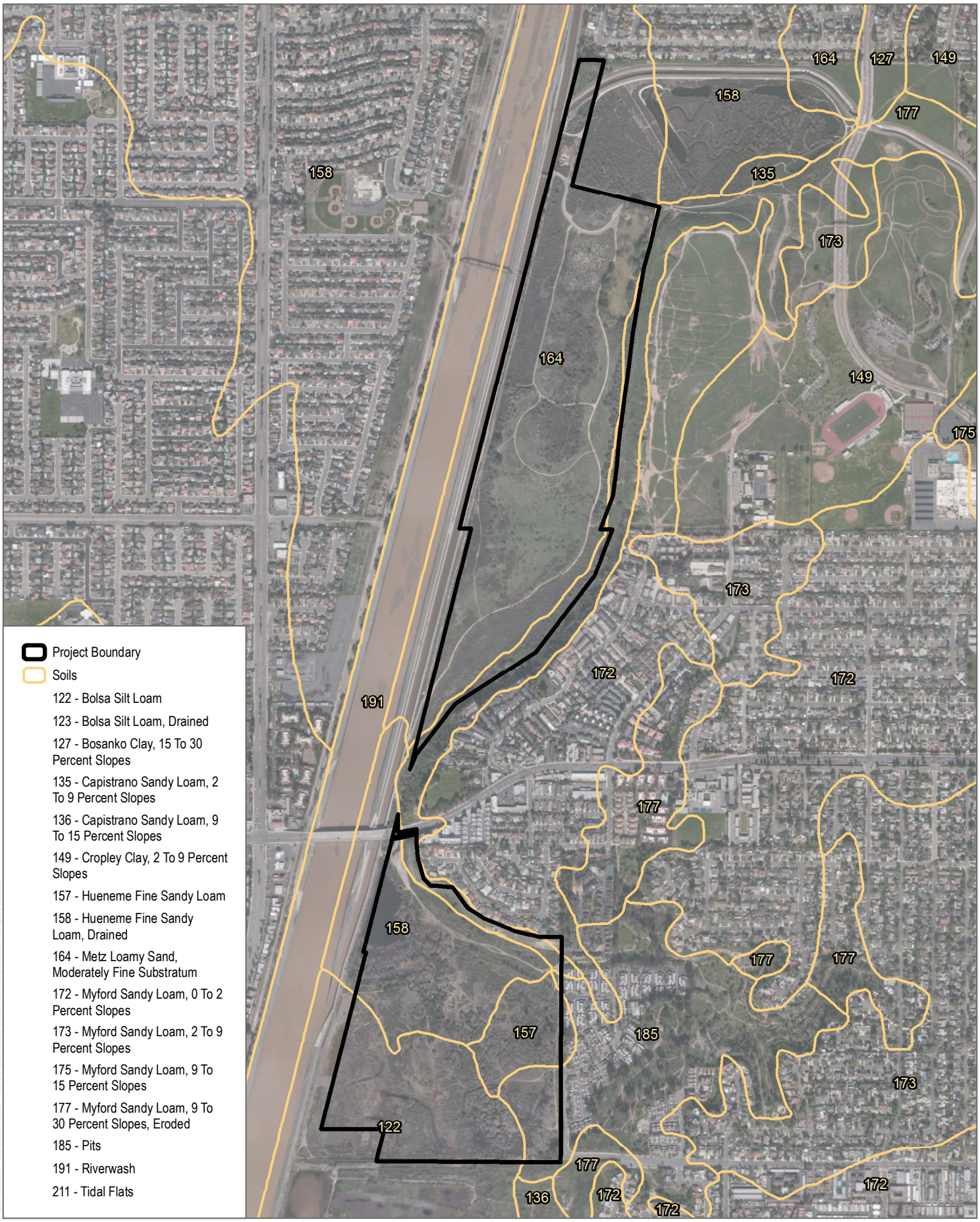
DUDEK

0 1,000 2,000 Feet

FIGURE 2

Local Vicinity

Talbert Regional Park



SOURCE: USGS 7.5-Minute Series Newport Beach Quadrangle

DUDEK

FIGURE 3

Soils

Talbert Regional Park



SOURCE: ESRI 2020

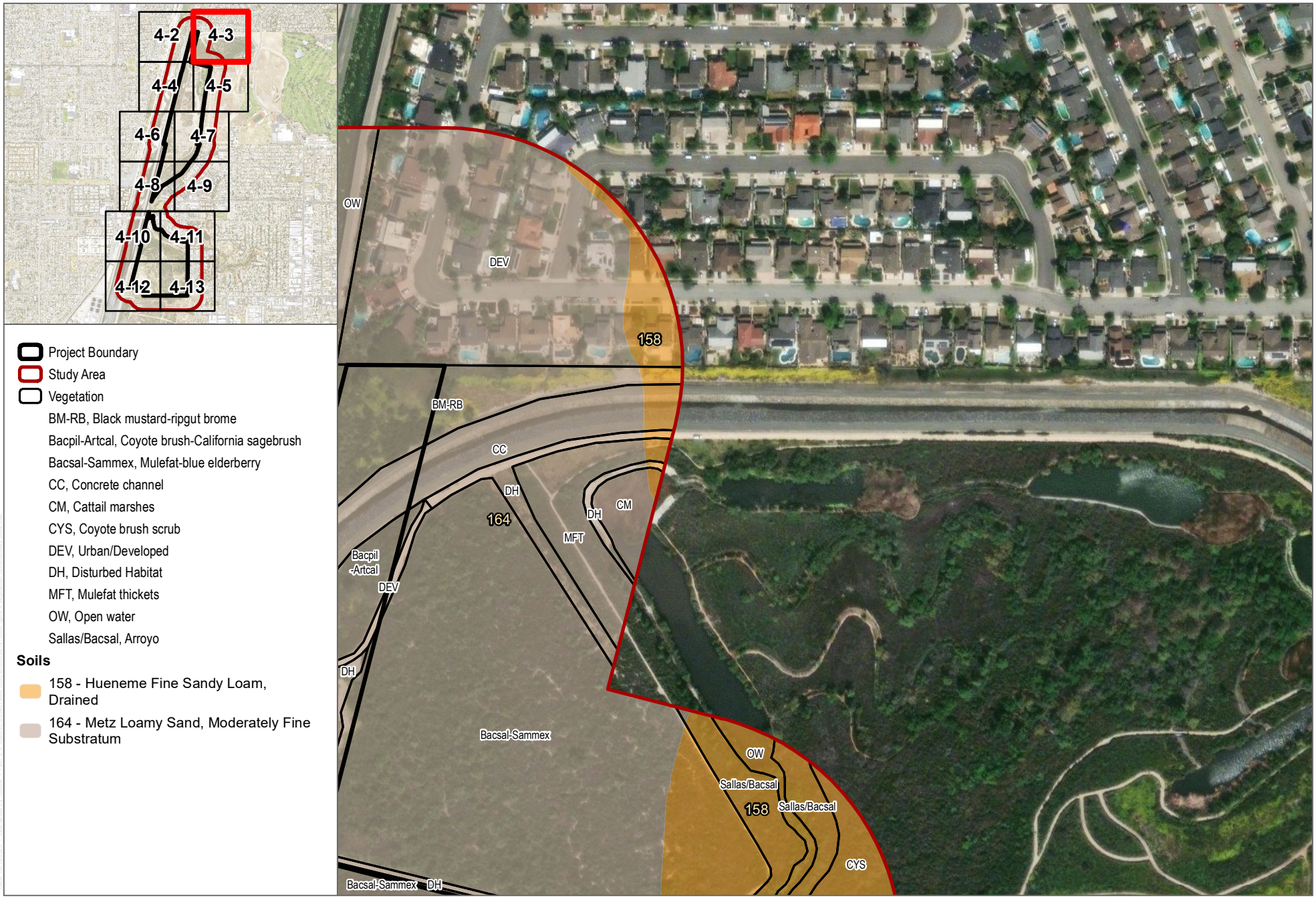
DUDEK

0 125 250 Feet

FIGURE 4-1

Vegetation Communities and Land Covers

Talbert Regional Park



SOURCE: ESRI 2020

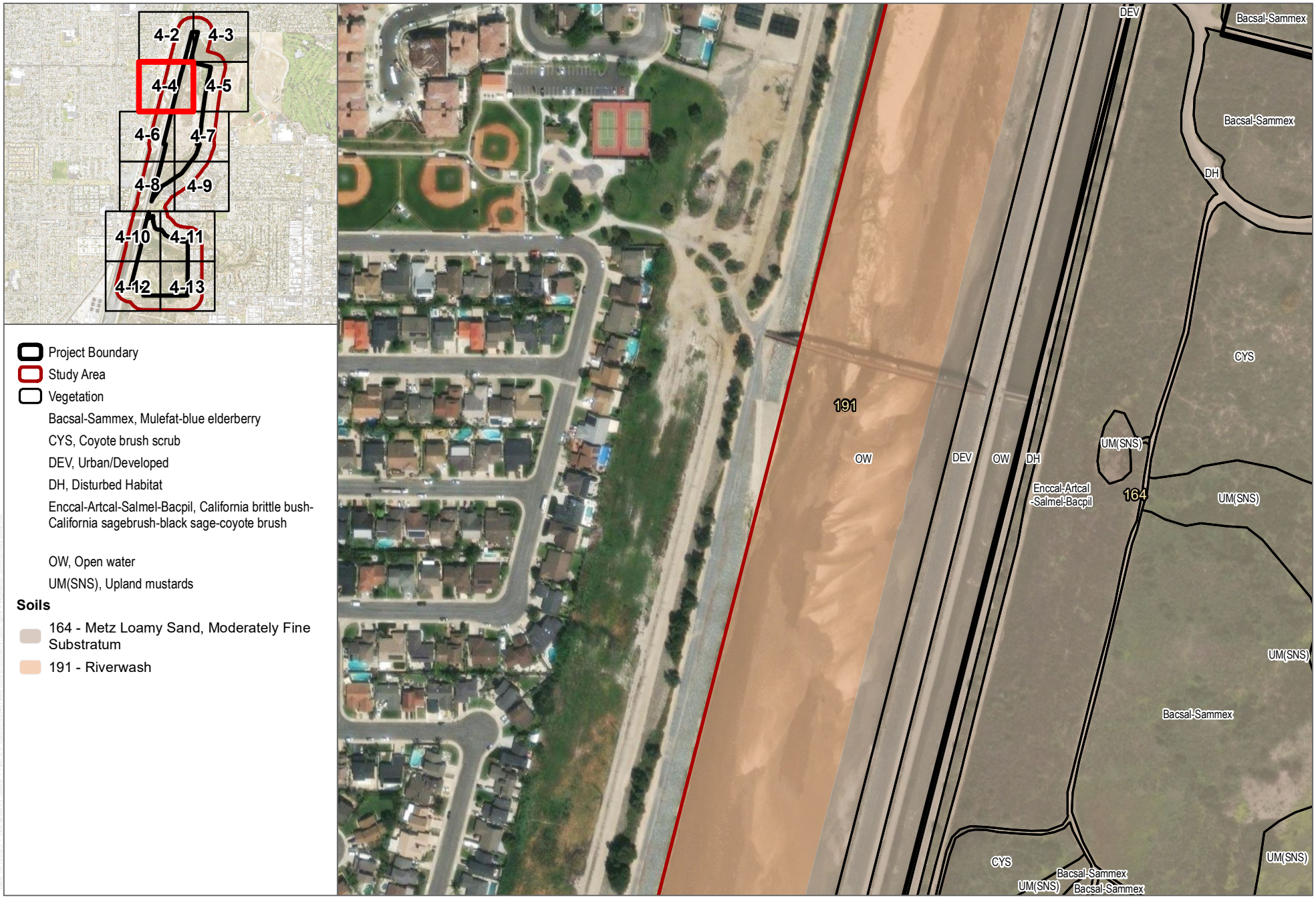
DUDEK

0 125 250 Feet

FIGURE 4-2

Vegetation Communities and Land Covers

Talbert Regional Park



SOURCE: ESRI 2020

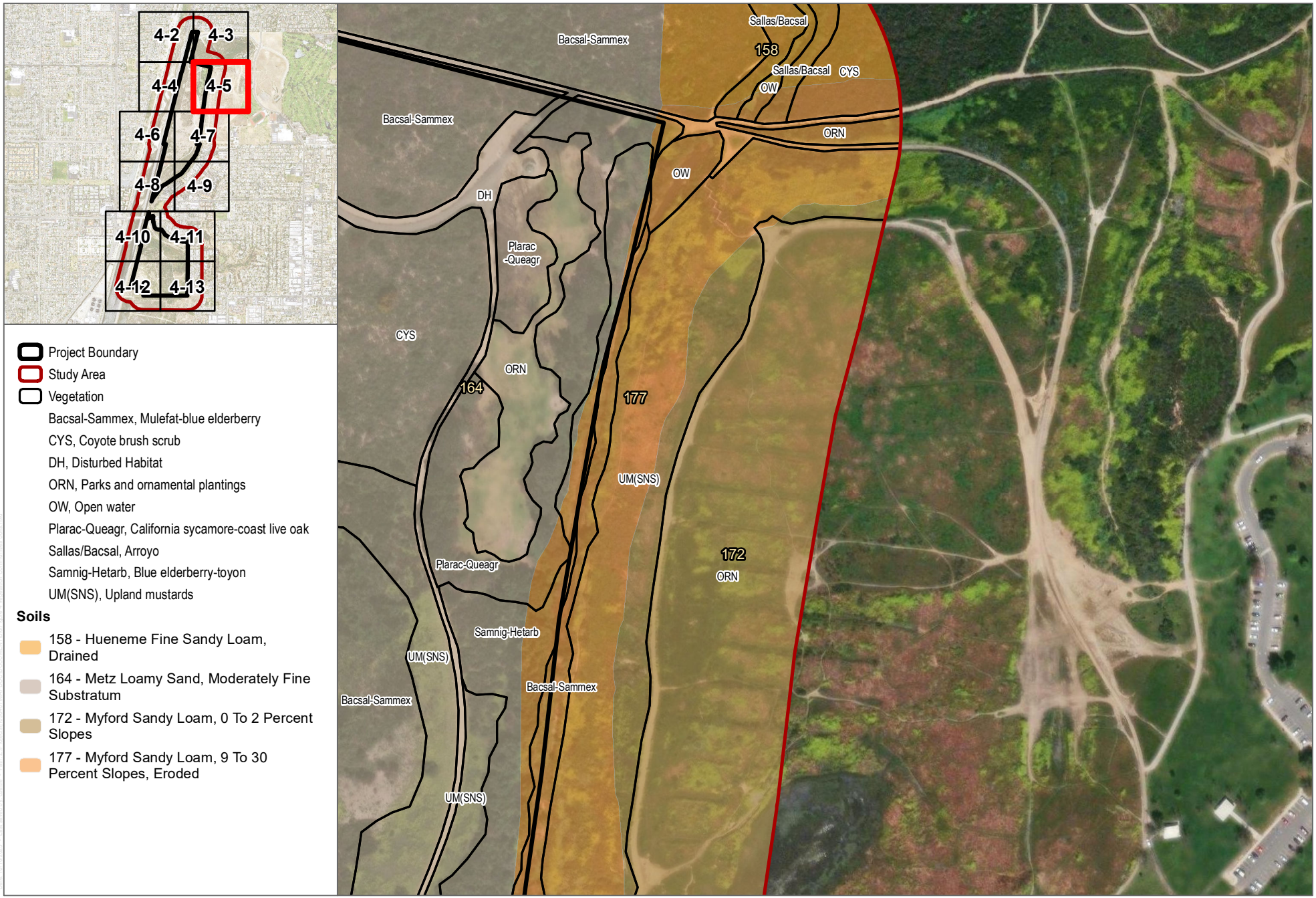
DUDEK

0 125 250 Feet

FIGURE 4-3

Vegetation Communities and Land Covers

Talbert Regional Park



SOURCE: ESRI 2020

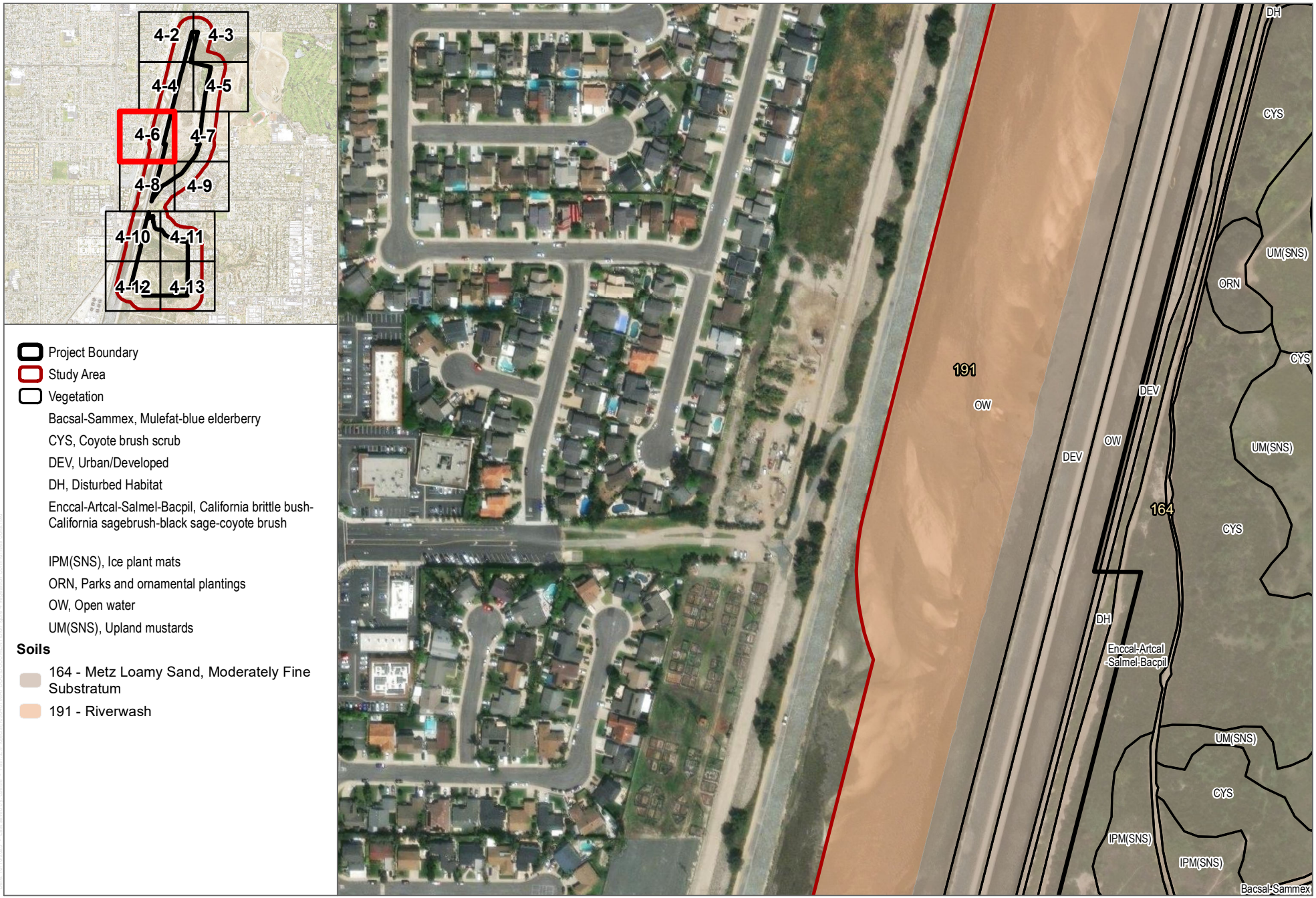
DUDEK

0 125 250 Feet

FIGURE 4-4

Vegetation Communities and Land Covers

Talbert Regional Park



SOURCE: ESRI 2020

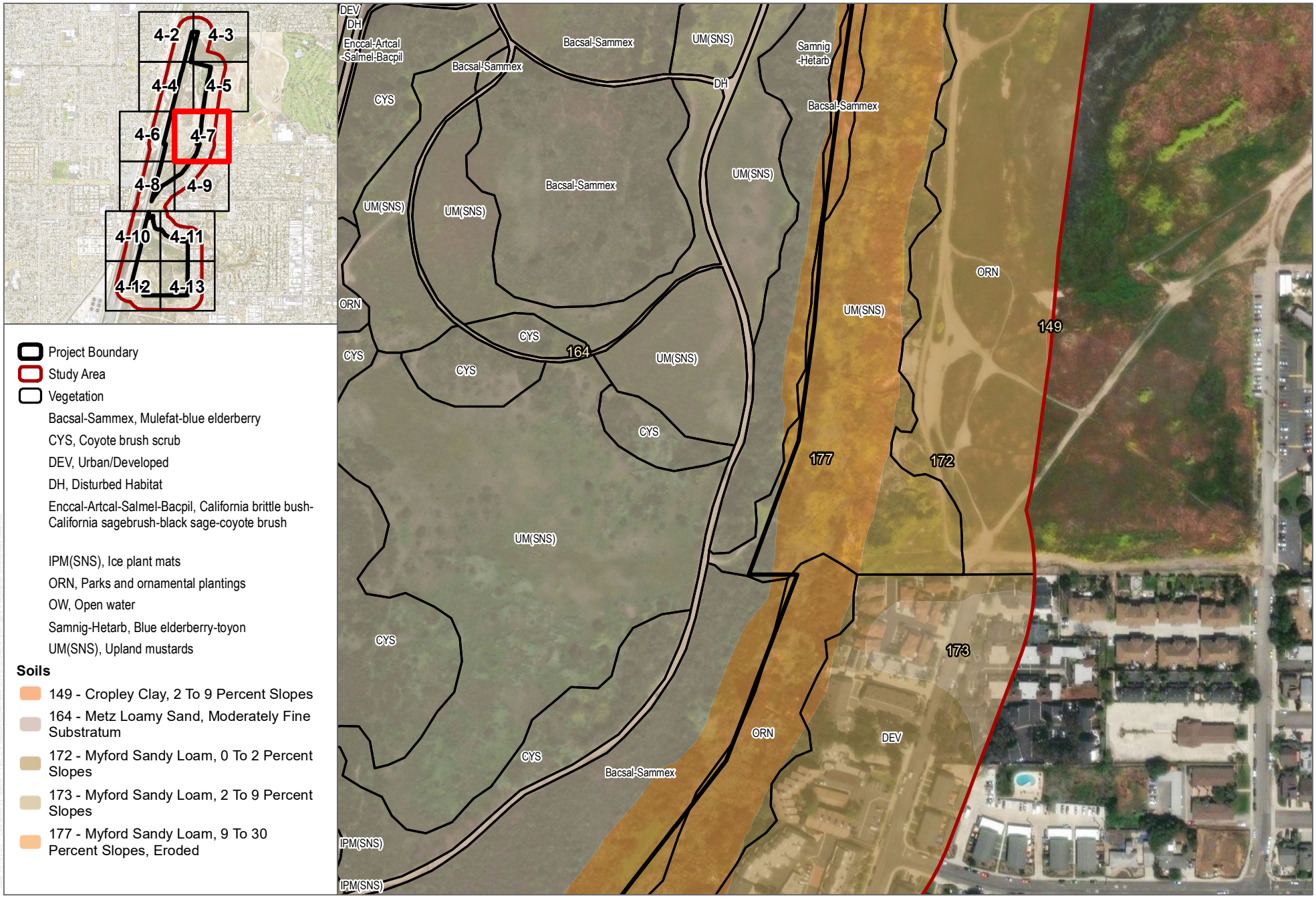
DUDEK

0 125 250 Feet

FIGURE 4-5

Vegetation Communities and Land Covers

Talbert Regional Park



SOURCE: ESRI 2020

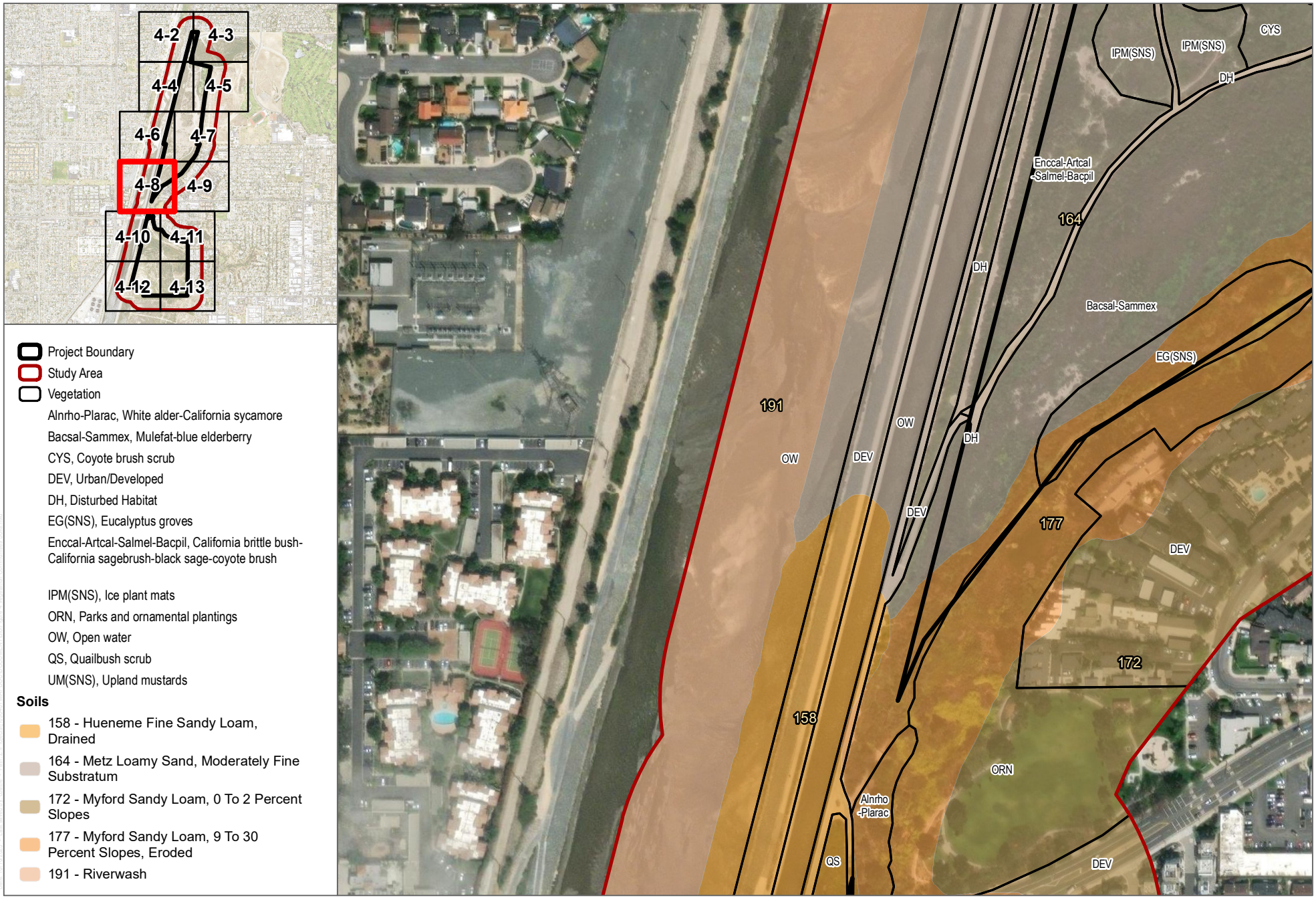
DUDEK

0 125 250 Feet

FIGURE 4-6

Vegetation Communities and Land Covers

Talbert Regional Park



SOURCE: ESRI 2020

DUDEK

0 125 250 Feet

FIGURE 4-7

Vegetation Communities and Land Covers

Talbert Regional Park



SOURCE: ESRI 2020

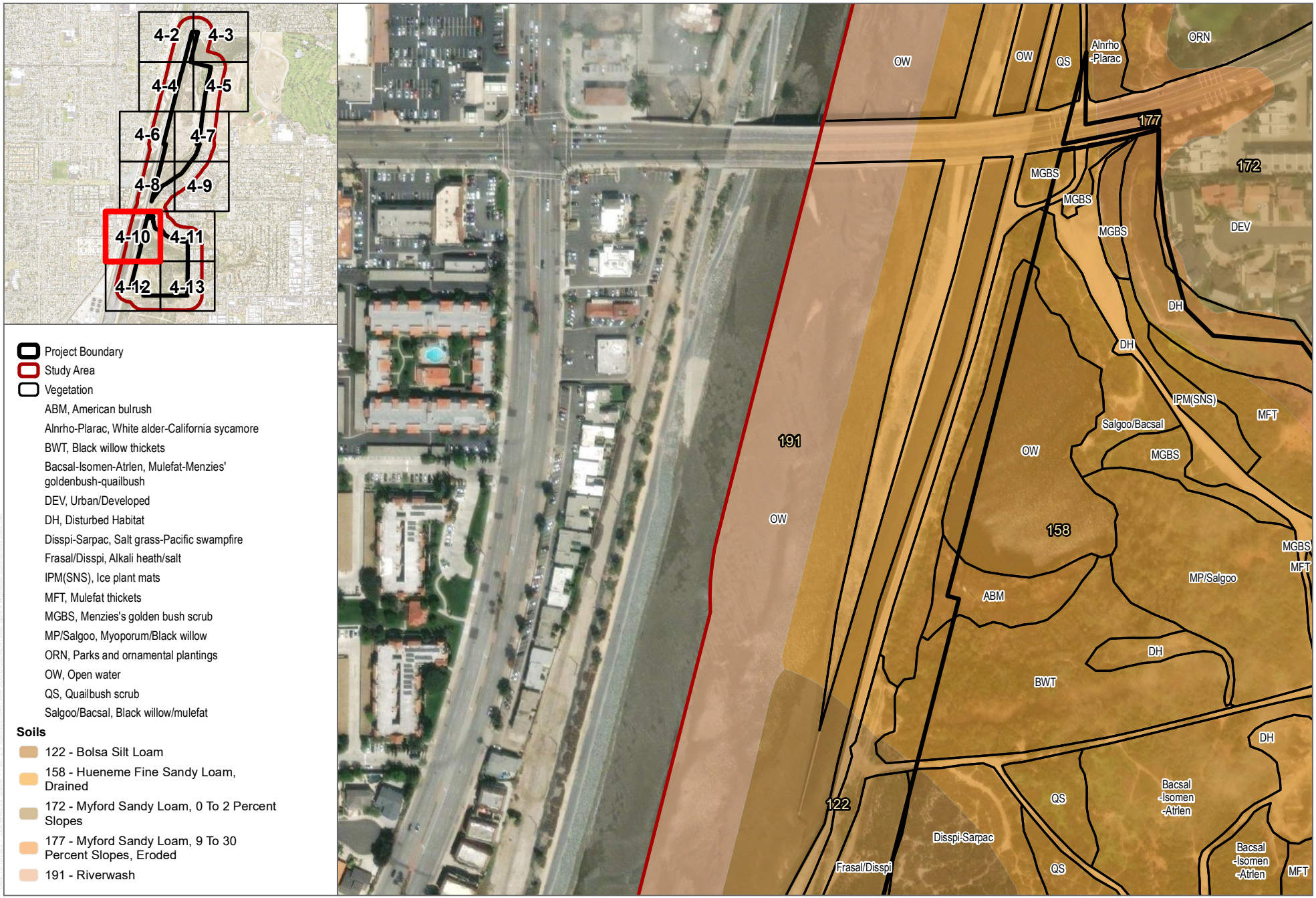
DUDEK

0 125 250 Feet

FIGURE 4-8

Vegetation Communities and Land Covers

Talbert Regional Park



SOURCE: ESRI 2020

DUDEK

0 125 250 Feet

FIGURE 4-9

Vegetation Communities and Land Covers

Talbert Regional Park



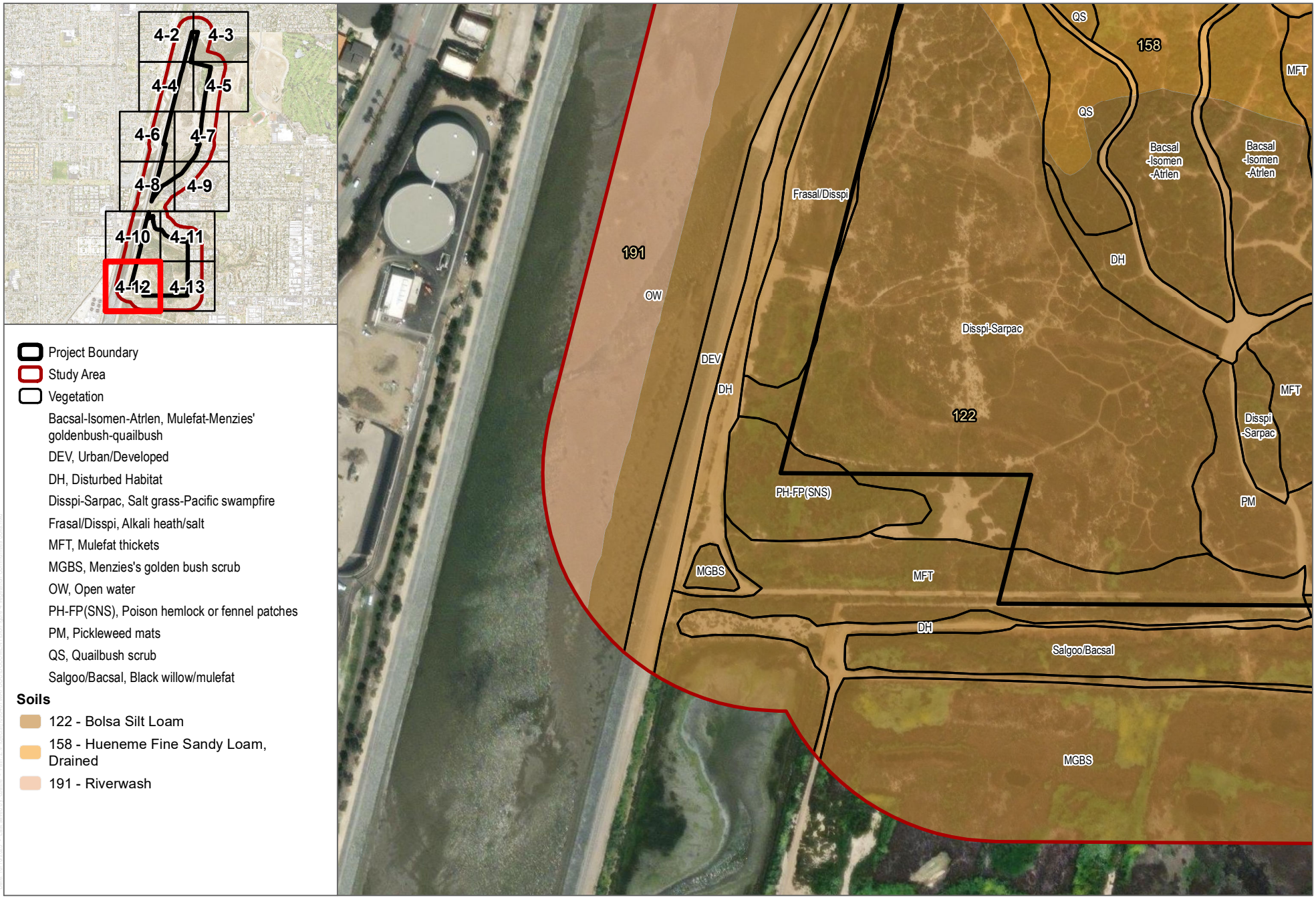
SOURCE: ESRI 2020

DUDEK

FIGURE 4-10

Vegetation Communities and Land Covers

Talbert Regional Park



SOURCE: ESRI 2020

DUDEK

0 125 250 Feet

FIGURE 4-11

Vegetation Communities and Land Covers

Talbert Regional Park



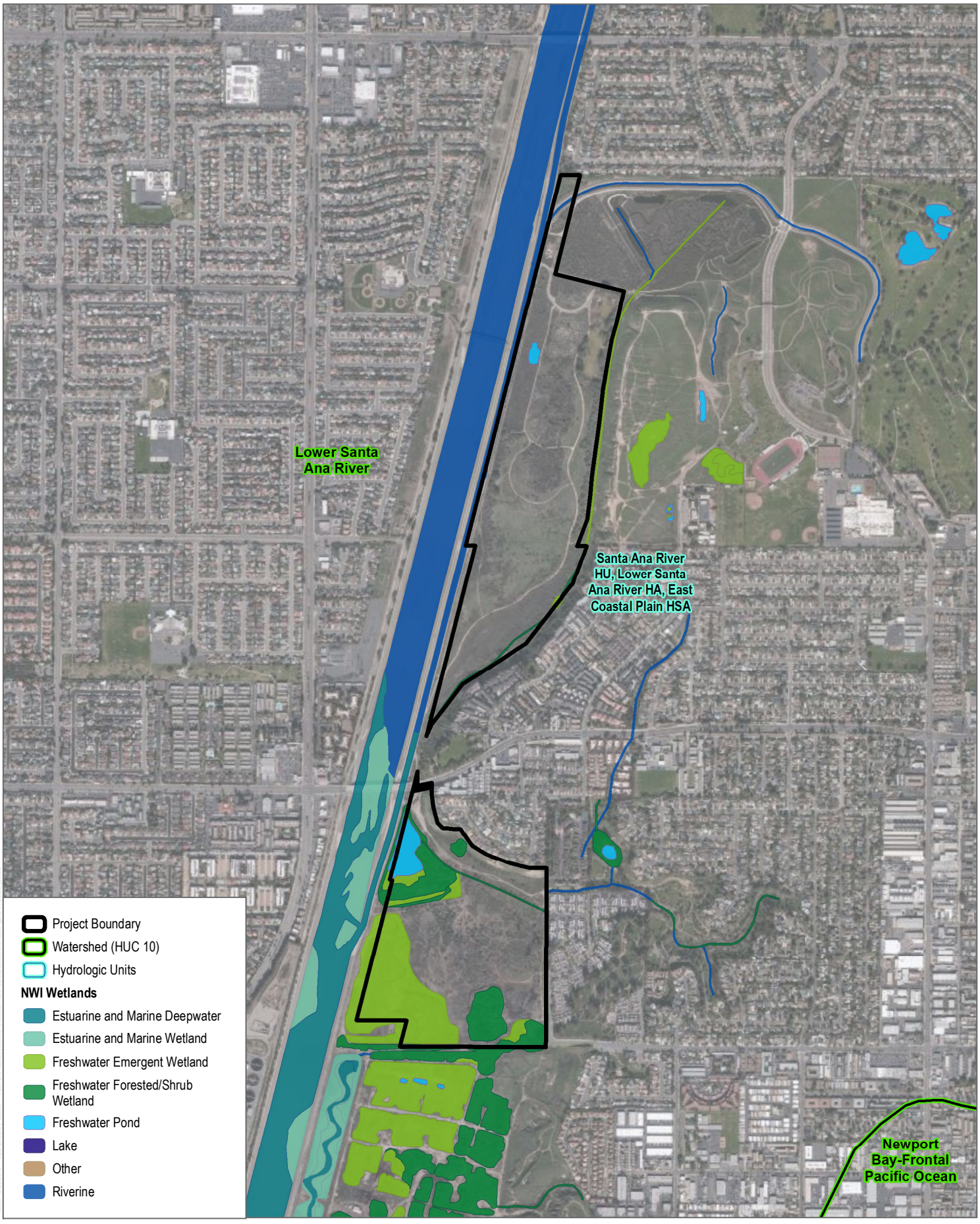
SOURCE: ESRI 2020

DUDEK

FIGURE 4-12

Vegetation Communities and Land Covers

Talbert Regional Park



SOURCE: Bing, NWI 2019

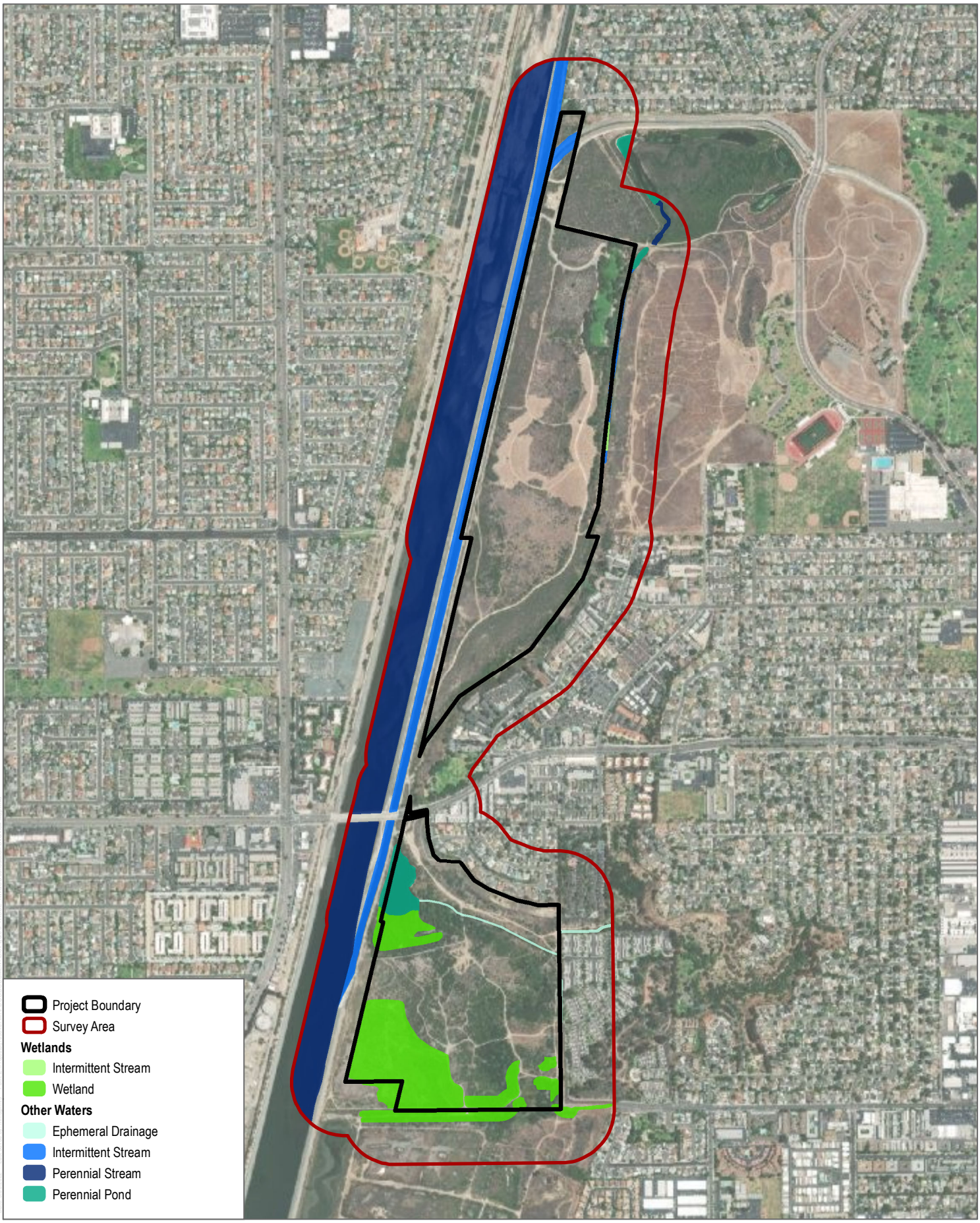
DUDEK

0 500 1,000 Feet

FIGURE 5

Hydrology

Talbert Regional Park



SOURCE: ESRI 2020

DUDEK

0 500 1,000 Feet

FIGURE 6-1

ACOE/RWQCB Jurisdiction Overview

Talbert Regional Park



SOURCE:

DUDEK

0 125 250 Feet

FIGURE 6-2

ACOE/RWQCB Jurisdiction

Talbert Regional Park



SOURCE:

DUDEK

0 125 250 Feet

FIGURE 6-3

ACOE/RWQCB Jurisdiction

Talbert Regional Park



SOURCE:

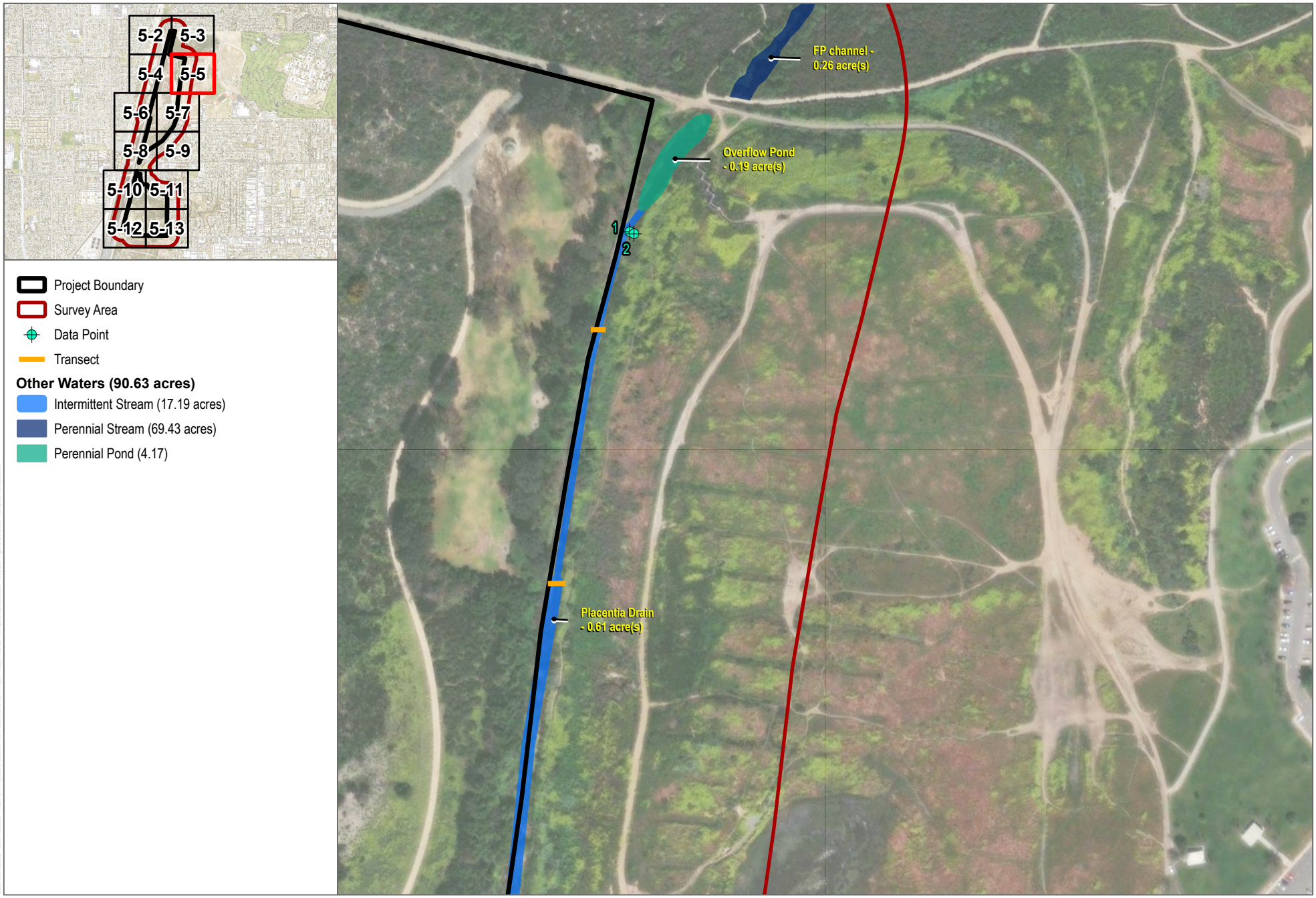
DUDEK

0 125 250 Feet

FIGURE 6-4

ACOE/RWQCB Jurisdiction

Talbert Regional Park



SOURCE:

DUDEK

0 125 250 Feet

FIGURE 6-5

ACOE/RWQCB Jurisdiction

Talbert Regional Park



SOURCE:

DUDEK

0 125 250 Feet

FIGURE 6-6

ACOE/RWQCB Jurisdiction

Talbert Regional Park



SOURCE:

DUDEK

0 125 250 Feet

FIGURE 6-7

ACOE/RWQCB Jurisdiction

Talbert Regional Park



SOURCE:

DUDEK

0 125 250 Feet

FIGURE 6-8

ACOE/RWQCB Jurisdiction

Talbert Regional Park



SOURCE:

DUDEK

0 125 250 Feet

FIGURE 6-9

ACOE/RWQCB Jurisdiction

Talbert Regional Park



SOURCE:

DUDEK

0 125 250 Feet

FIGURE 6-10

ACOE/RWQCB Jurisdiction

Talbert Regional Park



SOURCE:

DUDEK

0 125 250 Feet

FIGURE 6-11

ACOE/RWQCB Jurisdiction

Talbert Regional Park



SOURCE:

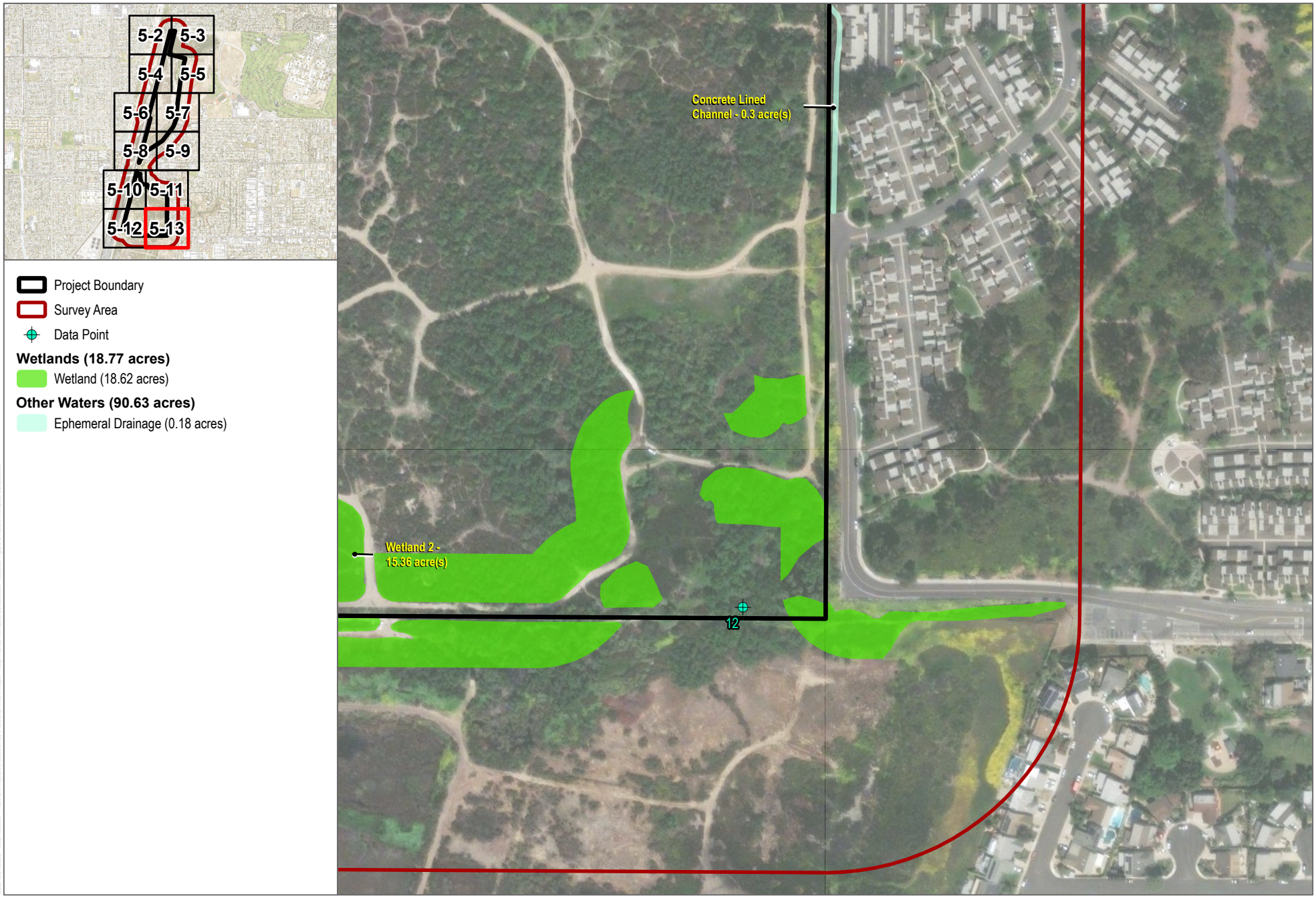
DUDEK

0 125 250 Feet

FIGURE 6-12

ACOE/RWQCB Jurisdiction

Talbert Regional Park



SOURCE:

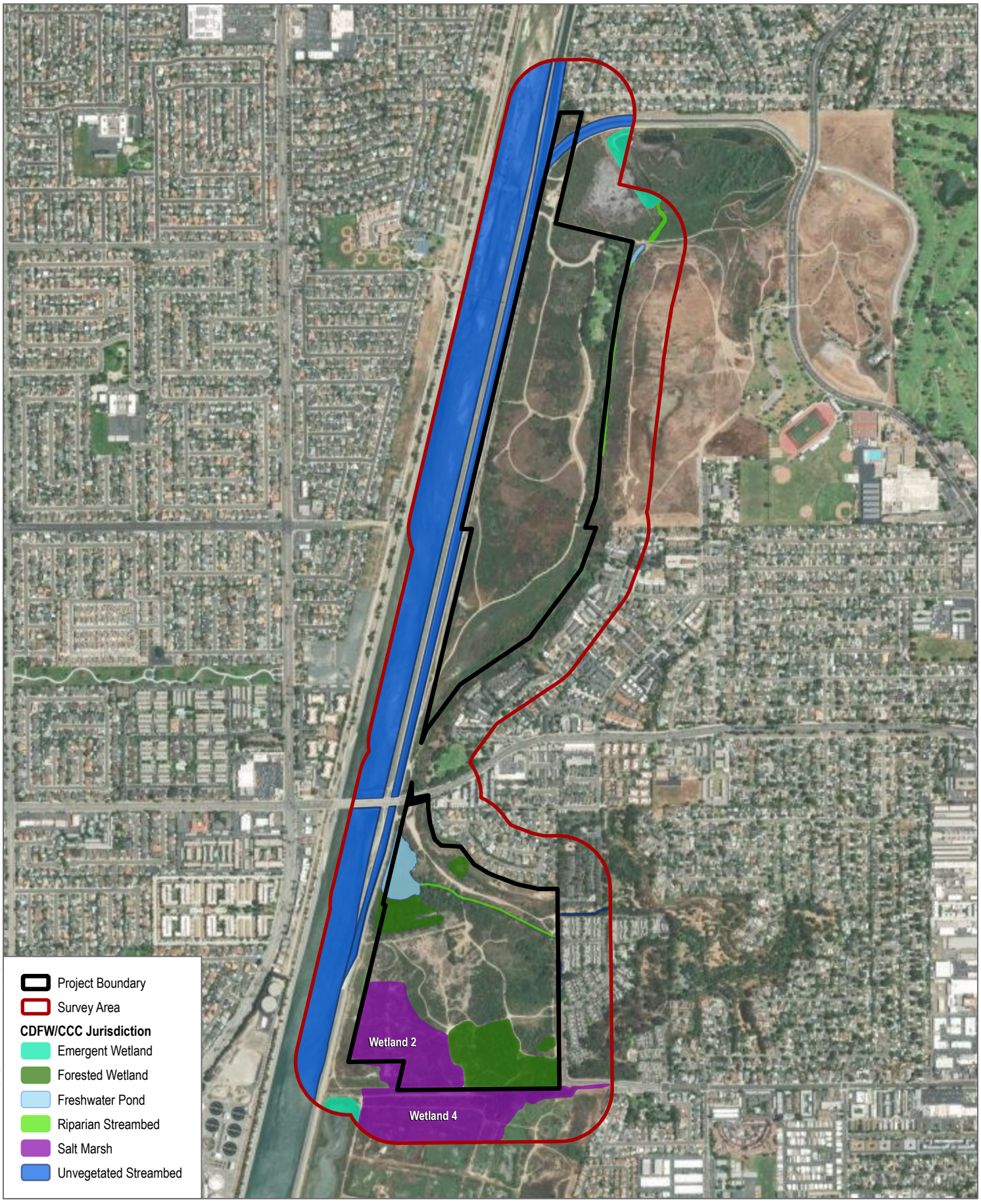
DUDEK

0 125 250 Feet

FIGURE 6-13

ACOE/RWQCB Jurisdiction

Talbert Regional Park



SOURCE:

DUDEK

0 500 1,000 Feet

FIGURE 7-1

CDFW/CCC Jurisdiction Overview

Talbert Regional Park



SOURCE:

DUDEK

0 125 250 Feet

FIGURE 7-2

CDFW/CCC Jurisdiction

Talbert Regional Park



SOURCE:

DUDEK

0 125 250 Feet

FIGURE 7-3

CDFW/CCC Jurisdiction

Talbert Regional Park



SOURCE:

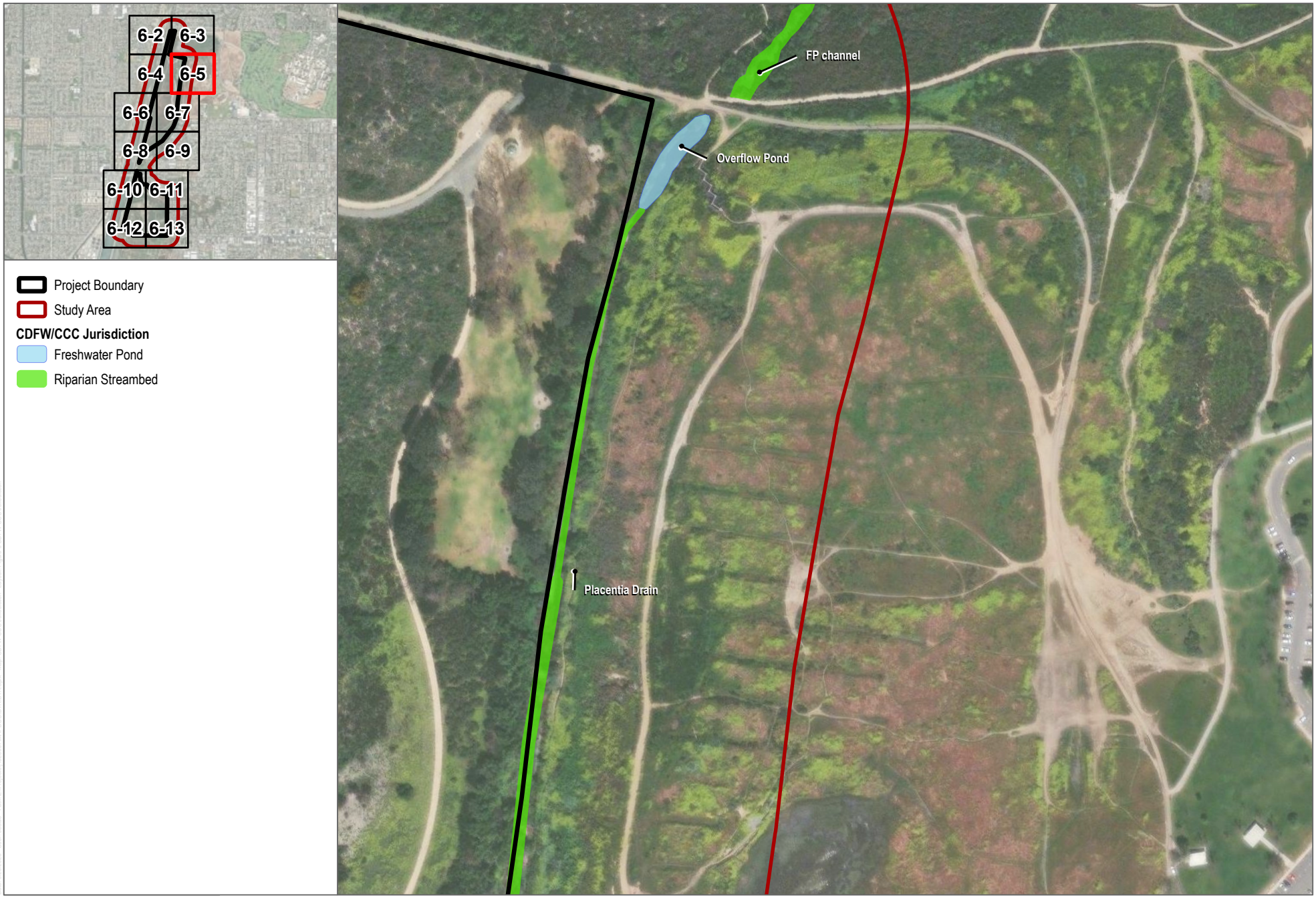
DUDEK

0 125 250 Feet

FIGURE 7-4

CDFW/CCC Jurisdiction

Talbert Regional Park



SOURCE:

DUDEK

0 125 250 Feet

FIGURE 7-5

CDFW/CCC Jurisdiction

Talbert Regional Park



SOURCE:

DUDEK

0 125 250 Feet

FIGURE 7-6

CDFW/CCC Jurisdiction

Talbert Regional Park



SOURCE:

DUDEK

0 125 250 Feet

FIGURE 7-7

CDFW/CCC Jurisdiction

Talbert Regional Park



SOURCE:

DUDEK

0 125 250 Feet

FIGURE 7-8

CDFW/CCC Jurisdiction

Talbert Regional Park



SOURCE:

DUDEK

0 125 250 Feet

FIGURE 7-9

CDFW/CCC Jurisdiction

Talbert Regional Park



SOURCE:

DUDEK

0 125 250 Feet

FIGURE 7-10

CDFW/CCC Jurisdiction

Talbert Regional Park



SOURCE:

DUDEK

0 125 250 Feet

FIGURE 7-11

CDFW/CCC Jurisdiction

Talbert Regional Park



SOURCE:

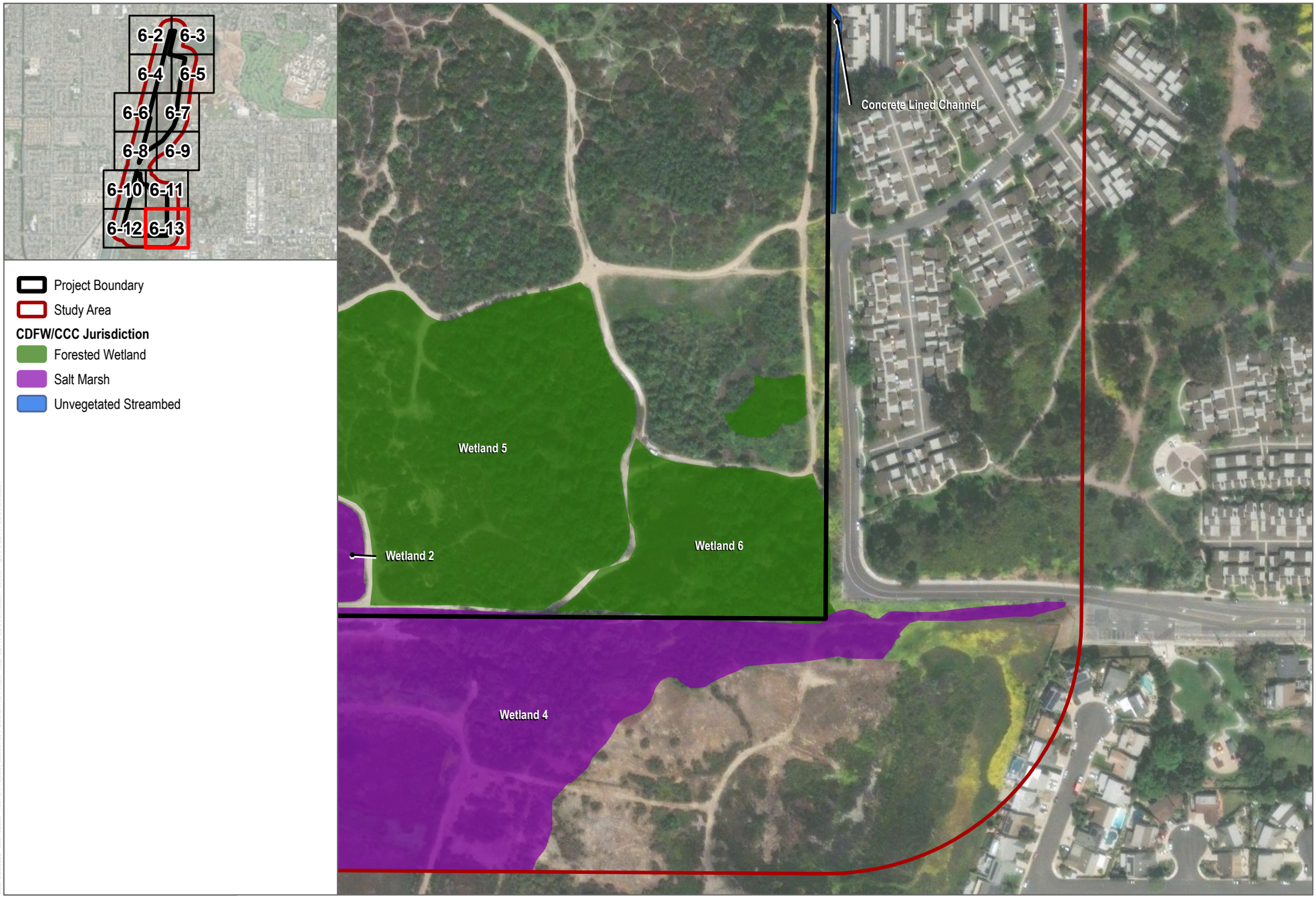
DUDEK

0 125 250 Feet

FIGURE 7-12

CDFW/CCC Jurisdiction

Talbert Regional Park



SOURCE:

DUDEK

0 125 250 Feet

FIGURE 6-13

CDFFW/CCC Jurisdiction

Talbert Regional Park

Attachment B

Jurisdictional Delineation Forms

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Talbert Regional Park | City/County: Costa Mesa, OC | Sampling Date: 10/23/19

Applicant/Owner: OC Parks | State: CA | Sampling Point: DP1

Investigator(s): Tommy M. , Eilleen S. | Section, Township, Range:

Landform (hillslope, terrace, etc.): toe of slope | Local relief (concave, convex, none): Concave | Slope (%): 1

Subregion (LRR): C - Mediterranean California | Lat: 117°56'35.075"W | Long: 33°39'52.159"N | Datum: NAD83

Soil Map Unit Name: Myford Sandy Loam | NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [X] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Data pit dug just downstream of where pond historically stopped. Channel 2 meters wide.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Platanus racemosa*	5	Yes	FAC
2. *Rosa californica*	2	No	FAC
3.			
4.			
Total Cover:	7 %		
Sapling/Shrub Stratum			
1. *Rubus ursinus*	50	Yes	UPL
2. *Pluchea odorata*	3	No	FACW
3. *Cyperus involucratus*	2	No	FACW
4. *Erigeron canadensis*	15	Yes	FACU
5.			
Total Cover:	70 %		
Herb Stratum			
1. *Lemna sp.*	50	Yes	OBL
2. *Rubus ursinus*	5	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	55 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 13 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	5	x 2 =	10
FAC species	12	x 3 =	36
FACU species	15	x 4 =	60
UPL species	50	x 5 =	250
Column Totals:	132 (A)		406 (B)

Prevalence Index = B/A = 3.08

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: DP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	2.5Y 2.5/1	98	2.5Y 6/8	2	C	M	Silty Clay Loam	
6-7								Organic Layer
7-9	2.5Y 3/1	90	Gley1 2.5/N	10	RM	M	Silty loam	less clay
9-12	2.5Y 3/1	95	Gley1 2.5N	5	RM	M	Silty loam	less clay

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☒ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☒ Inundation Visible on Aerial Imagery (B7)
- ☒ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 4 in

Water Table Present? Yes ◉ No ○ Depth (inches): 4 in

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Talbert Regional Park | City/County: Costa Mesa, OC | Sampling Date: 10/23/19

Applicant/Owner: OC Parks | State: CA | Sampling Point: DP2

Investigator(s): Tommy M. and Eilleen S. | Section, Township, Range:

Landform (hillslope, terrace, etc.): toe of slope | Local relief (concave, convex, none): Concave | Slope (%): 1

Subregion (LRR): C - Mediterranean California | Lat: 117°56'34.969"W | Long: 33°39'52.114"N | Datum: NAD83

Soil Map Unit Name: Myford Sandy Loam | NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [X] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: About feet away from DP1

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Erigeron canadensis*	55	Yes	FACU
2. *Rubus ursinus*	25	No	FAC
3. *Pluchea odorata*	5	No	FACW
4.			
5.			
Total Cover:	85 %		
Herb Stratum			
1. *Ricinus communis*	1	No	FACU
2. *Rubus ursinus*	15	Yes	FAC
3. *Hirschfeldia incana*	1	No	UPL
4.			
5.			
6.			
7.			
8.			
Total Cover:	17 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 13 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	5	x 2 =	10
FAC species	40	x 3 =	120
FACU species	56	x 4 =	224
UPL species	1	x 5 =	5
Column Totals:	102 (A)		359 (B)

Prevalence Index = B/A = 3.52

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: DP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-18	2.5Y 4/3	100	-	-			Silty Loam	upland

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Talbert Regional Park | City/County: Costa Mesa, OC | Sampling Date: 10/23/19

Applicant/Owner: OC Parks | State: CA | Sampling Point: DP3

Investigator(s): Tommy M. and Eilleen S. | Section, Township, Range:

Landform (hillslope, terrace, etc.): | Local relief (concave, convex, none): Concave | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 117°56'38.036"W | Long: 33°39'35.281"N | Datum: NAD83

Soil Map Unit Name: Myford Sandy Loam | NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ○ No ○ (If no, explain in Remarks.)

Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ○ No ○

Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	
Hydric Soil Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks: Furthest downstream end of "channel"

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ricinus communis*	2	No	FACU
2. *Nicotiana glauca*	10	No	FAC
3. *Sambucus nigra*	25	Yes	FACU
4.			
Total Cover:	37 %		
Sapling/Shrub Stratum			
1. *Erigeron canadensis*	75	Yes	FACU
2. *Nicotiana glauca*	5	No	FAC
3. *Baccharis pilularis*	2	No	UPL
4.			
5.			
Total Cover:	82 %		
Herb Stratum			
1. *Nicotiana glauca*	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	5 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 10-15% | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species	20	x 3 =	60
FACU species	102	x 4 =	408
UPL species	2	x 5 =	10
Column Totals:	124 (A)		478 (B)

Prevalence Index = B/A = 3.85

Hydrophytic Vegetation Indicators:

- ◉ Dominance Test is >50%
- ◉ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

SOIL

Sampling Point: DP3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-12	10YR 3/2	90	10YR 5/4	10	C	M	Silty Loam	Previously inundated

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Talbert Regional Park | City/County: Costa Mesa, OC | Sampling Date: 10/23/19

Applicant/Owner: OC Parks | State: CA | Sampling Point: DP4

Investigator(s): Tommy M. and Eilleen S. | Section, Township, Range:

Landform (hillslope, terrace, etc.): toe of slope | Local relief (concave, convex, none): concave | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 117°56'38.304"W | Long: 33°39'35.187"N | Datum: NAD83

Soil Map Unit Name: Myford Sandy Loam | NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Next to DP3

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ricinus communis*	2	No	FACU
2. *Sambucus nigra*	20	Yes	FACU
3. *Nicotiana glauca*	5	No	FACU
4.			
Total Cover:	27 %		
Sapling/Shrub Stratum			
1. *Foeniculum vulgare*	15	No	UPL
2. *Erigeron canadensis*	65	Yes	FACU
3. *Baccharis pilularis*	10	No	UPL
4.			
5.			
Total Cover:	90 %		
Herb Stratum			
1. *Nicotiana glauca*	1	No	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	1 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 5 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species	93	x 4 =	372
UPL species	25	x 5 =	125
Column Totals:	118 (A)		497 (B)

Prevalence Index = B/A = 4.21

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: DP4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-18	10YR 3/2		-	-			Silty loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Talbert Regional Park | City/County: Costa Mesa/ OC | Sampling Date: 10/23/19

Applicant/Owner: OC Parks | State: CA | Sampling Point: DP5

Investigator(s): Tommy M., Eilleen S. | Section, Township, Range:

Landform (hillslope, terrace, etc.): toe of slope | Local relief (concave, convex, none): concave | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 117°56'38.136"W | Long: 33°39'37.029"N | Datum: NAD83

Soil Map Unit Name: Myford Sandy Loam | NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Sal

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Sambucus nigra*	15	No	FACU
2. *Rhus integrifolia*	20	Yes	UPL
3.			
4.			
Total Cover:	35 %		
Sapling/Shrub Stratum			
1. *Cyperus eragrostis*	40	Yes	FACW
2. *Erigeron canadensis*	10	No	FACU
3. *Solanum americanum*	10	No	FACU
4. *Pluchea odorata*	20	No	FACW
5. *Salix lutea*	10	No	OBL
Total Cover:	90 %		
Herb Stratum			
1. *Solanum americanum*	5	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	5 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 5 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	60	x 2 =	120
FAC species		x 3 =	0
FACU species	40	x 4 =	160
UPL species	20	x 5 =	100
Column Totals:	130 (A)		390 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: DP5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-3								Organic layer
3-18	2.5Y 3/1	80	2.5Y 5/6	20	C	PL	Silty Loam	Adjacent to ponded area. Unifor

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ◉ No ○ Depth (inches): 1

Water Table Present? Yes ◉ No ○ Depth (inches): 1

Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): 1

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Talbert Regional Park City/County: Costa Mesa/ OC Sampling Date: 10/23/19

Applicant/Owner: OC Parks State: CA Sampling Point: DP6

Investigator(s): Tommy M. and Eilleen S. Section, Township, Range:

Landform (hillslope, terrace, etc.): toe of slope Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR): C - Mediterranean California Lat: 117°56'38.386"W Long: 33°39'37.078"N Datum: NAD83

Soil Map Unit Name: Myford Sandy Loam NWI classification: PEM1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks:

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Sambucus nigra*	20	No	FACU
2. *Rhus integrifolia*	25	Yes	UPL
3.			
4.			
Total Cover:	45 %		
Sapling/Shrub Stratum			
1. *Solanum sp.*	30	Yes	FACU
2. *Erigeron canadensis*	20	No	FACU
3. *Rhus integrifolia*	15	No	UPL
4. *Foeniculum vulgare*	10	No	UPL
5.			
Total Cover:	75 %		
Herb Stratum			
1. *Solanum sp.*	2	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	2 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 3 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species		x 2 =	0
FAC species		x 3 =	0
FACU species	72	x 4 =	288
UPL species	50	x 5 =	250
Column Totals:	122 (A)		538 (B)

Prevalence Index = B/A = 4.41

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: DP6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-18	10YR 3/2	100	-	-			Silty Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ◉ No ○ Depth (inches): 18

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Talbert Regional Park | City/County: Costa Mesa/ OC | Sampling Date: 10/23/19

Applicant/Owner: OC Parks | State: CA | Sampling Point: DP7

Investigator(s): Tommy M. and Tracy P. | Section, Township, Range:

Landform (hillslope, terrace, etc.): Depression | Local relief (concave, convex, none): Concave | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 117°56'56.999"W | Long: 33°38'52.702"N | Datum: NAD83

Soil Map Unit Name: Hueneme Fine Sandy Loam | NWI classification: PFOCX

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Depressional area adjacent to bulrush marsh- intermittent canopy

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix goodingii*	12	Yes	FACW
2. *Schinus terebinthifolia*	3	No	FAC
3.			
4.			
Total Cover:	15 %		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Pluchea odorata*	35	Yes	FAC
2. *Persicaria punctata*	5	No	OBL
3. *Schoenoplectus sp.*	1	No	OBL
4. *Heliotropium curassavicum*	3	No	FACU
5.			
6.			
7.			
8.			
Total Cover:	44 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 40 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	6	x 1 =	6
FACW species	12	x 2 =	24
FAC species	38	x 3 =	114
FACU species	3	x 4 =	12
UPL species		x 5 =	0
Column Totals:	59 (A)		156 (B)

Prevalence Index = B/A = 2.64

Hydrophytic Vegetation Indicators:

- [X] Dominance Test is >50%
- [X] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: High leaf litter cover- included in bear ground

SOIL

Sampling Point: DP7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-3								Organic Layer
3-12	2.5Y 3/2	80	7.5 YR 4/6	20	C	M	Sandy Loam	Edge of wetland. Uniform throu

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☒ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☒ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No surface water. No high water table. No saturation.
*Water marks on tree trunks

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Talbert Regional Park | City/County: Costa Mesa/ OC | Sampling Date: 10/30/19

Applicant/Owner: OC Parks | State: CA | Sampling Point: DP8

Investigator(s): Tommy M. and Tracy P. | Section, Township, Range:

Landform (hillslope, terrace, etc.): Terrace | Local relief (concave, convex, none): none | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 117°56'59.111"W | Long: 33°38'51.41"N | Datum: NAD83

Soil Map Unit Name: Hueneme Fine Sandy Loam | NWI classification: PFOCx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Data pit is located on road

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix gooddingii*	20	Yes	FACW
2. *Myoporum sp.*	5	No	
3.			
4.			
Total Cover:	25 %		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	30	Yes	FAC
2.			
3.			
4.			
5.			
Total Cover:	30 %		
Herb Stratum			
1. *Bassia hyssopifolia*	15	Yes	FACU
2. *Polygonum sp.*	1	No	
3. *Chenopodium sp.*	5	No	
4. *Pulicaria paludosa*	3	No	FAC
5.			
6.			
7.			
8.			
Total Cover:	24 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum: 10 % | % Cover of Biotic Crust: %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	20	x 2 =	40
FAC species	33	x 3 =	99
FACU species	15	x 4 =	60
UPL species		x 5 =	0
Column Totals:	68 (A)		199 (B)

Prevalence Index = B/A = 2.93

Hydrophytic Vegetation Indicators:

- [X] Dominance Test is >50%
- [X] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: DP8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-2								
2-12	2.5Y 4/2	95	7.5 YR 4/6	5	C	M	Sandy Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: Salt deposits in sample

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☒ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Salt crust isminimal. No signs of flow. Likely inundates during flood events

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Talbert Regional Park | City/County: Costa Mesa/ OC | Sampling Date: 10/30/19

Applicant/Owner: OC Parks | State: CA | Sampling Point: DP9

Investigator(s): Tommy M. and Tracy P. | Section, Township, Range:

Landform (hillslope, terrace, etc.): flat | Local relief (concave, convex, none): none | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 117°57'3.692"W | Long: 33°38'50.421"N | Datum: NAD83

Soil Map Unit Name: Hueneme Fine Sandy Loam | NWI classification: PFOCx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Upland point SW corner of pond

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Myoporum sp.*	20	Yes	
2. *Salix gooddingii*	10	No	FACW
3.			
4.			
Total Cover:	30 %		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	5	Yes	FAC
2.			
3.			
4.			
5.			
Total Cover:	5 %		
Herb Stratum			
1. *Salicornia pacifica*	75	No	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	75 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 15 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	10	x 2 =	20
FAC species	5	x 3 =	15
FACU species		x 4 =	0
UPL species	75	x 5 =	375
Column Totals:	90 (A)		410 (B)

Prevalence Index = B/A = 4.56

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [ ] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: DP9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-10	2.5Y 4/3	100	-				Silty loam	No Redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks: Shovel refusal at 10"

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☒ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Talbert Regional Park | City/County: Costa Mesa/ OC | Sampling Date: 10/30/19

Applicant/Owner: OC Parks | State: CA | Sampling Point: DP10

Investigator(s): Tommy M. and Tracy P. | Section, Township, Range:

Landform (hillslope, terrace, etc.): Flats | Local relief (concave, convex, none): None | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 117°57'1.304"W | Long: 33°38'47.682"N | Datum: NAD83

Soil Map Unit Name: Hueneme Fine Sandy Loam (drained) | NWI classification: PEM1Ah

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Shrubby areas south of the pond

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1. *Baccharis salicifolia*	15	Yes	FAC
2. *Isocoma Menziesii*	5	No	FAC
3. *Atriplex lentiformis*	2	No	
4.			
5.			
Total Cover:	22 %		
Herb Stratum			
1. *Juncus acutus*	2	No	FACW
2. *Elymus sp.*	50	Yes	
3. *Pluchea odorata*	1	No	FACW
4. *Rumex crispus*	2	No	FAC
5. *Salicornia pacifica*	1	No	UPL
6.			
7.			
8.			
Total Cover:	56 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 5 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	3	x 2 =	6
FAC species	22	x 3 =	66
FACU species		x 4 =	0
UPL species	1	x 5 =	5
Column Totals:	26 (A)		77 (B)

Prevalence Index = B/A = 2.96

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: DP10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-10	10 YR 3/2	97	10 YR 3/6	3	C	M	Silty Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No evidence of hydrology

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Talbert Regional Park City/County: Costa Mesa/ OC Sampling Date: 10/30/19

Applicant/Owner: State: CA Sampling Point: DP11

Investigator(s): Tommy M. and Tracy Park Section, Township, Range:

Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR): C - Mediterranean California Lat: 117°56'43.958"W Long: 33°38'50.177"N Datum: NAD83

Soil Map Unit Name: Hueneme Fine Sandy Loam NWI classification: PSSAx

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ( )	No (●)	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: Uniform throughout

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus uhdei*	15	No	*UPL*
2. *Salix gooddingii*	30	Yes	FACW
3.			
4.			
Total Cover:	45 %		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Hedera helix*	80	Yes	FACU
2. *Cyperus involucratus*	5	No	FACW
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	85 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 5 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	35	x 2 =	70
FAC species		x 3 =	0
FACU species	80	x 4 =	320
UPL species		x 5 =	0
Column Totals:	115 (A)		390 (B)

Prevalence Index = B/A = 3.39

Hydrophytic Vegetation Indicators:

- (●) Dominance Test is >50%
- (●) Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ( ) No (●)

Remarks:

SOIL

Sampling Point: DP11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-6	10 YR 3/1	100	-					No redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: Roots compaction

Depth (inches): 6

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Low flow channel. Receives flow from upstream culvert/ stormdrain

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Talbert Regional Park | City/County: Costa Mesa/ OC | Sampling Date: 10/30/19

Applicant/Owner: OC Parks | State: CA | Sampling Point: DP12

Investigator(s): Tommy M. and Tracy Park | Section, Township, Range:

Landform (hillslope, terrace, etc.): Flat | Local relief (concave, convex, none): concave | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 117°56'44.611"W | Long: 33°38'35.936"N | Datum: NAD83

Soil Map Unit Name: Pits | NWI classification: PFO/SSA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes ( )	No (●)	**Is the Sampled Area within a Wetland?** Yes ( ) No (●)
Wetland Hydrology Present?	Yes ( )	No (●)	

Remarks: NWI mapped as forested wetland

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix lasiolepis*	80	Yes	FACW
2. *Schinus molle*	1	No	FACU
3.			
4.			
Total Cover:	81 %		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 100% % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	0
FACW species	80	x 2 =	160
FAC species		x 3 =	0
FACU species	1	x 4 =	4
UPL species		x 5 =	0
Column Totals:	81 (A)		164 (B)

Prevalence Index = B/A = 2.02

Hydrophytic Vegetation Indicators:

- [X] Dominance Test is >50%
- [X] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks: Leaf litter

SOIL

Sampling Point: DP12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-2								Organic
2-10	10YR 3/1	100						No redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Talbert Regional Park | City/County: Costa Mesa/ OC | Sampling Date: 10/30/19

Applicant/Owner: OC Parks | State: CA | Sampling Point: DP13

Investigator(s): Tommy M. and Tracy Park | Section, Township, Range:

Landform (hillslope, terrace, etc.): Flat | Local relief (concave, convex, none): None | Slope (%): 0

Subregion (LRR): C - Mediterranean California | Lat: 117°56'55.278"W | Long: 33°38'37.238"N | Datum: NAD83

Soil Map Unit Name: Bolsa Silt Loam | NWI classification: PEM1Ah

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Pickleweed area in southern portion of project
Wetland adjacent to the Santa Ana River

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Sarcocornia pacifica*	95	Yes	OBL
2. *Distichlis spicata*	5	No	FAC
3. *Frankenia salina*	2	No	FACW
4.			
5.			
6.			
7.			
8.			
Total Cover:	102 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 5 % | % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	95	x 1 =	95
FACW species	2	x 2 =	4
FAC species	5	x 3 =	15
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	102 (A)		114 (B)

Prevalence Index = B/A = 1.12

Hydrophytic Vegetation Indicators:

- [X] Dominance Test is >50%
- [X] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: DP13

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-3	-	-	-	-				Organic Layer
3-12	10YR 3/1	95	10YR 3/6	5	C	M	Silty Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☒ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Talbert Regional Park City/County: Costa Mesa/ OC Sampling Date: 10/30/19

Applicant/Owner: OC Parks State: CA Sampling Point: DP14

Investigator(s): Tommy M. and Tracy P. Section, Township, Range:

Landform (hillslope, terrace, etc.): Flats Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR): C - Mediterranean California Lat: 117°57'2.072"W Long: 33°38'42.315"N Datum: NAD83

Soil Map Unit Name: Bolsa Silt Loam NWI classification: PEM1Ah

Are climatic / hydrologic conditions on the site typical for this time of year? Yes (●) No ( ) (If no, explain in Remarks.)

Are Vegetation [ ] Soil [ ] or Hydrology [ ] significantly disturbed? Are "Normal Circumstances" present? Yes (●) No ( )

Are Vegetation [ ] Soil [ ] or Hydrology [ ] naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes (●)	No ( )	
Hydric Soil Present?	Yes (●)	No ( )	**Is the Sampled Area within a Wetland?** Yes (●) No ( )
Wetland Hydrology Present?	Yes (●)	No ( )	

Remarks: Sarcocornia area in SW portion of project
Wetland adjacent to the Santa Ana River

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	%		
Herb Stratum			
1. *Sarcocornia pacifica*	30		OBL
2. *Sporobolus airoides*	22		FAC
3. *Distichlis spicata*	28		FAC
4.			
5.			
6.			
7.			
8.			
Total Cover:	80 %		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 20 % % Cover of Biotic Crust %

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species		x 2 =	0
FAC species	50	x 3 =	150
FACU species		x 4 =	0
UPL species		x 5 =	0
Column Totals:	80 (A)		180 (B)

Prevalence Index = B/A = 2.25

Hydrophytic Vegetation Indicators:

- [ ] Dominance Test is >50%
- [x] Prevalence Index is ≤3.0[1]
- [ ] Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes (●) No ( )

Remarks:

SOIL

Sampling Point: DP14

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-10	10YR 4/2	99	10YR 4/6	1	C	M	Sandy clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ◉ No ○

Remarks: Mapped as Bolsa silt loam. Silt has taken on clay characteristics over time.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☒ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No regular influx of water from a channel; hydrology received through groundwater and adjacent tidal flows.

Attachment C

Site Photos

Appendix C
Photo Documentation



Photo 1: Taken from the ponded area in the northeast corner of Talbert North, facing south. Note upland vegetation surrounding pond.



Photo 2: Taken from Data Point 1 (DP1) (wetland point) at the northern portion of Talbert North, facing north (upstream).



Photo 3: Taken from DP1 (wetland point) at the northern portion of Talbert North, facing southwest (downstream).



Photo 4: Taken from DP2 (upland point) at the northern portion of Talbert North, facing north (upstream).

	
Photo 5: Taken from DP2 (upland point) at the northern portion of Talbert North, facing south (downstream).	**Photo 6:** Taken from DP3 (upland point) at the downstream end of Placentia Drain, facing north (upstream).
	
Photo 7: Taken from DP3 (upland point) at the downstream end of Placentia Drain, facing south (downstream).	**Photo 8:** Taken from DP5 (wetland point) facing north (upstream) towards Placentia Drain.



Photo 9: Taken from DP5 (wetland point), facing south (downstream) towards Placentia Drain.



Photo 10: Taken from DP6 (upland point) adjacent to Placentia Drain. Facing north (upstream).



Photo 11: Taken from DP6 (upland point) facing south (downstream).



Photo 12: Taken from the downstream reach of the Placentia Drain, facing north (upstream).

	
Photo 13: Taken at DP7 (wetland point), in Talbert South, facing north (upstream).	**Photo 14:** Taken at DP7 (wetland point), facing south (downstream).
	
Photo 15: Taken at DP8 (wetland point) facing west (upstream).	**Photo 16:** Taken from DP8 (wetland point) facing south (downstream).



Photo 17: Taken from DP9 (upland point) facing north (upstream).



Photo 18: Taken from DP9 (upland point) facing south (downstream).



Photo 19: Taken from DP10 (upland point) in Talbert South, facing north (upstream).



Photo 20: Taken from DP10 (upland point) at the northern portion of Talbert North, facing north (upstream).

	
Photo 21: Taken from DP11 (upland point) near the eastern boundary of Talbert South, facing east (downstream).	**Photo 22:** Taken from DP11 (upland point), facing west (upstream).
	
Photo 23: Taken from DP12 (upland point) near the southeast corner of Talbert South, facing north (upstream).	**Photo 24:** Taken from DP12 (upland point) facing north (upstream).

	
Photo 25: Taken from DP13 (wetland point), facing north (upstream) towards pickleweed mats.	**Photo 26:** Taken from DP13 (wetland point) facing south (downstream).
	
Photo 27: Taken from DP14 (wetland point) facing north (upstream).	**Photo 28:** Taken from DP14 (wetland point) facing south (downstream).