Natural Environment Study

Including Focused Surveys for Special-Status Species and Jurisdictional Waters/Wetland Delineation

Riverford Road and State Route 67

San Diego County, California

District 11-SD

EA-11-431180, PM R3.7/R4.2, Phase 0

September 2024

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

Natural Environment Study

Including Focused Surveys for Special-Status Species and Jurisdictional Waters/Wetland Delineation

Riverford Road and State Route 67

San Diego County, California

District 11-SD

EA-11-431180, PM R3.7/R4.2, Phase 0

September 2024

STATE OF CALIFORNIA
Department of Transportation
and County of San Diego

Prepared By: _____ Date: 09/20/24
Wendy Loeffler, Senior Project Manager/Biologist
(619) 308-9333
RECON Environmental, Inc.,
3111 Camino del Rio North, Suite 600, San Diego, CA 92108
Consultant

Approved by: _____ Date: 10/21/24
Jeff Kashak, Environmental Planning Manager
Jeff.Kashak@sdcounty.ca.gov
(858) 288-5740
County of San Diego, Environmental Services Unit, MS 0332
CEQA Lead Agency
5510 Overland Avenue, Suite 410, San Diego, CA 92123

Concurred By: _____ Date: 10/21/24
David Nagy, Senior Environmental Scientist
Caltrans District 11
Stewardship and Ecological Studies Branch Chief
CEQA Responsible Agency/NEPA Lead Agency
(619) 208-6574
4050 Taylor Street, San Diego, CA 92110

TABLE OF CONTENTS

TABLE OF CONTENTS (cont.)

TABLE OF CONTENTS (cont.)

TABLES

APPENDICES

LIST OF ABBREVIATED TERMS

APN	Assessor Parcel Number
BMO	Biological Mitigation Ordinance
BMP	Best Management Practices
BRCA	Biological Resource Core Area
BSA	Biological Study Area
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CNPS	California Native Plant Society
County	County of San Diego
CRPR	California Rare Plant Rank
CWA	Clean Water Act
dB(A)	A-weighted decibel
DOT	U.S. Department of Transportation
DPW	Department of Public Works
EO	Executive Order
ESA	Federal Endangered Species Act
FCH	Final Critical Habitat
GIS	geographic information system
GPS	global positioning system
IPac	Information for Planning and Consultation System
ITP	Incidental Take Permit
L_{eq}	average noise level
MBTA	Migratory Bird Treaty Act
MSCP	Multiple Species Conservation Program
NCCP	Natural Community Conservation Planning
NEPA	National Environmental Policy Act
NI	No Indicator
PAMA	Pre-Approved Mitigation Area
PIA	project impact area
project	Riverford Road Roundabouts Project
RECON	RECON Environmental, Inc.
RWQCB	Regional Water Quality Control Board
SR-67	State Route 67
SWRCB	State Water Resources Control Board
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

WDR	Waste Discharge Requirements
WOTS	Waters of the State
WOTUS	Waters of the U.S.

Summary

The County of San Diego Department of Public Works is proposing the Riverford Road Roundabouts Project (project), which would construct roundabouts at two intersections near the existing State Route 67 (SR-67)/Riverford Road interchange, to relieve local traffic congestion. The northern intersection is located at the on- and off-ramps of SR-67 and Riverford Road and the southern intersection is at Riverford Road and Woodside Avenue. Both intersections currently experience traffic congestion with vehicle queues. The project would also construct crosswalks and shared-use pathways to create a "complete street" and multimodal connectivity and water quality improvement basins/features.

Phased construction activities are anticipated to begin in 2027 and last approximately one to two years. It is anticipated that work areas would mainly occur within existing paved and unpaved roadways, roadsides, and other previously disturbed areas. Construction excavation depths would range from approximately 3 to 10 feet deep within and around the roundabouts and between 5 and 20 feet in areas where existing public utilities need to be relocated. Additionally, to accommodate a large retaining wall to support the southern roundabout, excavation may reach beyond 20 feet deep. Blasting or rock drilling may be required to remove existing rock south of Woodside Avenue and near the Riverford Road and SR-67 southbound interchange intersection.

To support the analysis provided in this report, the following biological and focused studies were conducted: a general biological survey; vegetation and habitat mapping; focused surveys for least Bell's vireo (*Vireo bellii pusillus*; federally and state endangered) and coastal California gnatcatcher (*Polioptila californica californica*; federally threatened and state species of special concern); a jurisdictional wetland/waters delineation; and a construction noise study. The results of each of these studies are provided as appendices to this document. Direct permanent and temporary project impacts are summarized in Table S-1. No cumulative impacts to sensitive biological resources are anticipated.

Avoidance and minimization measures have been incorporated to minimize potential impacts to habitats, natural communities, jurisdictional wetlands/waters, and special status plant and animal species; and to prevent the introduction or spread of invasive species. These are summarized in Table S-1 and presented in detail in Chapter 4 and include delineation of the boundary between work areas and sensitive biological habitat areas; environmental education for project personnel; biological monitoring during construction; best management practices (e.g., erosion control measures); and pre-construction surveys for special status species and nesting birds protected by the Migratory Bird Treaty Act and California Fish and Game Code.

The mitigation for temporary impacts to sensitive vegetation communities and jurisdictional wetlands and waters is proposed through on-site restoration within the temporary project impact area (PIA) achieving a 1:1 mitigation ratio. Permanent impacts would be mitigated off-site through the purchase of credits from an approved mitigation bank.

Temporary and permanent impacts to riparian habitat would require permit authorizations from the California Department of Fish and Wildlife through a 1602 Streambed Alteration Agreement.

Coordination with the U.S. Fish and Wildlife Service is required pursuant to Section 7 of the Federal Endangered Species Act to ensure the conformance with the County's Multiple Species Conservation Program (MSCP) Subarea Plan and the proposed avoidance, minimization, and mitigation measures would adequately protect federally listed species and their critical habitat. Informal consultation was initiated on May 22, 2024 and concluded on August 14, 2024 when a letter of concurrence was issued. In addition, coordination with CDFW occurred during the preparation of this document and comments have been incorporated.

Table S-1: Summary of Sensitive Biological Resource Impacts and Mitigation.

Sensitive Biological Resource	Status Within BSA	Permanent Impacts within PIA	Temporary Impacts within PIA	Mitigation Summary
Vegetation Communities/Land Cover Types				
Disturbed southern cottonwood-willow riparian forest	14.64 acres; County Tier I	0.04 acre (non-BRCA)	0.04 acre(non-BRCA)	Off-site mitigation credit purchase and/or on-site restoration of temporary impacts
Diegan coastal sage scrub (including disturbed form)	12.46 acres; County Tier II	0.07 acre (BRCA) 1.47 acre (non-BRCA)	0.12 acre(non-BRCA)	Off-site mitigation credit purchase and/or on-site restoration of temporary impacts
Disturbed habitat	19.49 acres; County Tier IV	5.94 acre	0.70 acre	N/A
Urban/developed	28.02 acres; No County tier	5.98 acre	3.26 acre	N/A
Wildlife movement	San Diego River	None expected	None expected	N/A
Jurisdictional Aquatic Resources				
CDFW State Wetlands (Riparian Habitat)	3.43 acres	0.04 acre	0.04 acre	Off-site mitigation credit purchase and/or on-site restoration of temporary impacts
Sensitive Plants				
Southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*)	32 individuals, none within PIA	None expected	None expected	N/A
San Diego sagewort (=Palmer's sage) (*Artemisia palmeri*)	Not observed	None expected	None expected	N/A
Robinson's peppergrass (*Lepidium virginicum* var. *robinsonii*)	Not observed	Potential impact to a few individuals, if found	Potential impact to a few individuals, if found	Rare plant survey, and if found, individuals will be avoided, salvaged or seed collected.
Sensitive Wildlife				
Crotch's bumble bee (*Bombus crotchii*)	Not observed	Potential impact from construction, if present	Potential impact from construction, if present	Habitat assessment and focused survey to be conducted. If detected, measures to avoid impact will be implemented.
Monarch (*Danaus plexippus*)	Not observed	None expected	None expected	N/A

Table S-1: Summary of Sensitive Biological Resource Impacts and Mitigation.

Sensitive Biological Resource	Status Within BSA	Permanent Impacts within PIA	Temporary Impacts within PIA	Mitigation Summary
Special status amphibians and reptiles	One Belding's orange-throated whiptail observed, none within PIA	None expected	None expected	General biological monitoring will avoid impacts to any sensitive amphibians or reptiles.
Least Bell's vireo (*Vireo bellii pusillus*)	Four vireo use areas identified, none within PIA	Remove potentially suitable unoccupied habitat	Remove potentially suitable unoccupied habitat	Grading outside of breeding season and/or a pre-construction survey to determine whether vireo are using habitat within the PIA
Southwestern willow flycatcher (*Empidonax traillii extimus*)	Not observed	None expected	None expected	N/A
Coastal California gnatcatcher (*Polioptila californica californica*)	Two gnatcatcher use areas identified, none within PIA	Remove potentially suitable unoccupied habitat	Remove potentially suitable unoccupied habitat	Grading outside of breeding season and/or a pre-construction survey to determine whether gnatcatcher are using habitat within the PIA
Other sensitive birds	Seven other sensitive species detected, none within PIA	Remove potentially suitable habitat	Remove potentially suitable habitat	Grading outside of breeding season and/or a pre-construction survey to determine whether any other sensitive birds are using habitat within the PIA
Migratory birds and raptors	Present, none observed within PIA	Remove potentially suitable habitat	Remove potentially suitable habitat	Pre-construction nest survey
Sensitive bats	Not observed	Remove potential day roost sites (trees)	None expected	Pre-construction bat survey and monitoring if bats are detected.

Chapter 1 – Introduction

The County of San Diego (County) Department of Public Works (DPW) proposes the Riverford Road Roundabouts Project (project), to construct roundabouts at two intersections ("two intersections"), in the unincorporated community of Lakeside, in eastern San Diego County (Appendix A, Figures 1-3).

1.1 Project Purpose and Need

The County DPW is proposing improvements at the State Route 67 (SR-67)/Riverford Road interchange by replacing two existing controlled intersections with roundabouts. The project focuses on improving efficiency of operations by improving traffic circulation and safety within the SR-67/Riverford Road interchange, while also helping to improve stormwater runoff water quality of the San Diego River in this area, adding new multimodal transportation for all users, improving public safety, and promoting sustainability by minimizing design footprint and promoting active transportation.

1.2 Project Description

The project would construct roundabouts at two intersections. The northern intersection is located at the on- and off-ramps of SR-67 and Riverford Road and the southern is at the Riverford Road and Woodside Avenue intersection. Both intersections currently experience traffic congestion with vehicle queues at the SR-67 ramps. The roundabouts would improve the overall traffic efficiency and circulation, and ease congestion. Caltrans is considered a CEQA Responsible Agency because they are a public agency who also has responsibility for carrying out or approving the project (i.e., the project located within the Caltrans' right-of-way of this SR-67 interchange).

The northern roundabout would replace a two-way stop-controlled intersection at the on/off-ramps of SR-67 southbound and Riverford Road (northern roundabout). To accommodate the roundabout, the intersection would be widened. The on/off-ramps to/from SR-67 southbound would be realigned and widened. The existing North Woodside Avenue connection to Riverford Road would be relocated via construction of a new leg that will connect and convey existing traffic flow in and out of the northern roundabout.

The southern roundabout would replace the existing three-way, signal-controlled intersection at Woodside Avenue and Riverford Road (southern roundabout). To accommodate the roundabout, the intersection would be widened and its elevation lowered to meet the existing elevation of Riverford Road. Existing northbound SR-67 off-ramp connection to Woodside Avenue would be relocated via construction of a new leg, conveying exiting traffic flow into the southern roundabout.

The project would also construct Class II bicycle lanes, sidewalks, crosswalks, and shared-use pathways (for pedestrians and bicyclists) to create a "complete street." Rapid flashing beacons would be installed at multiple crosswalks (southbound SR-67 off-ramp at northern roundabout and northbound SR-67 off-ramp at southern roundabout).

Stormwater drainage facilities (e.g., vegetated and/or concrete swales) and water quality treatment features (e.g., biofiltration basins) would be constructed to capture and treat roadway stormwater. Drainage facilities and water quality improvement features would vary in size and may include vegetation/plantings and permeable landscape. New curb cuts, gutters, storm drain inlets, headwalls, channels, and sidewalk underdrains would be added to convey stormwater to the proposed water quality treatment features. Additionally, dirt slopes underneath bridge overpasses would be stabilized, and the project would add multiple streetlights to help illuminate both roundabouts for drivers' safety. Riverford Road between both intersections would be widened to accommodate the shared-use pathways and stormwater drainage facilities. Retaining walls would be constructed where grading cannot be achieved and range in height from 3.5 feet to 25 feet, depending on location.

Construction of the proposed improvements would be phased over approximately one to two years, with the potential for temporary full closure of both project intersections. Traffic detours would be in place as-needed and would utilize the adjacent Winter Gardens SR-67 Interchange, Channel Road, and Riverside Drive.

Rock removal via blasting and/or other rock fracturing methods are likely; however, access to adjacent residences and businesses in the vicinity of the project, as well as for emergency vehicles, would be maintained at all times.

Standard construction Best Management Practices (BMPs), including dust suppression measures, erosion and sediment control (e.g., silt fencing, gravel bags, fiber rolls, hydromulch, and hydroseeding), noise suppression measures, trash containment methods, and a Stormwater Pollution Prevention Plan, would be implemented during construction.

The project would be constructed largely within the existing County's and Caltrans' right-of-way, with slight encroachment onto the City of Santee's right-of-way. In addition, temporary and permanent property acquisitions are proposed to facilitate project design and construction needs.

Appendix A, Figure 4 illustrates the project and study area.

Chapter 2 – Study Methods

This chapter discusses regulatory requirements applicable to the project, biological studies conducted and methods used, literature reviewed, and coordination with agencies and other professionals. RECON Environmental, Inc. (RECON) conducted a literature review, performed general biological and focused species surveys, and prepared this report to provide information needed for the project to comply with state and federal environmental laws and regulations.

2.1 Regulatory Requirements

2.1.1 Clean Water Act

The federal Water Pollution Control Act (CWA) provides a structure for regulating water quality. The discharge of any pollutant from a point source into navigable waters is illegal unless a permit under its provisions is acquired. The U.S. Army Corps of Engineers (USACE), the State Water Resources Control Board (SWRCB), and the nine Regional Water Quality Control Boards (RWQCB) are responsible for implementing the CWA.

In accordance with Section 404 of the CWA, USACE regulates the discharge of dredged or fill material into Waters of the U.S. (WOTUS), including wetlands. The currently accepted regulations defining waters of the U.S. follow the September 8, 2023, publishment of the final rule: *Revised Definition of "Waters of the U.S.", Conforming*. The agencies' definition of "waters of the United States" provides jurisdiction over waterbodies that Congress intended to protect under the CWA, including traditional navigable waters (e.g., certain large rivers and lakes), territorial seas, and interstate waters. Notably, this new rule provides a new interpretation of the term "adjacent" whereas wetlands must contain a surface hydrologic connection to other waters of the U.S. to be considered adjacent waters of the U.S. and eliminates the applicability of the significant nexus standard for "non-relatively permanent waters."

WOTUS is defined as:

1. Waters which are:
   (i) 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;
   (ii) The territorial seas; or
   (iii) Interstate waters;
2. Impoundments of waters otherwise defined as Waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section;
3. Tributaries of waters identified in paragraph (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;
4. Wetlands adjacent to the following waters:
   (i) Waters identified in paragraph (a)(1) of this section; or
   (ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;

5. Intrastate lakes and ponds not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section.

Activities that require a permit under Section 404 include, but are not limited to, placing fill or riprap, grading, mechanized land clearing, and dredging within jurisdictional WOTUS. Under the USACE's rules, a "discharge of dredged material" occurs when dirt or other material is removed from a USACE jurisdictional WOTUS and is then placed back in that water at the same or another location. All federal agencies are to avoid impacts to wetlands whenever there is a practicable alternative.

Section 401 of the CWA requires that an applicant for a federal license or permit allowing activities resulting in a discharge to WOTUS must obtain a state certification that the discharge complies with other provisions of CWA. The RWQCBs administer this certification program in California. No license or permit may be issued by a federal agency until certification required by Section 401 has been granted. Under the CWA, USACE Section 404 permits are subject to RWQCB Section 401 water quality regulation. The USACE cannot issue a permit under Section 404 until a Water Quality Certification has been obtained from the RWQCB pursuant to Section 401.

2.1.2 Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act provides for statewide coordination of water quality regulations. The SWRCB was established as the statewide authority, and nine separate RWQCBs were developed to oversee water quality on a day-to-day basis. Under Porter-Cologne, the SWRCB and the RWQCBs regulate the "discharge of waste" to waters of the State (WOTS). The term "discharge of waste" is broadly defined in Porter-Cologne, such that discharges of waste include fill, any material resulting from human activity, or any other "discharge" that may directly or indirectly impact WOTS relative to implementation of Section 401 of the CWA. WOTS that are not also WOTUS (e.g., most vernal pools in southern California), are provided protection under Porter-Cologne.

Porter-Cologne is the state equivalent of the CWA. Specifically, Porter-Cologne requires each RWQCB to formulate and adopt water quality plans for all areas within their region (aka "Basin Plans"). Basin Plans establish beneficial uses, water quality standards, and water quality objectives for major watershed areas (i.e., RWQCB boundaries) throughout the state. Parties proposing to discharge waste that could affect WOTS (other than into a community sewer system) must file a Report of Waste Discharge with the appropriate RWQCB. The RWQCB will respond to a Report of Waste Discharge by issuing Waste Discharge Requirements (WDRs) in a public hearing, or by waiving the WDR (with or without conditions) for the proposed discharge into jurisdictional waters. If a Section 401 Water Quality Certification is requested concurrently, the WDR and 401 Water Quality Certification can be issued concurrently.

2.1.3 Executive Order 11990 – Protection of Wetlands

Federal Executive Order (EO) 11990 established a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative. The U. S. Department of Transportation (DOT) promulgated DOT Order 5660.1A in 1978 to comply with this direction. On federally funded

projects, impacts on wetlands must be identified and alternatives that avoid wetlands must be considered. If wetland impacts cannot be avoided, then all practicable measures to minimize harm must be included. This must be documented in a specific Wetlands Only Practicable Alternative Finding. This order also requires early public involvement in projects affecting wetlands.

2.1.4 National Environmental Policy Act

The National Environmental Policy Act of 1969 (NEPA; Public Law 91-190; 42 United States Code 4321 et seq.) mandates federal agencies to consider and document environmental impacts of proposed actions and legislation. This act also mandates preparation of comprehensive environmental impact statements where proposed action is "major" and significantly affects the quality of the human environment.

2.1.5 Federal Endangered Species Act

The federal Endangered Species Act (ESA) provides the legal framework for the listing and protection of species (and their habitats) identified as being endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered a 'take' under the ESA. Take of a federally listed threatened or endangered species is prohibited unless a take permit is issued. The ESA allows for take of a threatened or endangered species incidental to development activities once a Habitat Conservation Plan has been prepared to the satisfaction of the U.S. Fish and Wildlife Service (USFWS) and an incidental take permit has been issued. The ESA also allows for the take of threatened or endangered species after consultation has deemed that development activities will not jeopardize the continued existence of the species. The ESA also provides for consultation between USFWS and other federal agencies when an action that may impact federally listed species is proposed by another federal agency; e.g., issuance of a permit for impacts to federal waters by USACE under Section 404 of the federal CWA.

2.1.6 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA; 16 United States Code 703 et seq.) is a federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The number of bird species covered by the MBTA is extensive and is listed at 50 Code of Federal Regulations [CFR] 10.13. The regulatory definition of "migratory bird" is broad and includes any mutation or hybrid of a listed species and any part, egg, or nest of such birds (50 CFR 10.12). Migratory birds are not necessarily federally listed endangered or threatened birds under the ESA. The MBTA, which is enforced by USFWS, makes it unlawful "by any means or in any manner, to pursue, hunt, take, capture, [or] kill" any migratory bird, or attempt such actions, except as permitted by regulation. The take, possession, import, export, transport, sale, purchase, barter, or offering of these activities is prohibited, except under a valid permit or as permitted in the implementing regulations (50 CFR 21.11).

2.1.7 Executive Order 13112 – Invasive Species

Federal EO 13112 requires federal agencies to prevent the introduction or spread of invasive species in the U.S. and established the National Invasive Species Council as the coordinating body. The order defines invasive species as "an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health." Subsequent Federal Highway

Administration guidance directs the use of the state's invasive species list, maintained by the California Invasive Species Council, to define the invasive plants that must be considered as part of the NEPA analysis for a project. Under this order, federal agencies cannot "authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the U.S. or elsewhere unless … the agency has determined … that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions."

2.1.8 California Environmental Quality Act

The California Environmental Quality Act provides guidelines for defining impacts. Appendix G of the guidelines contains questions that local jurisdictions should evaluate when analyzing a project's potential impacts. The California Environmental Quality Act provides these guidelines so that local jurisdictions are able to determine what constitutes an "adverse effect" and significant impact to a biological resource.

2.1.9 California Fish and Game Code

Multiple regulations from the California Fish and Game Code (CFGC) apply to projects in the state:

Section 200 of the CFGC grants general authority to the Fish and Game Commission to regulate the taking or possession of birds, mammals, fish, amphibians, and reptiles subject to more specific statutory restrictions.

Under Section 1600-1607, California Department of Fish and Wildlife (CDFW) regulates activities that would divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. CDFW has jurisdiction over riparian habitats associated with watercourses. Jurisdictional waters are delineated by the outer edge of riparian vegetation or at the top of the bank of streams or lakes, whichever is wider. CDFW jurisdiction does not include tidal areas or isolated resources. Notification is generally required for any activity that will take place in or in the vicinity of a river, stream, lake, or their tributaries. Generally, the CDFW is concerned with activities that have the potential to impact state-regulated resources at the activity site, as well as the effects of those actions on the ecosystem at and surrounding the activity (i.e., upstream, downstream, and neighboring).

Conservation of Aquatic Resources (CFGC Section 1700 et seq.). This legislation declares State policy to encourage conservation of the living resources of the ocean and other State waters, including species preservation.

Native Species Conservation and Enhancement Act (CFGC Section 1750 et seq.). This act declares a policy of maintaining sufficient populations of all species of wildlife and native plants and the habitat necessary to ensure their continued existence at optimum levels and establishes an account to manage private donations toward that end.

The Native Plant Protection Act (Section 1900 et seq.) governs the preservation, protection, and enhancement of endangered or rare native plants.

The California Endangered Species Act (Sections 2050-2069) declares state policy regarding threatened and endangered species, provides for a listing and review process, prohibits certain acts as damaging to listed species, and provides a consultation process for state projects.

Section 3503 states that it is "unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto," and Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird" unless authorized.

2.1.10 South County Multiple Species Conservation Program Subarea Plan

The Natural Community Conservation Planning (NCCP) program of the CDFW, pursuant to the California Fish and Game Code Section 2800-2835 (the NCCP Act), identifies and provides for the regional protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity. To implement the NCCP, the County, along with other local agencies, has established the Multiple Species Conservation Program (MSCP). The MSCP is a long-term regional conservation plan, covering 12 jurisdictions within the County, designed to establish a connected preserve system that protects the county's sensitive species and habitats. The goal of the MSCP is to maintain and enhance biological diversity in the region and maintain viable populations of endangered, threatened, and key sensitive species and their habitats while promoting regional economic viability through streamlining the land use permit process.

The County prepared the South County MSCP Subarea Plan to guide implementation of the MSCP Plan in the southern portion of the county (County of San Diego 1997). The Biological Mitigation Ordinance (BMO; County of San Diego 2010a) establishes mitigation standards for lands within the MSCP Subarea Plan based on whether the impacted and mitigation lands are identified as a Biological Resource Core Area (BRCA). The BMO defines BRCA as "land that qualifies as an integral component of a viable regional ecosystem." In addition, the Resource Agencies developed a Pre-Approved Mitigation Area (PAMA) map which maps the high and very high habitat value areas shown on Habitat Evaluation Map and is used to help identify high priority mitigation areas. In addition, the County developed "Guidelines for Determining Significance" and "Report Format and Context Requirements: Biological Resources," to guide preparation of biological technical reports and analyzing biological resource impacts (County of San Diego 2010b).

Appendix A, Figure 5 shows the MSCP boundaries within the Biological Study Area (BSA).

2.2 Studies Required

The BSA for the project includes all areas that could potentially be impacted by the project as well as additional survey areas outside of the project limits. A total of 74.68 acres were included within the combined BSA, which consists of the 17.63-acre PIA, a 100-foot vegetation buffer, and a 300-foot wildlife buffer around the PIA (see Appendix A, Figure 4). This total includes any freeways, ramps, roadways, medians, commercial and residential developments occurring within the survey area, as well as a Park and Ride parking lot. The 100-foot and 300-foot off-site survey areas were used to assess the potential for indirect impacts to vegetation communities and assess the site's potential to support special status species that may be indirectly impacted by the project.

Prior to conducting field surveys, RECON conducted an analysis of existing special status species data recorded within one mile of the PIA. This analysis included searches of the USFWS all-species occurrence database (USFWS 2023a) and critical habitat portal (USFWS 2023b), the SanBIOS database (County of San Diego 2023), and the California Natural Diversity Database (CNDDB; CDFW 2023a), as well as reviews of the San Diego County Bird Atlas (Unitt 2004) and San Diego County Mammal Atlas (Tremor et al. 2017). Background research to assess existing biological conditions also included a review of the U.S. Geological Survey (USGS) topographic map (USGS 1994) and U.S. Department of Agriculture (USDA) soil survey maps (USDA 1973). On October 2, 2023, an official list of species that have the potential to occur within the PIA and vicinity was obtained from the USFWS Information for Planning and Consultation System (IPac) for the Carlsbad Fish and Wildlife Office for the project (Appendix B).

Biological surveys began with a general biological survey to inventory plant and wildlife species, map vegetation, and assess the suitability of habitat for special-status species identified as having potential to occur based on the literature review discussed above. After conducting the literature review and general biological survey, the following focused surveys or assessments were conducted: focused presence/absence surveys for coastal California gnatcatcher (*Polioptila californica californica*) and least Bell's vireo (*Vireo bellii pusillus*) and a jurisdictional wetland/waters delineation. The methods for each of these are provided below.

2.2.1 General Biological Survey, Vegetation Mapping, and Habitat Assessments

RECON biologist Chris Thomson conducted the biological resources field survey on May 9, 2023, from 9:50 a.m. until 1:00 p.m. The primary objective of the field survey was to assess the existing conditions of the biological resources within the vegetation and wildlife buffers. Fieldwork focused on four primary objectives: (1) vegetation mapping, (2) plant and wildlife species inventory, (3) assessment of the potential occurrence for special status species, and (4) assessment of potential jurisdictional wetlands and waters. Weather conditions during the survey consisted of approximately 10 percent cloud cover, 0 to 4 mile per hour winds, and 64 to 67 degrees Fahrenheit air temperature. The biologist conducted the survey on foot by meandering through the vegetation and wildlife buffers where vegetation density and fence lines allowed access. Areas that were too densely vegetated or fenced-off as privately-owned land were viewed using binoculars from the closest accessible areas. All biological resources detected within the BSA were recorded and mapped according to the County's Biological Resources Report Format and Content Requirements (County of San Diego 2010b), and special status species and resources were recorded using a submeter accurate global positioning system (GPS) unit.

Vegetation communities and aquatic resources were mapped on a 1-inch-equals-100-feet scale aerial photograph within the vegetation buffer. Dominant plant species were noted for each vegetation community. Vegetation community classifications follow Holland (1986) as modified by Oberbauer et al. (2008). Additional vegetation mapping was conducted within the 300-foot wildlife buffer to complete mapping of the BSA.

Plant species observed within the BSA were noted. Plants that could not be identified in the field were identified later using taxonomic keys. The survey also included a focused search for special status plants that would have been apparent during the time of the survey. Potential limitations to the compilation of a comprehensive floral species list were imposed by seasonal factors, such as

timing of emergence and/or blooming periods of annual species. Floral nomenclature follows the Jepson Flora Project (2023). In instances where common names are not provided in this resource, common names follow Rebman and Simpson (2014). Additional common names are from the USDA maintained database (USDA 2023) or the *Sunset Western Garden Book* (Brenzel 2001) for ornamental/horticultural plants.

Animal species observed directly or detected from calls, tracks, scat, nests, den/burrow, or carcass were noted. The general wildlife survey was limited by seasonal and temporal factors. As wildlife surveys were performed during the day, few nocturnal animals were detected. In addition, few fall or winter migrants were detected, as surveys were conducted in the spring. Zoological nomenclature is in accordance with the American Ornithologists' Union Checklist (Chesser et al. 2023) for birds; Checklist of North American Mammals (Bradley et al. 2014) and American Society of Mammologists (2023) for mammals; Crother et al. (2017) for amphibians and reptiles; and NatureServe (2023) and Evans (2008) for invertebrates.

Determination of the potential for occurrence of listed, special status, or noteworthy species is based upon known ranges and habitat preferences for the species (Jennings and Hayes 1994; Unitt 2004; Tremor et al. 2017; CDFW 2023b, 2023c, 2023d, and 2023e; California Native Plant Society [CNPS] 2023; Reiser 2001), existing topography and soils within the BSA (USGS 1994; USDA 1973), species occurrence records from the CNDDB (CDFW 2023a), the All Species Occurrences Database (USFWS 2023a), and SanBIOS points from the SanGIS Data Warehouse (County of San Diego 2023).

2.2.2 Least Bell's Vireo

A total of eight focused surveys were conducted for vireo between May and July 2023 by RECON biologist Chris Thomson, in accordance with the USFWS survey guidelines/protocol (USFWS 2001). The surveys were focused within 14.4 acres of suitable riparian habitat present within the combined PIA and 300-foot wildlife buffer.

Surveys were conducted at least 10 days apart during the protocol survey window of April 10 to July 31. All surveys were conducted between approximately dawn and 11:00 a.m. and avoided periods of adverse weather conditions (e.g., excessively hot or cold temperatures, high winds, steady rain, dense fog, and other inclement weather conditions) that would impede detection of the least Bell's vireo.

The surveyor slowly walked throughout the suitable habitat within the survey area and used visual and auditory cues to detect least Bell's vireo. Various routes were utilized to conduct an unbiased survey of the potentially suitable habitat within the survey area, while taking care not to disturb sensitive habitat or potential nest areas. No more than approximately 125 acres (1.86 linear miles) of suitable habitat was surveyed per day, per the protocol.

Sensitive species detections were recorded electronically using a hand-held GPS device and/or by hand onto a high-resolution aerial image of the survey area, and relevant information about the detection (e.g., age, sex, number of individuals detected) was noted when necessary. In addition, numbers and locations of parasitic brown-headed cowbirds (*Molothrus ater*) were recorded, and

other wildlife species observed directly or detected indirectly by sign, including scat, tracks, calls, and other evidence were recorded.

2.2.3 Coastal California Gnatcatcher

A total of three focused surveys for coastal California gnatcatcher were conducted by RECON biologists Chris Thomson and JR Sundberg (under supervision) in May, June, and July 2023 under the USFWS 10(a)(1)(A) Endangered/Threatened Species Permit TE-797665 in accordance with the current USFWS survey protocol for the species (USFWS 1997). The surveys were focused within 12.5 acres of suitable coastal scrub habitat within the combined PIA and 300-foot wildlife buffer. The PIA and thus the survey area were revised slightly after the surveys were completed; however, based on the location and configuration of the changed boundaries, all areas of suitable habitat were adequately covered during the survey.

The surveys were conducted between 6:00 a.m. and 12:00 p.m. and avoided periods of adverse weather conditions (e.g., excessively hot or cold temperatures, high winds, steady rain, dense fog, other inclement weather conditions) that would impede detection of the coastal California gnatcatcher. The surveyors slowly walked throughout the suitable habitat identified within the survey area during the habitat assessment and used visual and auditory cues to detect the coastal California gnatcatcher. Various routes were utilized to conduct an unbiased survey of the potentially suitable habitat within the survey area. Pre-recorded coastal California gnatcatcher vocalization playbacks were only used to elicit initial calls from coastal California gnatcatcher and were not used frequently or to elicit further behaviors. Pre-recorded vocalizations were played for periods of 5 to 15 seconds and were generally repeated approximately every 100 feet within the surveyed habitat.

Sensitive species detections, including coastal California gnatcatcher detections, were recorded electronically using a hand-held GPS device and/or by hand onto a high-resolution aerial image of the survey area, and relevant information about the detection (e.g., age, sex, number of individuals detected) was noted when necessary. In addition, other wildlife species observed directly or detected indirectly by sign, including scat, tracks, calls, and other evidence were recorded.

2.2.4 Jurisdictional Wetland/Waters Delineation

An aquatic resources delineation, following the guidelines set forth by USACE (1987 and 2008), was performed by RECON biologists Andrew Smisek and Julia Gaudio on September 12, 2023, to gather field data at locations where aquatic resources occur. For the purposes of this study, the "Review Area" evaluated is equivalent to the PIA plus the 100-foot vegetation buffer, totaling 40.21 acres. Once on-site, the potential federal and state jurisdictional areas were examined to determine the presence and extent of any aquatic resources.

Vegetation communities comprising partially or entirely hydrophytic plant species were examined, and data for each vegetation stratum (i.e., tree, shrub, herb, and vine) were recorded on the datasheet provided in the 2008 Arid West Regional Supplement (USACE 2008). The percent absolute cover of each species present was visually estimated and recorded.

First, the wetland indicator status of each species recorded within a vegetation community was determined by using the National Wetland Plant List (USACE 2020). Dominant species were evaluated as either wetland or upland indicator species based on the rankings provided in the list.

The dominance test was then used to determine which vegetation community qualified as hydrophytic vegetation at each site. In situations where a site failed the dominance test but contained positive indicators of hydric soils and/or wetland hydrology, the prevalence index was used. The presence or absence of morphological adaptations was noted; however, none of the sampled wetland areas required an analysis of morphological adaptations to determine if the vegetation was hydrophytic.

Sample points were selected within potential wetland areas and where the apparent boundary between wetland and upland was inferred based on changes in the composition of the vegetation and topography. Seven soil pits were dug to a depth of at least 18 inches (except where restrictive layers were encountered) to determine soil color, evidence of soil saturation, depth to groundwater, and indicators of a reducing soil environment (i.e., mottling, gleying, and hydrogen sulfide odor). A Munsell Soil-Color Book (2009) was used to determine soil colors, and the 2008 Arid West Regional Supplement (USACE 2008) and the Field Indicators of Hydric Soils in the United States guide (USDA 2017) was used to determine the presence of hydric soil indicators.

Hydrologic information for the site was obtained by reviewing USGS topographic maps, recent topographic survey data, and by directly observing hydrology indicators in the field. All portions of any potentially occurring wetlands or non-wetland waters within the Review Area was inspected for signs of hydrology as defined in the 2008 Arid West Regional Supplement (USACE 2008).

2.3 Personnel and Survey Dates

Surveys conducted are summarized in Table 1 by date, type, and personnel. Individual qualifications are summarized below.

Table 1: Surveys Performed by Date, Type, and Personnel.

Survey Date	Survey Type	Personnel
5/9/2023	Vegetation mapping	Chris Thomson
5/9/2023	Least Bell's vireo	Chris Thomson
5/18/2023	Coastal California gnatcatcher	Chris Thomson, JR Sundberg*
5/19/2023	Least Bell's vireo	Chris Thomson
5/30/2023	Least Bell's vireo	Chris Thomson
6/9/2023	Least Bell's vireo	Chris Thomson
6/14/2023	Coastal California gnatcatcher	Chris Thomson, JR Sundberg*
6/20/2023	Least Bell's vireo	Chris Thomson
6/30/2023	Least Bell's vireo	Chris Thomson
7/10/2023	Least Bell's vireo	Chris Thomson
7/24/2023	Least Bell's vireo	Chris Thomson
7/26/2023	Coastal California gnatcatcher	Chris Thomson, JR Sundberg*
9/12/2023	Wetland/waters delineation	Andrew Smisek, Julia Gaudio

*Staff conducting surveys under supervision of a permitted individual.

The following details the qualifications of surveyors who conducted the surveys efforts in 2023.

Chris Thomson has four years of experience conducting habitat assessments, monitoring, and general wildlife surveys in a variety of habitats in southern California. He also conducts sensitive species surveys, nesting bird surveys, vegetation mapping and sampling, habitat restoration monitoring, vegetation removal monitoring, photopoint documentation, and reporting. Mr. Thomson is authorized under USFWS Permit TE-797665 to conduct focused surveys for coastal California gnatcatcher, fairy shrimp, and Quino checkerspot butterfly. Mr. Thomson uses GPS to map vegetation and sensitive species habitats, monitors construction activities, and prepares biological technical reports to document findings.

Andrew Smisek has 10 years of experience in biological constraints surveys and resource management planning in southern California. He serves as project manager and conducts wetland delineations, USFWS focused surveys under permit TE-797665, report preparation, vegetation analyses, habitat assessments, rare plant surveys, bird nest surveys, and environmental compliance monitoring. He is experienced with GPS and geographic information system (GIS) to map and record vegetation types and sensitive species occurrences.

Julia Gaudio is a biologist with experience in conducting a variety of plant and wildlife surveys in the San Francisco Bay Area and in southern California. She conducts protocol surveys for special status species, performs biological resource assessments, and evaluates impacts to sensitive biological resources through the preparation of a range of technical reports. She has experience with vegetation monitoring, data management, biological report writing, and permit applications.

This document was prepared by Wendy Loeffler, who has 27 years of experience conducting general biological assessments, constraints analyses, and impact assessments; environmental compliance monitoring; vegetation mapping; habitat restoration; mitigation implementation and monitoring; and focused surveys for sensitive floral and faunal species in a variety of habitats in southern California. Ms. Loeffler maintains a USFWS ESA Section 10(a)(1)(A) recovery permit for multiple species including coastal California gnatcatcher; has years of experience conducting protocol presence/absence surveys for least Bell's vireo and focused rare plant surveys; and has attended training sessions for willow flycatcher identification and survey techniques.

2.4 Agency Coordination and Professional Contacts

On October 2, 2023, an official list of species that have the potential to occur within the PIA and vicinity was obtained from the USFWS IPac System for the Carlsbad Fish and Wildlife Office for the project (see Appendix B). This letter identified the following species for evaluation: coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher (*Empidonax traillii extimus*), arroyo toad (*Anaxyrus californicus*), monarch butterfly (*Danaus plexippus*), Quino checkerspot butterfly (*Euphydryas editha quino*), San Diego ambrosia (*Ambrosia pumila*), San Diego button-celery (*Eryngium aristulatum* var. *parishii*), San Diego mesa-mint (*Pogogyne abramsii*), San Diego thornmint (*Acanthomintha ilicifolia*), thread-leaved brodiaea (*Brodiaea filifolia*), and willowy monardella (*Monardella viminea*). No federal critical habitats were noted within the BSA. Informal consultation was initiated between USFWS and Caltrans on May 22, 2024 and concluded on August 14, 2024 when a letter of concurrence was issued (see Appendix B).

No list from National Oceanic and Atmospheric Administration/National Marine Fisheries Service was required.

2.5 Limitations That May Influence Results

The initial general biological survey and vegetation mapping were conducted in mid-spring, outside the blooming period for some annual species.

The wildlife surveys were limited by seasonal and temporal factors. During the general biological and focused species surveys, animal species observed directly or detected from calls, tracks, scat, nests, or other sign were noted. The seasonal timing of surveys, which spanned from early spring to summer, would have maximized detection of target avian species and allowed for detection of most diurnal mammal and reptile species. However, some winter migrants and nocturnal species may not have been detected. Nocturnal animals were only identified by sign that was apparent during daytime surveys.

Chapter 3 – Results: Environmental Setting

This chapter describes the existing biological and physical conditions of the PIA, BSA, and larger region within which the project is proposed. This includes topographical and hydrological features, soils, habitat, land use, level of human and/or natural disturbance.

3.1 Description of the Existing Biological and Physical Conditions

3.1.1 Study Area

The majority of the PIA is made up of developed highways and roadways, associated intersections and medians, parking lots, and commercial developments. The vegetation and wildlife survey buffers focused on the surrounding disturbed land, ornamental vegetation, open space, commercial development, and residential development. However, the BSA also encompass portions of SR-67, Riverford Road, Woodside Avenue, North Woodside Avenue, and Woodside Terrace (see Appendix A, Figure 4). Undeveloped land, disturbed land, and commercial development occur on the north side of SR-67. Undeveloped land, disturbed land, and residential and commercial developments occur on the north side of SR-67. Ornamental vegetation occurs within disturbed and urban/developed vegetation communities on the southern edge of SR-67, along Riverford Road, in the form of eucalyptus trees and landscape plantings. The San Diego River, a Traditional Navigable Water, occurs in the northern portion of the BSA, approximately 0.10 mile north of SR-67 southbound. The San Diego River flows east-to-west and runs underneath the Riverford Road bridge in the buffer areas of the BSA, but outside of the PIA.

3.1.2 Physical Conditions

3.1.2.1 Topography

The BSA is located within the El Cajon Land Grant and is shown on the U.S. Geological Survey (USGS) El Cajon quadrangle (see Appendix A, Figure 2; USGS 1994). Elevation within the BSA ranges from 345 to 515 feet above mean sea level, decreasing from south to north. The higher elevations exist within the hills in the southern portion of the BSA and the lower elevations are within the San Diego River basin in the northern portion of the BSA. There is a drop from the slopes south of Woodside Avenue to the freeway and then again north of North Woodside Avenue and behind the storage property down into the river channel.

3.1.2.2 Soils

Four soil series—Riverwash, Tujunga sand, Visalia sandy loam, and Vista coarse sandy loam—were mapped within the 100-foot vegetation buffer (USDA 1973; Appendix A, Figure 6). Riverwash occurs along SR-67 in the center of the BSA. Tujunga sand (0 to 5 percent slopes) occurs in the northern and southern portions of the BSA. Visalia sandy loam (0 to 2 percent slopes) occurs in the southwestern corner of the BSA. Vista coarse sandy loam (30 to 65 percent slopes) occurs along the southern edge of the BSA. Neither of these soil types are considered hydric (NRCS 2023).

3.1.2.3 Hydrology

Hydrology within the BSA consists of the San Diego River, which supports a perennial flow regime. Other hydrology features include the natural-bottom channel within the ditch that runs parallel and southeast of the SR-67 northbound offramp in the southwestern portion of the BSA, as well as the

ditch in the northeastern portion of the BSA that supports temporary ponding and the various brow ditch and stormwater culvert features associated with the developed roadways. The channel in the southwestern portion of the BSA appears to support an ephemeral flow regime.

3.1.3 Biological Conditions in the Biological Study Area

3.1.3.1 Vegetation Communities and Land Cover Types

Six vegetation communities/land cover types—southern cottonwood-willow riparian forest, disturbed southern cottonwood-willow riparian forest, Diegan coastal sage scrub, disturbed Diegan coastal sage scrub, disturbed land, and urban/developed—were identified within the BSA (Appendix A, Figure 7). Photographs 1 through 6 (Appendix C) provide representative images of the BSA taken during the biological resources survey.

Southern Cottonwood-Willow Riparian Forest

Southern cottonwood-willow riparian forest habitat occurs in the northwest portion of the BSA (see Appendix A, Figure 7 and Appendix C, Photographs 1-3). This community within the BSA is dominated by Fremont cottonwood (*Populus fremontii* ssp. *fremontii*) and Goodding's black willow (*Salix gooddingii*), with an understory dominated by mule fat (*Baccharis salicifolia* ssp. *salicifolia*), desert wild grape (*Vitis girdiana*), and stickywilly (*Galium aparine*). This vegetation community is considered high-quality habitat due to the dominance of mature native trees providing suitable foraging habitat for native and special status wildlife species along a wildlife corridor. The understory supports some small patches of freshwater marsh and open water within the outer BSA of the BSA. Southern cottonwood-willow riparian forest is considered a Tier I vegetation community under the MSCP Subarea Plan (County of San Diego 1997). Much of the southern cottonwood-willow riparian forest within the BSA may be subject to jurisdiction by USACE under Section 404 of the CWA, CDFW under Sections 1600-1616 of the CFGC, RWQCB under Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

Disturbed Southern Cottonwood-Willow Riparian Forest

Disturbed southern cottonwood-willow riparian forest habitat occurs in a small, isolated patch in the northeastern portion of the BSA (see Appendix A, Figure 7). This community is dominated by Fremont cottonwood and Goodding's black willow, and contains non-native saltcedar (*Tamarix ramosissima*), with an understory dominated by non-native grasses. This vegetation community is considered moderate-quality habitat due to the dominance of mature native trees providing suitable foraging habitat for native and special status wildlife species along a wildlife corridor. Disturbed southern cottonwood-willow riparian forest is considered a Tier I vegetation community under the MSCP Subarea Plan (County of San Diego 1997).

Diegan Coastal Sage Scrub

Diegan coastal sage scrub habitat occurs along the southern border of the BSA, south of Woodside Avenue (see Appendix A, Figure 7 and Appendix C, Photographs 4 and 5). This community within the BSA is dominated by California sagebrush (*Artemisia californica*) and California buckwheat (*Eriogonum fasciculatum*), with intermixed non-native grasses present in the herb layer. This vegetation community is considered high-quality habitat due to the dominance of mature native

shrubs providing suitable foraging habitat for native and special status wildlife species. Diegan coastal sage scrub is considered a Tier II vegetation community under the MSCP Subarea Plan (County of San Diego 1997).

Disturbed Diegan Coastal Sage Scrub

Disturbed Diegan coastal sage scrub habitat occurs as small patches in the northwestern and southern portions of the BSA, along Woodside Avenue and North Woodside Avenue (see Appendix A, Figure 7 and Appendix C, Photograph 5). This community is dominated by California sagebrush, California buckwheat, and non-native grasses including rattail sixweeks grass (*Festuca myuros*). This vegetation community is considered moderate-quality habitat due to the presence of mature native shrubs providing suitable foraging habitat for native and special status wildlife species. Disturbed Diegan coastal sage scrub is considered a Tier II vegetation community under the MSCP Subarea Plan (County of San Diego 1997).

Disturbed Land

Disturbed land occurs along developed roadways and in highway medians in the central and southern portions of the BSA (see Appendix A, Figure 7 and Appendix C, Photograph 6). These areas are subject to regular fuel modification. This land cover type is dominated by non-native herbaceous species, such as freeway iceplant (*Carpobrotus edulis*), telegraph weed (*Heterotheca grandiflora*), black mustard (*Brassica nigra*), smooth cat's-ear (*Hypochaeris glabra*), and Italian thistle (*Carduus pycnocephalus*), intermixed with non-native grasses. Disturbed lands are considered a Tier IV vegetation community under the MSCP Subarea Plan (County of San Diego 1997).

Urban/Developed

Urban/developed occurs as a dominant land cover type within the BSA. Urban/developed includes paved roads and highways, such as SR-67, Riverford Road, Woodside Avenue, North Woodside Avenue, and Woodside Terrace (see Figure 6 and Photograph 6). The Riverford Road bridge is also mapped as urban/developed; although Figure 7 does note the vegetation communities that are present underneath the bridge which is not considered part of the project. Urban/developed also includes residences in the southwestern edge of the BSA, commercial developments in the southwestern and northern edge of the BSA and associated ornamental vegetation. Urban/developed does not have an assigned tier under the MSCP Subarea Plan (County of San Diego 1997).

3.1.3.2 Plant Species

A total of 81 plant species, of which 44 are native to the locality, were observed within the BSA. A complete list of plant species detected is provided in Appendix D. One special status plant species, southwestern spiny rush, was detected within the BSA, and two additional special status plant species have a moderate potential to occur within the BSA.

3.1.3.3 Wildlife Species

The riparian and scrub habitats along the San Diego River and adjacent upland areas support a wide variety of resident and migratory birds. A total of 54 wildlife species, of which 2 are

introduced species, were detected within the BSA. Ten special status wildlife species were detected within the BSA and 20 special status wildlife species have a moderate potential to occur within the BSA. A complete list of wildlife species detected is provided in Appendix E.

Birds commonly detected within the BSA include species typical of native upland scrub and riparian habitats, as well as the urban-wildland interface. These commonly observed species included Anna's hummingbird (*Calypte anna*), mourning dove (*Zenaida macroura*), house finch (*Haemorhous mexicanus*), Nuttall's woodpecker (*Dryobates nuttallii*), song sparrow (*Melospiza melodia*), lesser goldfinch (*Spinus psaltria*), California towhee (*Melozone crissalis*), wrentit (*Chamaea fasciata*), and common yellowthroat (*Geothlypis trichas*).

3.1.3.4 Invasive Species

Invasive/noxious plant species were observed within the BSA and are listed in Table 2. Species considered invasive are those listed in the California Invasive Plant Council's (Cal-IPC) California Invasive Plant Inventory Database (Cal-IPC 2023).

Table 2: Invasive Species Observed.

Plant Family	Scientific Name / Common Name	Call-IPC Rating
ANGIOSPERMS: DICOTS		
Aizoaceae / Fig-Marigold Family	*Carpobrotus edulis* / freeway iceplant	High
Anacardiaceae / Sumac or Cashew Family	*Schinus molle* / Peruvian pepper tree	Limited
Asteraceae / Sunflower Family	*Carduus pycnocephalus* / Italian thistle	Moderate
	Cirsium vulgare / bull thistle	Moderate
	Cotula coronopifolia / brass-buttons	Limited
	Dittrichia graveolens / stinkwort	Moderate, Alert
	Glebionis coronaria [=*Chrysanthemum coronarium*] / garland, crown daisy	Limited
	Helminthotheca echioides [=*Picris echioides*] / bristly ox-tongue	Limited
Brassicaceae (Cruciferae) / Mustard Family	*Brassica nigra* / black mustard	Moderate
	Raphanus sativus / radish	Limited
Lythraceae / Loosestrife Family	*Lythrum hyssopifolia* / grass poly, hyssop loosestrife	Moderate
Polygonaceae / Buckwheat Family	*Rumex crispus* / curly dock	Limited
Simaroubaceae / Quassia or Simarouba Family	*Ailanthus altissima* / tree of heaven	Moderate
Solanaceae / Nightshade Family	*Nicotiana glauca* / tree tobacco	Moderate
Tamaricaceae / Tamarisk Family	*Tamarix ramosissima* / saltcedar	High
ANGIOSPERMS: MONOCOTS		
Arecaceae / Palm Family	*Phoenix canariensis* / Canary Island palm	Limited
	Washingtonia robusta / Mexican fan palm	Moderate, Alert
Poaceae (Gramineae) / Grass Family	*Bromus diandrus* / ripgut grass	Moderate
	Cortaderia selloana / pampas grass	High
	Festuca myuros [=*Vulpia myuros*] / rattail sixweeks grass	Moderate

Plant Family	Scientific Name / Common Name	Cal-IPC Rating
	Polypogon monspeliensis / annual beard grass, rabbitfoot grass	Limited
	Stipa miliacea var. *miliacea* [=*Piptatherum miliaceum* ssp. *miliaceum* and *Oryzopsis miliacea*] / smilo grass	Limited

High = These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

Moderate = These species have substantial and apparent—but generally not severe—ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

Limited = These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

Alert = An Alert is listed on species with High or Moderate impacts that have limited distribution in California, but may have the potential to spread much further.

3.1.4 Wildlife Movement Corridors/Habitat Connectivity

The San Diego River lies within the vegetation and BSAs, flowing east-to-west, directly adjacent to the northern PIA boundary. The San Diego River provides a route for local movement of terrestrial wildlife. While the vegetation and BSAs are not located within a regionally significant wildlife corridor identified by the MSCP Subarea Plan, southern cottonwood-willow habitat associated with the San Diego River is anticipated to facilitate local wildlife movement into off-site areas of undeveloped land. As such, potential impacts to southern cottonwood-willow riparian forest would also create impacts to the wildlife corridor associated with the San Diego River.

3.1.5 Regional Species and Habitats and Natural Communities of Concern

One special status plant species and nine special status wildlife species have been recorded within the BSA, as shown in Table 3. No critical habitat has been designated for any federally listed species in the BSA. Potentially suitable habitat for an additional eight special status plant species is present within the BSA; however, only two of these plant species have a moderate potential to occur within the BSA, while the remaining species are not expected or have a low potential, based on lack of detection or suitable habitat. Potentially suitable habitat for an additional 24 special status wildlife species is present within the BSA. Seventeen of these special status wildlife species have a moderate potential to occur, with the remaining have a low potential or are not expected to occur. All of these species are addressed in Table 3. Species known or with moderate potential to occur in the BSA are discussed further in Chapter 4.

Natural communities of concern found within the BSA include southern cottonwood-willow riparian forest (including disturbed form) and Diegan coastal sage scrub (including disturbed form). Other regional or local issues of concern include wildlife movement and jurisdictional wetlands and waters. Each of these communities/issues is addressed in Table 3 and discussed further in Chapter 4.

3.1.6 County of San Diego Regional Context

The majority of the PIA is located within the South County MSCP Subarea Plan (County of San Diego 1997). Specifically, the PIA occurs mostly within unincorporated land in Metro-Lakeside-Jamul segment along with a small portion in the northwestern area mapped as a PAMA; County of San Diego 1997; see Appendix A, Figure 5). The southwestern most developed portion of the PIA is located within the City of Santee's Draft MSCP boundary as Outside Preserve.

The BMO provides six criteria to identify if impacted habitat qualifies as a BRCA:

1. *The land is shown as pre-approved mitigation area (PAMA) on the wildlife agencies' PAMA map, (Attachment F of Document No. 0769999 on file with the Clerk of the Board);*

A small portion of the PIA is identified as a PAMA (approximately 0.38 acre) as shown on Attachment F of the BMO (see Appendix A, Figure 5). Of this 0.38-acre area designated as PAMA, most of it is already developed as North Woodside Avenue and Riverford Road (0.31 acre). However, a small portion of the area designated as PAMA does contain disturbed Diegan coastal sage scrub (approximately 0.07 acre). Therefore, this 0.07-acre portion meets this criterion.

2. *The land is located within an area of habitat which contains biological resources that support or contribute to the long-term survival of Sensitive Species, which determination is based upon a biological analysis approved by the Director, and is adjacent or contiguous to preserved habitat that is within the PAMA on the wildlife agencies' PAMA map (Attachment F of Document No. 0769999 on file with the Clerk of the Board);*

The Diegan coastal sage scrub on-site supports breeding pairs of coastal California gnatcatchers and the riparian habitat supports least Bell's vireo pairs; however, none of these are located within the PIA. Therefore, the PIA does not meet this criterion.

3. *The land is part of a regional linkage/corridor. A regional linkage/corridor is either:*

    a. *Land which contains topography which serves to allow for the movement of all sizes of wildlife and is used by wildlife, including large animals on a regional scale; and contains adequate vegetation cover 9 providing visual continuity so as to encourages the use of the corridor by wildlife; or*

    b. *It has been identified as the primary linkage/corridor between the northern and southern regional populations of the California gnatcatcher in the population viability analysis for the California gnatcatcher, MSCP Resource Document Volume II, Appendix A-7 (Attachment I on file with the Clerk of the Board as Document No. 0769999).*

The PIA is not located within the San Diego River which is considered a linkage/corridor. Therefore, the PIA does not meet this criterion.

4. *The land is shown on the Habitat Evaluation Map (Attachment J of Document No. 0769999 on file with the Clerk of the Board) as Very High or High and links significant blocks of habitat, except that land which is isolated or links small, isolated patches of habitat and land that has been affected by existing development to create adverse edge effects shall not qualify as Biological Resource Core Area;*

A small portion (0.49 acre) of the PIA is mapped on the Habitat Evaluation Map as Very High (see Appendix A, Figure 5); however, approximately two-thirds of this area is within the developed areas of North Woodside Avenue and the Riverford Road bridge and thus impacts to this area would not impact high quality habitat. In addition, the PIA is located outside of the San Diego River and thus does not link significant blocks of habitat off-site. Therefore, it does not meet this criterion.

5. The land consists of or is within a block of habitat greater than 500 acres in area of diverse and undisturbed habitat that contributes to the conservation of Sensitive Species;

The habitat on the project site is not part of a block of habitat greater than 500 acres of diverse and undisturbed habitat. Therefore, it does not meet this criterion.

6. *The land contains a high number of Sensitive Species and is adjacent or contiguous to surrounding undisturbed habitats, or contains soil derived from the following geologic formations which are known to support Sensitive Species: a) gabbroic rock; b) metavolcanic rock; c) clay; or d) coastal sandstone.*

Coastal California gnatcatcher and least Bell's vireo were found within the BSA, along with other sensitive wildlife and plant species; however, none were found within the PIA. The project site is mapped with sandy and sandy loam soils and the site does not support the geological formations noted. In addition, the site is surrounded by development and significant amount of transportation infrastructure. Therefore, the habitat on the project site does not meet this criterion.

Based on this analysis, only a small portion of the PIA meets some of the BRCA criteria and as such, approximately 0.07 acre of coastal sage scrub would be considered part of a BRCA (see Appendix A, Figure 5).

Table 3: Sensitive Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Biological Study Area.

Major Plant Group	Family	Scientific Name / Common Name	Status	Habitat Preference/ Requirements	Habitat Present/Absent	Potential to Occur On-Site	Basis for Determination of Occurrence Potential
Angiosperms: Monocots	Juncaceae / Rush Family	*Juncus acutus* ssp. *leopoldii* [=Juncus *acutus* var. *leopoldii*] / southwestern spiny rush	CRPR 4.2 List D	Perennial herb (rhizomatous); coastal dunes, meadows and seeps, coastal salt marsh, riparian; blooms May–June; elevation less than 3,000 feet.	Present	Observed	Observed within BSA outside of the 100-foot vegetation mapping buffer. Historical records for this species do not exist within one mile of the vegetation survey area. Suitable southern cottonwood-willow riparian forest habitat for this species exists within the vegetation area.
Angiosperms: Monocots	Themidaceae / Brodiaea Family	*Brodiaea filifolia* / thread-leaved brodiaea	FT SE CRPR 1B.1 SCMSCP NE List A	Perennial herb (bulbiferous); cismontane woodland, coastal sage scrub, playas, valley and foothill grassland, vernal pools; often clay soils; blooms March–June; elevation less than 43,800 feet. California endemic. Known from San Diego, Riverside, Orange, Los Angeles, and San Bernardino counties.	Absent	Unexpected	No historical occurrence records exist within 1 mile of project impact area, and no suitable clay soils are present within the BSA. Species was not observed
Angiosperms: Eudicots	Apiaceae / Carrot Family	*Eryngium aristulatum* var. *parishii* / San Diego button-celery	FE SE CRPR 1B.1 SCMSCP List A	Biennial/perennial herb; vernal pools, mesic areas of coastal sage scrub and grasslands, blooms April–June; elevation less than 2,000 feet. Known from San Diego and Riverside counties.	Absent	Unexpected	Historical records for this species do not exist within one mile of the vegetation survey area. No vernal pools or mesic areas within the Diegan coastal sage scrub are present.

Table 3: Sensitive Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Biological Study Area.

Major Plant Group	Family	Scientific Name / Common Name	Status	Habitat Preference/ Requirements	Habitat Present/Absent	Potential to Occur On-Site	Basis for Determination of Occurrence Potential
				Additional populations occur in Baja California, Mexico.			
Angiosperms: Eudicots	Asteraceae / Sunflower Family	*Ambrosia pumila* / San Diego ambrosia	FE CRPR 1B.1 SCMSCP NE List A	Perennial herb (rhizomatous); chaparral, coastal sage scrub, valley and foothill grasslands, creek beds, vernal pools, often in disturbed areas; blooms April–October; elevation less than 1,400 feet. Many occurrences extirpated in San Diego County.	Present	Low	This species is known to historically occur within one mile of the vegetation survey area. Suitable coastal sage scrub and creek bed habitat are present within the vegetation survey area and this species is known to tolerate disturbance; however, this species was not observed during surveys. As such, San Diego ambrosia has a low potential to occur within the vegetation survey area.
Angiosperms: Eudicots	Asteraceae / Sunflower Family	*Artemisia palmeri* / San Diego sagewort, Palmer sagewort, Palmer's sage*	CRPR 4.2 List D	Perennial deciduous shrub; coastal sage scrub, chaparral, riparian, mesic, sandy areas; blooms February–September; elevation less than 3,000 feet.	Present	Moderate	Historical records for this species do not exist within one mile of the vegetation survey area. Suitable Diegan coastal sage scrub and southern cottonwood-willow riparian forest habitat for this species exists within the vegetation area. As such, San Diego sagewort has a moderate potential to occur.
Angiosperms: Eudicots	Brassicaceae (Cruciferae) / Mustard Family	*Lepidium virginicum* var. *robinsonii* / Robinson's peppergrass	CRPR 4.3 List A	Annual herb; coastal sage scrub, chaparral; blooms January–July; elevation less than 2,900 feet.	Present	Moderate	Historical records for this species do not exist within one mile of the vegetation survey area. Suitable Diegan coastal sage scrub habitat for this species exists within the

Table 3: Sensitive Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Biological Study Area.

Major Plant Group	Family	Scientific Name / Common Name	Status	Habitat Preference/ Requirements	Habitat Present/Absent	Potential to Occur On-Site	Basis for Determination of Occurrence Potential
							vegetation area. As such, Robinson's peppergrass has a moderate potential to occur.
Angiosperms: Eudicots	Cactaceae / Cactus Family	*Ferocactus viridescens* / San Diego barrel cactus, coast barrel cactus*	CRPR 2B.1 SCMSCP List B	Perennial stem succulent; chaparral, coastal sage scrub, valley and foothill grasslands, vernal pools; blooms May–June; elevation less than 1,500 feet.	Present	Unexpected	This species is known to historically occur within one mile of the vegetation survey area. Suitable coastal sage scrub habitat within the elevation range for this species is present within the vegetation survey area; however, this perennial stem succulent would have been detected if present. As such, San Diego barrel cactus is unexpected to occur within the vegetation survey area.
Angiosperms: Eudicots	Fagaceae / Oak Family	*Quercus dumosa* / Nuttall's scrub oak	CRPR 1B.1 List A	Perennial evergreen shrub; closed-cone coniferous forest, coastal chaparral, coastal sage scrub; sandy and clay loam soils; blooms February–April; elevation less than 1,300 feet.	Present	Unexpected	This species is known to historically occur within one mile of the vegetation survey area. Suitable coastal sage scrub habitat within the elevation range for this species is present within the vegetation survey area; however, this perennial evergreen shrub would have been detected if present. As such, Nuttall's scrub oak is unexpected to occur within the vegetation survey area.
Angiosperms: Eudicots	Lamiaceae / Mint Family	*Acanthomintha ilicifolia* / San Diego thornmint	FT SE CRPR 1B.1 SCMSCP	Annual herb; chaparral, coastal sage scrub, and grasslands; friable or broken clay soils;	Absent	Unexpected	No historical occurrence records exist within 1 mile of the project impact area. No suitable soils are present,

Table 3: Sensitive Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Biological Study Area.

Major Plant Group	Family	Scientific Name / Common Name	Status	Habitat Preference/ Requirements	Habitat Present/Absent	Potential to Occur On-Site	Basis for Determination of Occurrence Potential
			NE List A	blooms April–June; elevation less than 3,200 feet.			and species was not observed. Therefore, this species is unexpected to occur.
Angiosperms: Eudicots	Lamiaceae / Mint Family	*Monardella viminea [=Monardella linoides] / willowy monardella*	FE SE CRPR 1B.1 SCMSCP NE List A	Perennial herb; closed-cone coniferous forest, chaparral, coastal sage scrub, riparian scrub, riparian woodlands, sandy seasonal dry washes; blooms June–August; elevation 160–740 feet. San Diego County endemic.	Present	Low	No historical occurrence records exist within 1 mile of the project impact area. This species is known from small, isolated occurrences north of Kearny Mesa in San Diego County. Coastal sage scrub and chaparral habitats are present within the vegetation survey area, however, the survey area lacks rocky ephemeral drainages and sandy benches appropriate for this species. As such, this species has a low potential to occur.
Angiosperms: Eudicots	Lamiaceae / Mint Family	*Pogogyne abramsii / San Diego mesa mint*	FE SE CRPR 1B.1 SCMSCP List A	Annual herb; vernal pools; blooms March–July; elevation 300–700 feet. San Diego County endemic.	Absent	Unexpected	Historical records for this species do not exist within one mile of the vegetation survey area. No vernal pools are present and this species is not expected to occur.
Angiosperms: Eudicots	Onagraceae / Evening-Primrose Family	*Clarkia delicata* / delicate clarkia, Campo clarkia	CRPR 1B.2 List A	Annual herb; cismontane woodland; blooms April–June; elevation 780–3,300 feet.	Present	Low	Historical records for this species do not exist within one mile of the vegetation survey area. Suitable woodland habitat does not exist within the vegetation area. As such, delicate clarkia has a low potential to occur.

Table 3: Sensitive Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Biological Study Area.

Major Wildlife Group	Family	Scientific Name / Common Name	Status	Habitat Preference/ Requirements	Habitat Present/Absent	Potential to Occur On-Site	Basis for Determination of Occurrence Potential
Invertebrates	Apidae / Honey Bees, Bumble Bees, and Allies	*Bombus crotchii* / Crotch's bumble bee	SCE	Coastal areas, open grasslands, shrub habitats.	Present	Moderate	Not observed, and historical records for this species do not exist within one mile of the wildlife survey area. Suitable Diegan coastal sage scrub habitat containing appropriate nectar sources exist within the wildlife survey area. As such, Crotch's bumble bee has a moderate potential to occur.
Invertebrates	Danainae / Milkweed Butterflies	*Danaus plexippus* pop. 1 / Monarch (California overwintering population)	FC	Wide variety of habitats, including urban areas. Roosts and over-winters on Eucalyptus trees. Host plant is milkweed (*Asclepias* sp.).	Present	Moderate	Suitable habitat for this species exists within the wildlife survey area. Although host plant for this species was not observed during project surveys, overwintering habitat containing eucalyptus trees exists within the wildlife survey area. As such, this species has a moderate potential to occur.
Invertebrates	Nymphalidae / Brush-footed Butterflies	*Euphydryas editha quino* / Quino checkerspot	FE NE Group 1	Open, dry areas in foothills, mesas, lake margins. Larval host plant *Plantago erecta*. Adult emergence mid-January through April.	Present	Low	Historical records for this species do not exist within one mile of the wildlife survey area. The majority of the BSA is located outside of the Required Quino Survey Map provided by USFWS. Quino Survey Map overlaps with the slopes north of the Riverford Road bridge that supports Diegan coastal sage scrub; however, these slopes are manufactured, densely

Table 3: Sensitive Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Biological Study Area.

Major Wildlife Group	Family	Scientific Name / Common Name	Status	Habitat Preference/ Requirements	Habitat Present/Absent	Potential to Occur On-Site	Basis for Determination of Occurrence Potential
							revegetated and surrounded by development to the north and the river and riparian habitat to the south. In addition, no host plant for this species was observed, reducing the potential to occur in these areas as low.
Amphibians	Pelobatidae / Spadefoot Toads	*Spea hammondii* / western spadefoot	FPT SSC Group 2	Vernal pools, floodplains, and alkali flats within areas of open vegetation.	Present	Moderate	This species is known to historically occur within one mile of the wildlife survey area. Suitable floodplains containing areas with open vegetation are present within riparian vegetation in the wildlife survey area. As such, western spadefoot has a moderate potential to occur within the wildlife survey area.
Amphibians	Bufonidae / True Toads	*Anaxyrus californicus [=Bufo microscaphus californicus]* / arroyo toad	FE SSC SCMSCP NE Group 1	Open streamside sand/gravel flats. Quiet, shallow pools along stream edges are breeding habitat. Nocturnal except during breeding season (March–July).	Present	Low	Historical records for this species do not exist within one mile of the wildlife survey area. There is a lack of suitable sandy soils and adjacent open, scrubby upland habitat to support this species. The manufactured/restored slopes north of San Diego River are too dense. The river channels and banks on site lack sand/gravel/cobble and braided channels required to facilitate breeding. .

Table 3: Sensitive Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Biological Study Area.

Major Wildlife Group	Family	Scientific Name / Common Name	Status	Habitat Preference/ Requirements	Habitat Present/Absent	Potential to Occur On-Site	Basis for Determination of Occurrence Potential
Amphibians	Salamandridae / Newts	*Taricha torosa* / coast range newt (Monterey Co. & south only)	SSC Group 2	Under rocks, in or under logs, in rodent burrows. In or near streams, ponds, and reservoirs.	Present	Moderate	Historical records for this species do not exist within one mile of the wildlife survey area. Suitable southern cottonwood-willow riparian forest containing rocks and logs exists within the wildlife survey area. As such, coast range newt has a moderate potential to occur.
Birds	Accipitridae / Hawks, Kites, & Eagles	*Accipiter cooperii* / Cooper's hawk	WL SCMSCP Group 1	Mature forest, open woodlands, wood edges, river groves. Parks and residential areas.	Present	Observed	This species was observed within the wildlife survey area in southern cottonwood-willow riparian forest habitat.
Birds	Accipitridae / Hawks, Kites, & Eagles	*Buteo lineatus* / red-shouldered hawk	Group 1	Riparian and oak woodlands, parks, and residential areas.	Present	Observed	This species was observed within the wildlife survey area in southern cottonwood-willow riparian forest habitat.
Birds	Accipitridae / Hawks, Kites, & Eagles	*Elanus leucurus* / white-tailed kite	CFP Group 1	Nest in riparian woodland, oaks, sycamores. Forage in open, grassy areas. Year-round resident.	Present	Moderate	Historical records for this species do not exist within one mile of the wildlife survey area. Suitable southern cottonwood-willow riparian forest habitat containing appropriate nesting trees exists within the wildlife survey area. As such, white-tailed kite has a moderate potential to occur.
Birds	Apodidae / Swifts	*Chaetura vauxi* / Vaux's swift	SSC	All habitat types of San Diego County during migration.	Present	Observed	This species was observed foraging over southern cottonwood-willow riparian

Table 3: Sensitive Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Biological Study Area.

Major Wildlife Group	Family	Scientific Name / Common Name	Status	Habitat Preference/ Requirements	Habitat Present/Absent	Potential to Occur On-Site	Basis for Determination of Occurrence Potential
							forest habitat within the wildlife survey area.
Birds	Ardeidae / Herons & Bitterns	*Butorides virescens* / green heron	Group 2	Along rivers, streams, ponds, lakes and marshes. Requires trees or shrubs to nest.	Present	Observed	This species was observed foraging along the San Diego River in the wildlife survey area.
Birds	Icteridae / Blackbirds & New World Orioles	*Agelaius tricolor* / tricolored blackbird	SCT SSC SCMSCP Group 1	Freshwater marshes, agricultural areas, lakeshores, parks. Localized resident.	Present	Low	This species is known to historically occur within one mile of the wildlife survey area. Tricolored blackbird colonies are occasionally known to move breeding sites, often as a response to disturbance at previous breeding sites. While there are some freshwater marsh plants present in the BSA, the area is relatively small, doesn't support suitable dense marsh vegetation, and doesn't appear to flood or function like a marsh ecosystem and unlikely to support any nesting colonies of tricolored blackbirds.
Birds	Icteriidae / Yellow-breasted Chat	*Icteria virens* / yellow-breasted chat	SSC Group 1	Dense riparian woodland. Localized summer resident.	Present	Observed	Two yellow-breasted chats were detected in southern cottonwood-willow riparian forest habitat within the wildlife survey area.
Birds	Parulidae / Wood Warblers	*Setophaga [=Dendroica] petechia* / yellow warbler	SSC Group 2	Breeding restricted to riparian woodland. Spring and fall migrant,	Present	Observed	Multiple yellow warblers were observed and detected in southern cottonwood-willow

Table 3: Sensitive Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Biological Study Area.

Major Wildlife Group	Family	Scientific Name / Common Name	Status	Habitat Preference/ Requirements	Habitat Present/Absent	Potential to Occur On-Site	Basis for Determination of Occurrence Potential
				localized summer resident, rare winter visitor.			riparian forest habitat within the wildlife survey area.
Birds	Passerellidae / New World Passerines	*Aimophila ruficeps canescens* / southern California rufous-crowned sparrow	WL SCMSCP Group 1	Coastal sage scrub, chaparral, grassland. Resident.	Present	Moderate	This species is known to historically occur within one mile of the wildlife survey area. Suitable coastal sage scrub habitat containing moderate to steep slopes is present in the wildlife survey area. As such, southern California rufous-crowned sparrow has a moderate potential to occur within the wildlife survey area.
Birds	Phalacrocoracidae / Cormorants	*Nannopterum auritum =[Phalacrocorax auritus]* / double-crested cormorant	WL Group 2	Breeds in colonies; restricted to large water bodies in coastal and inland habitats.	Present	Observed	This species was observed flying over the wildlife survey area during project surveys.
Birds	Polioptilidae / Gnatcatchers	*Polioptila californica californica* / coastal California gnatcatcher	FT SSC SCMSCP Group 1	Coastal sage scrub, maritime succulent scrub. Resident.	Present	Observed	Two individual coastal California gnatcatchers were observed in Diegan coastal sage scrub habitat within the wildlife survey area.
Birds	Rallidae / Rails, Gallinules, & Coots	*Coturnicops noveboracensis* / yellow rail	SSC	Found in moderately wet marshes and meadows, where it finds cover among dense grasses.	Present	Unexpected	This species is known to historically occur within one mile of the wildlife survey area. Freshwater marsh habitat occurs within the wildlife survey area, beyond the 100-foot project site buffer to the northeast.

Table 3: Sensitive Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Biological Study Area.

Major Wildlife Group	Family	Scientific Name / Common Name	Status	Habitat Preference/ Requirements	Habitat Present/Absent	Potential to Occur On-Site	Basis for Determination of Occurrence Potential
							Although suitable habitat occurs within the wildlife survey area, this species has declined greatly in California and only one recent record exists in San Diego County. As such, yellow rail is not expected to occur within the wildlife survey area.
Birds	Tyrannidae / Tyrant Flycatchers	*Empidonax traillii extimus* / southwestern willow flycatcher	FE SE SCMSCP NE Group 1	Nesting restricted to willow thickets. Also occupies other woodlands. Rare spring and fall migrant, rare summer resident. Extremely localized breeding.	Present	Moderate	Historical records for this species do not exist within one mile of the wildlife survey area. This species has declined greatly in San Diego County over recent decades and has been extirpated from historical nesting sites; however, suitable southern cottonwood-willow riparian forest habitat containing appropriate nesting trees exists within the wildlife survey area. As such, southwestern willow flycatcher has a moderate potential to occur.
Birds	**Vireonidae / Vireos**	***Vireo bellii pusillus* / least Bell's vireo**	**FE SE SCMSCP NE Group 1**	**Willow riparian woodlands. Summer resident.**	**Present**	**Observed**	**Four individual least Bell's vireo were detected or observed in southern cottonwood-willow riparian forest habitat within the wildlife survey area.**
Mammals	Cervidae / Deer	*Odocoileus hemionus fuliginata* /	SCMSCP Group 2	Many habitats.	Present	Moderate	Historical records for this species do not exist within one mile of the wildlife survey

Table 3: Sensitive Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Biological Study Area.

Major Wildlife Group	Family	Scientific Name / Common Name	Status	Habitat Preference/ Requirements	Habitat Present/Absent	Potential to Occur On-Site	Basis for Determination of Occurrence Potential
		southern mule deer					area. Suitable Diegan coastal sage scrub and southern cottonwood-willow riparian forest habitats exist within the wildlife survey area. As such, southern mule deer has a moderate potential to occur.
Mammals	Molossidae / Free-tailed Bats	*Nyctinomops femorosaccus* / pocketed free-tailed bat	SSC Group 2	Roosts in crevices in vertical cliffs and quarries. Forages over a variety of habitats for flying beetles and large moths (Tremor et al. 2017). Ranges from Orange County south through San Diego and east through southern Arizona (Harvey et al. 2011).	Present	Moderate	This species is known to historically occur within one mile of the wildlife survey area. Suitable cliff habitat does not exist within the wildlife survey area, however suitable crevices exist on the underside of the Riverford Road and SR-67 bridge. As such, pocketed free-tailed bat has a moderate potential to occur within the wildlife survey area.
Mammals	Molossidae / Free-tailed Bats	*Nyctinomops macrotis* / big free-tailed bat	SSC Group 2	Ranges from South America up into the southwestern United States. Primarily a winter migrant to San Diego County. Maternity colonies are formed in June, when the species mainly out of our range. Roosts in crevices in vertical cliffs in scrub, riparian, and forest habitats. Feeds	Present	Moderate	This species is known to historically occur, primarily as a rare fall or winter migrant, within one mile of the wildlife survey area. Suitable cliff roosting habitat does not exist within the wildlife survey area, however crevices on the underside of the Riverford Road and SR-67 bridge are capable of supporting roosting for this species. As such, big free-tailed bat has

Table 3: Sensitive Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Biological Study Area.

Major Wildlife Group	Family	Scientific Name / Common Name	Status	Habitat Preference/ Requirements	Habitat Present/Absent	Potential to Occur On-Site	Basis for Determination of Occurrence Potential
				on moths (Tremor et al. 2017).			the potential to roost within the wildlife survey area.
Mammals	Vespertilionidae / Vesper Bats	*Antrozous pallidus* / pallid bat	SSC Group 2	Arid deserts and grasslands. Day and night roosts in rock crevices in outcrops and cliffs, caves, mines, trees, bridges, and other human structures. Roosts tend to be warm and elevated. Forage for large-bodied arthropods over open shrublands, grasslands, and orchards.	Present	Moderate	This species is known to historically occur within one mile of the wildlife survey area. Suitable cliff roosting habitat does not exist within the wildlife survey area, however crevices on the underside of the Riverford Road and SR-67 bridge are capable of supporting roosting for this species. As such, pallid bat has the potential to roost within the wildlife survey area.
Mammals	Vespertilionidae / Vesper Bats	*Lasiurus blossevillii* / western red bat	SSC Group 2	Occurs throughout California and western Nevada, east into Arizona and Utah. Roosts in foliage of riparian trees, particularly willows, sycamores, and cottonwoods. Feeds on a variety of moths and other flying insects.	Present	Moderate	Suitable tree roosting habitat does exist within the wildlife survey area. As such, this bat has a moderate potential to occur within the wildlife survey area.
Mammals	Vespertilionidae / Vesper Bats	*Lasiurus xanthinus* /	SSC	Active year-round. Roosts in the foliage of trees in arid habitats,	Present	Moderate	This species is known to historically occur within one mile of the wildlife survey

Table 3: Sensitive Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Biological Study Area.

Major Wildlife Group	Family	Scientific Name / Common Name	Status	Habitat Preference/ Requirements	Habitat Present/Absent	Potential to Occur On-Site	Basis for Determination of Occurrence Potential
		western yellow bat		particularly in native and exotic palm trees. Forage for a variety of flying insects over streams and ponds. Ranges from southern California and Arizona into western Mexico.			area. Exotic palm trees suitable for roosting exist within the wildlife survey area. As such, western yellow bat has a moderate potential to occur within the wildlife survey area.
Reptiles	Anniellidae / Legless Lizards	*Anniella stebbinsi [=Anniella pulchra]* / San Diegan [=silvery] legless lizard	SSC Group 2	Herbaceous layers with loose soil in coastal scrub, chaparral, and open riparian. Prefers dunes and sandy washes near moist soil.	Present	Moderate	Historical records for this species do not exist within one mile of the wildlife survey area. Suitable Diegan coastal sage scrub and southern cottonwood-willow riparian forest habitat containing appropriate soils exist within the wildlife survey area. As such, San Diegan legless lizard has a moderate potential to occur.
Reptiles	Colubridae / Colubrid Snakes	*Arizona elegans occidentalis* / California glossy snake	SSC	Scrub and grassland habitats, often with loose or sandy soils.	Present	Moderate	Historical records for this species do not exist within one mile of the wildlife survey area. Suitable Diegan coastal sage scrub containing sandy loam soils exists within the wildlife survey area. As such, California glossy snake has a moderate potential to occur.
Reptiles	Colubridae / Colubrid Snakes	*Thamnophis hammondii* / two-striped gartersnake	SSC Group 1	Permanent freshwater streams with rocky bottoms. Mesic areas.	Present	Low	Historical records for this species do not exist within one mile of the wildlife survey area. Suitable freshwater

Table 3: Sensitive Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Biological Study Area.

Major Wildlife Group	Family	Scientific Name / Common Name	Status	Habitat Preference/ Requirements	Habitat Present/Absent	Potential to Occur On-Site	Basis for Determination of Occurrence Potential
							stream habitat exists within the wildlife survey area; however, streams within the wildlife survey area do not contain rocky bottoms. As such, two-striped gartersnake has a low potential to occur.
Reptiles	Crotalidae / Rattlesnakes	*Crotalus ruber* / red diamond rattlesnake	SSC Group 2	Desert scrub and riparian, coastal sage scrub, open chaparral, grassland, and agricultural fields.	Present	Moderate	Historical records for this species do not exist within one mile of the wildlife survey area. Suitable Diegan coastal sage scrub habitat exists within the wildlife survey area. As such, red diamond rattlesnake has a moderate potential to occur.
Reptiles	Emydidae / Box & Water Turtles	*Actinemys pallida [=Clemmys marmorata pallida]* / southwestern pond turtle	FPT SSC SCMSCP NE Group 1	Ponds, small lakes, marshes, slow-moving, sometimes brackish water.	Present	Moderate	Historical records for this species do not exist within one mile of the wildlife survey area. Suitable freshwater pond habitat exists within the wildlife survey area, beyond the 100-foot buffer. As such, southwest pond turtle has a moderate potential to occur.
Reptiles	Phrynosomatidae / Spiny Lizards	*Phrynosoma blainvillii [= P. coronatum coastal population], Phrynosoma coronatum blainvillei* / Blainville's horned lizard,	SSC SCMSCP Group 2	Chaparral, coastal sage scrub with fine, loose soil. Partially dependent on harvester ants for forage.	Present	Moderate	Historical records for this species do not exist within one mile of the wildlife survey area. Suitable Diegan coastal sage scrub with loose soil exists within the wildlife survey area. As such, coast horned lizard has a moderate potential to occur.

Table 3: Sensitive Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Biological Study Area.

Major Wildlife Group	Family	Scientific Name / Common Name	Status	Habitat Preference/ Requirements	Habitat Present/Absent	Potential to Occur On-Site	Basis for Determination of Occurrence Potential
		coast horned lizard, San Diego horned lizard					
Reptiles	Scincidae / Skinks	*Plestiodon [=Eumeces] skiltonianus interparietalis* / Coronado skink	WL Group 2	Grasslands, open woodlands and forest, broken chaparral. Rocky habitats near streams.	Present	Moderate	This species is known to historically occur within one mile of the wildlife survey area. Suitable riparian woodland and stream habitat exist within the wildlife survey area. As such, Coronado skink has a moderate potential to occur within the wildlife survey area.
Reptiles	**Teiidae / Whiptail Lizards**	***Aspidoscelis hyperythra beldingi [=Cnemidophorus hyperythrus] /*** **Belding's orange-throated whiptail**	**WL SCMSCP Group 2**	**Chaparral, coastal sage scrub with coarse sandy soils and scattered brush.**	**Present**	**Observed**	**This species was observed in southern cottonwood-willow riparian forest habitat within the wildlife survey area.**
Reptiles		*Aspidoscelis tigris stejnegeri* / San Diegan tiger whiptail	SSC Group 2	Coastal sage scrub, chaparral, woodlands, and streamsides where plants are sparsely distributed.	Present	Moderate	Historical records for this species do not exist within one mile of the wildlife survey area. Suitable Diegan coastal sage scrub and southern cottonwood-willow riparian forest habitat with sparse understory vegetation exist within the wildlife survey area. As such, San Diego tiger whiptail has a moderate potential to occur.

Table 3: Sensitive Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Biological Study Area.

Natural Communities and Other Sensitive Resources	Status	Habitat Preference/ Requirements	Present/Absent	Basis for Determination
Southern Cottonwood-Willow Riparian Forest	County MSCP Tier I; NatureServe G3 S3.2	Riparian vegetation dominated by small trees or shrubs and lacking tall riparian trees.	Present	Undisturbed and disturbed stands of this vegetation community are present in the BSA.
Diegan Coastal Sage Scrub	County MSCP Tier II; NatureServe G3 S3.1	Upland plant community consisting of low-growing, aromatic, drought-deciduous soft-woody shrubs that have an average height of approximately three to four feet. Typically dominated by facultatively drought deciduous species.	Present	Undisturbed and disturbed stands of this vegetation community are present in the BSA.
Wildlife Movement Corridor	N/A	Areas that connect suitable wildlife habitat areas in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance.	Present	The BSA includes a portion of the San Diego River which functions as part of a wildlife movement corridor.
Jurisdictional Wetlands/Waters	N/A	May include wetlands, non-wetland waters, riparian habitat, and isolated waters.	Present	Resources under the jurisdiction of USACE, CDFW, RWQCB were identified within the project impact area. These include wetland waters of the U.S., non-wetland waters of the U.S, State streambed, and adjacent wetlands/riparian habitat.

Table 3: Sensitive Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Biological Study Area.

NOTE: Species in bold were observed on-site.

STATUS CODES

Federal Status
FC = Federal candidate
FE = Listed as endangered by the federal government
FT = Listed as threatened by the federal government
FPT = Proposed for listing as threatened by the federal government

State Status
CFP = California fully protected species
SE = State listed as Endangered
SCE = State candidate for listing as Endangered
SCT = State candidate for listing as Threatened
SSC = California Department of Fish and Wildlife species of special concern
WL = California Department of Fish and Wildlife watch list species

California Native Plant Society (CNPS): California Rare Plant Ranks (CRPR)
1B = Species rare, threatened, or endangered in California and elsewhere. These species are eligible for state listing.
2B = Species rare, threatened, or endangered in California but more common elsewhere. These species are eligible for state listing.
4 = A watch list of species of limited distribution. These species need to be monitored for changes in the status of their populations.
0.1 = Species seriously threatened in California (over 80% of occurrences threatened; high degree and immediacy of threat).
0.2 = Species fairly threatened in California (20-80% occurrences threatened; moderate degree and immediacy of threat).
0.3 = Species not very threatened in California (<20% of occurrences threatened; low degree and immediacy of threat or no current threats known).

County of San Diego
SCMSCP = Multiple Species Conservation Program County of San Diego Subarea Plan (South County Plan) covered species.
NE = Narrow Endemic species that have limited distributions in the region and require focused evaluations during project review.
Group 1 = County wildlife species with a very high level of sensitivity, either because they are listed as threatened or endangered or because they have very specific natural history requirements that must be met
Group 2 = County wildlife species that are becoming less common, but are not yet so rare that extirpation or extinction is imminent without immediate action
List A = Plants rare, threatened or endangered in California and elsewhere.
List B = Plants rare, threatened or endangered in California but more common elsewhere.
List D = Plants of limited distribution and are uncommon, but not presently rare or endangered.

NatureServe's Heritage Program
G3 S3: Vulnerable worldwide/statewide
0.1: Very threatened
0.2: Threatened

Chapter 4 – Results: Biological Resources, Discussion of Impacts and Mitigation

This chapter describes the habitats and natural communities of special concern, special status plant species, and special status wildlife species that are likely to occur within the PIA; the potential impacts to these resources; and the avoidance, minimization, and mitigation measures proposed to protect these sensitive resources.

4.1 Habitats and Natural Communities of Special Concern

Habitats and natural communities of special concern are those communities that (1) are of limited distribution; (2) have federal, state, or local laws regulating their development; and/or (3) support concentrations of special status plant or wildlife species. Wetlands and WOTUS/WOTS are also considered sensitive by both federal and state agencies.

The following habitats and/or natural communities of special concern were mapped within the BSA and are shown on Appendix A: Figure 7: southern cottonwood-willow riparian forest, including the disturbed form and Diegan coastal sage scrub, including the disturbed form. Other regional or local issues of concern include wildlife movement and jurisdictional wetlands and waters. Potentially jurisdictional wetlands and waters within the PIA are shown on Appendix A: Figure 8.

Permanent and temporary vegetation community impacts are presented in Table 4 and discussed below. The remainder of the PIA is included in the temporary impact calculations to account for temporary vegetation removal or trampling, access, staging, and any other work areas necessary to construction the project. Impacts to vegetation communities and potentially jurisdictional wetlands and waters are shown on Appendix A: Figures 9 and 10, respectively.

4.1.1 Discussion of Southern Cottonwood-Willow Riparian Forest

4.1.1.1 Survey Results: Southern Cottonwood-Willow Riparian Forest

Within the BSA, this community occurs as large patches along the San Diego River dominated by Fremont cottonwood (*Populus fremontii* ssp. *fremontii*) and Goodding's black willow (*Salix gooddingii*), with an understory dominated by mule fat (*Baccharis salicifolia* ssp. *salicifolia*), desert wild grape (*Vitis girdiana*), and stickywilly (*Galium aparine*). Southern cottonwood-willow riparian forest is considered a Tier I vegetation community under the MSCP Subarea Plan (County of San Diego 1997). The undisturbed form of this community is considered high-quality habitat due to the dominance of mature native trees providing suitable foraging habitat for native and special status wildlife species along a wildlife corridor, including the federally and state listed least Bell's vireo and state species of special concern yellow warbler, as well as habitat for the rare plant species southwestern spiny rush.

Table 4: Vegetation Community Impacts and Mitigation.

Vegetation Community (County MSCP Tier Levels)	Permanent Impacts in Acres	Temporary Impacts in Acres	Mitigation Ratio (Perm/Temp)[1]	Mitigation Requirement in Acres (Perm/Temp)	Proposed Mitigation	
					Permanent Impact Mitigation[2]	Temporary Impact Mitigation[3]
Disturbed southern cottonwood-willow riparian forest (Tier I)-non-BRCA	0.04	0.04	1:1 / 1:1	0.04 / 0.04	0.04	0.04
Subtotal Wetland/Riparian	**0.04**	**0.04**		**0.04 / 0.04**	**0.04**	**0.04**
Diegan coastal sage scrub (Tier II)-non-BRCA	0.33	0.12	1:1 / 1:1	1.47 / 0.12	1.58	0.12
Disturbed Diegan coastal sage scrub (Tier II)-non-BRCA	1.14	--				
Disturbed Diegan coastal sage scrub (Tier II)-BRCA	0.07	--	1.5:1 / 1:1	0.11 / --		
Disturbed habitat (Tier IV)	5.94	0.70	n/a	–		
Urban/ developed (no tier)	5.98	3.26	n/a	–		
Subtotal Upland	**13.46**	**4.08**		**1.58 / 0.12**	**1.58**	**0.12**
Total	**13.50**	**4.12**		**1.62 / 0.16**	**1.62**	**0.16**

NOTE: Numbers may not total due to rounding.

[1]Mitigation ratios for permanent impacts are based on whether the impacted land is considered to be a biological core resource area (BRCA) and the vegetation communities are presented as either BRCA or non-BRCA. Temporary impacts will be restored on-site at a replacement ratio of 1:1.

[2]Mitigation for permanent wetland and upland impacts would either be accomplished within the PIA or through purchasing credits from a mitigation bank within the San Diego River watershed or a watershed closest to the project area, whichever has eligible mitigation credits available.

[3]Mitigation for temporary impacts will include restoring habitat of equal or greater value within temporary project impact areas.

[4]This total does not include impacts to habitat underneath Riverford Road bridge. Work may occur within the road/bridge but would not affect the vegetation underneath the bridge.

Disturbed southern cottonwood-willow riparian forest habitat occurs in two patches in the northeast portion of the BSA (see Appendix A: Figure 7). This community within the BSA is considered to be disturbed based on a higher percentage of non-native shrub and tree species, including saltcedar (*Tamarix ramosissima*), with an understory dominated by non-native grasses. This vegetation community is considered moderate-quality habitat given the presence of mature native trees providing suitable foraging habitat for native and special status wildlife species along a wildlife corridor.

4.1.1.2 Project Impacts: Southern Cottonwood-Willow Riparian Forest

The project would result in direct permanent impacts to 0.04 acre and direct temporary impacts to 0.04 acre of disturbed southern cottonwood-willow riparian forest (see Table 4 and Appendix A: Figure 9). The vegetation under the Riverford Road bridge would not be impacted as the project's construction only occurs on the existing road/bridge and would not affect the vegetation below the bridge.

4.1.1.3 Avoidance and Minimization Efforts: Southern Cottonwood-Willow Riparian Forest

The project has been designed to keep permanent impacts to the minimum necessary to fulfill the project's purpose and need. The following measures will be employed during project construction to avoid and/or minimize impacts to biological resources:

BIO-1. Prior to initiation of construction activities, orange construction fencing or equivalent high-visibility construction fencing shall be installed along the limits of disturbance adjacent to sensitive biological resource areas. All construction (including access/staging areas) shall be restricted to developed areas or previously defined and approved work areas. Equipment staging, storage, and maintenance shall be located outside the active river channel, riparian, and Diegan coastal sage scrub vegetation. Temporary fencing will be removed at the completion of construction.

BIO-2a. A qualified biologist shall monitor construction activities as needed to oversee avoidance of sensitive biological resources, with full-time monitoring during initial vegetation removal, grubbing, and grading. Monitoring biologists shall be familiar with the special status species known to be present or with potential to occur on-site that could occur within the sensitive vegetation communities to be removed. Should a special status species be encountered, the biological monitor shall request that the resident engineer (RE) stop work in the area.

The biological monitor shall determine the next steps required, e.g., implement avoidance measures, contact Caltrans, the County or Wildlife Agencies, and will work with the RE to identify areas where work can proceed while avoidance measures are determined.

BIO-2b. An employee education program shall be developed and implemented prior to construction by a qualified biologist. Each construction employee (including temporary, contractors, and subcontractors) shall receive a training/awareness program prior to working on the proposed project. Employees shall be advised of listed species in the project's vicinity and the potential penalties for taking of such species. At a minimum, the program shall include:

occurrence of the listed and sensitive species in the area (including photographs), their general ecology, sensitivity of the species to human activities, legal protection afforded these species, penalties for violations of federal and state laws, reporting requirements, and project-specific mitigation and avoidance and minimization measures designed to reduce impacts to these species. Employee education program shall also cover project permit requirements, if applicable, and communication protocol with the public agency constructing the project.

BIO-3. The following general construction BMPs will be employed to minimize and avoid impacts to sensitive biological resources from construction activities:

- Any nighttime construction lighting (e.g., staging areas, equipment storage sites, active work areas) shall be selectively placed and directed toward the construction site. Lighting shall be limited to the lowest illumination necessary to allow for safe completion of work and directed away from, shielded, or pointed downward and away from the adjacent habitat of the river corridor (for least Bell's vireo habitat) and adjacent Diegan coastal sage scrub (for coastal California gnatcatcher habitat). Streetlights (permanent project lighting) shall be installed to help illuminate both roundabouts for drivers' safety. Streetlights shall be consistent with the illumination levels and general design (e.g., pointed downward) of existing streetlights in this area.
- Erosion and sediment control measures, e.g., straw wattles, gravel bags, silt fencing, shall be in place and in functional condition throughout all phases of the project where sediment run-on or run-off from exposed slopes threatens to enter the river or aquatic habitats. Jute for straw wattles must be made of natural material, not plastic.
- Monitoring biologist shall check the project site immediately prior to and periodically during construction, to identify presence of invasive weeds and recommend measures to avoid their inadvertent spread resulting from construction activities. Measures may include inspection and cleaning of construction equipment and use of eradication strategies. Special care shall be taken during transport, use, and disposal of soils containing invasive weed seeds and all weedy vegetation removed during construction shall be properly stored and disposed of to prevent spread into areas outside of the construction area.
- All heavy equipment shall be washed and cleaned of sediment, debris, and foreign matter prior to entering the project area to minimize the spread of invasive weeds.
- All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities shall be restricted to designated areas located outside of marked (e.g., flagged/staked) wetlands or waters. Spill prevention supplies, such as drip pans and spill kits, shall be maintained on-site to contain any spill or inadvertent release of materials that may cause a condition of pollution or nuisance if the materials reach WOTUS/WOTS.
- All steep trenches, holes, and excavations during construction shall be covered at night with backfill, plywood, metal plates, or other means, and the edges covered with soils and plastic sheeting such that small wildlife cannot access them.
- Soil piles shall be covered at night to prevent wildlife from burrowing in. The edges of the sheeting shall be weighed down by sandbags. These areas may also be fenced to prevent wildlife from gaining access.

- Exposed trenches, holes, and excavations shall be inspected daily (i.e., at the end of the workday, before sealing the exposed area) by the Resident Engineer, construction inspector, superintendent or project foreman to monitor for wildlife entrapment. Excavations shall provide an earthen ramp to allow for a wildlife escape route.
- All waste must be removed from the project area. All food-related trash shall be enclosed in sealed wildlife-proof containers and removed from the site daily. All construction-related debris, excess materials, and building materials shall be removed from the project site for disposal at an authorized landfill or other disposal site in compliance with federal, state, and local laws and regulations.
- Project personnel shall be prohibited from bringing domestic pets to construction sites to ensure pets do not disturb or depredate wildlife in adjacent habitats.

4.1.1.4 Compensatory Mitigation: Southern Cottonwood-Willow Riparian Forest

Mitigation for temporary and permanent impacts to disturbed southern cottonwood-willow riparian forest will be accomplished by either: (1) restoring habitat of equal value within temporary PIAs and/or (2) in the form of either enhancement, restoration, and/or creation of habitat, on- or off-site; deduction of credits from a pre-approved mitigation area; or other off-site preservation for permanent impacts.

Mitigation for 0.04 acre of temporary impacts is proposed at a 1:1 ratio and will be revegetated in place to pre-construction conditions.

Mitigation for 0.04 acre of permanent impacts is proposed at a 1:1 ratio, which equates to a mitigation total of 0.04 acre, as defined by the BMO when impacted lands do not meet the criteria for BRCA and mitigation lands meet the criteria for BRCA (see Table 4).

4.1.1.5 Cumulative Impacts: Southern Cottonwood-Willow Riparian Forest

Projects that comply with the MSCP as specified by the County's Subarea Plan and its implementing ordinances are not expected to result in a significant cumulative impact for those biological resources adequately covered by the MSCP, including vegetation communities. Additionally, implementation of the compensatory mitigation would reduce impacts associated with sensitive vegetation communities to a level that is less than significant. All other impacts associated with biological resources would be less than significant. Therefore, implementation of the project would not result in significant cumulative impacts related biological resources and the project would result in a less than significant cumulative impact.

4.1.2 Discussion of Diegan Coastal Sage Scrub

4.1.2.1 Survey Results: Diegan Coastal Sage Scrub

In the northern part of the BSA, Diegan coastal sage scrub occurs as linear patches both north and south of the riparian habitat along the San Diego River. In the southern portion of the BSA, this community is more expansive on the slopes and adjacent open space south of Woodside Avenue. Disturbed Diegan coastal sage scrub is present as small patches, primarily adjacent to the roadways within the BSA and is characterized by fewer native shrubs and a higher percentage of non-native herbaceous and grass species within the understory.

This community ranges from moderate ecological value along the northern part of the BSA where it occurs mostly as narrow strips adjacent to developed areas, to high ecological value in the southern part of the BSA where it occurs as part of a large expanse of similar habitat further outside and south of the BSA. The Diegan coastal sage scrub within the BSA is known to provide suitable nesting habitat for a variety of bird species, including coastal California gnatcatcher, a federal threatened species.

4.1.2.2 Project Impacts: Diegan Coastal Sage Scrub

The project would result in direct permanent impacts to 1.54 acres and direct temporary impacts to 0.12 acre of Diegan coastal sage scrub, including the disturbed form (see Table 4 and Appendix A: Figure 9). Of this total, 0.07 acre of disturbed Diegan coastal sage scrub that meets the criteria as a BRCA will be permanently impacted. The remaining impacts are to non-BRCA lands.

4.1.2.3 Avoidance and Minimization Efforts: Diegan Coastal Sage Scrub

As mentioned in Section 4.1.1.3, the project has been designed to keep permanent impacts to the minimum necessary to fulfill the project's purpose and need. Implementation of BIO-1 through BIO-3, described in Section 4.1.1.3 above, would minimize impacts to Diegan coastal sage scrub.

4.1.2.4 Compensatory Mitigation: Diegan Coastal Sage Scrub

Mitigation for temporary and permanent impacts to Diegan coastal sage scrub will be accomplished by either: (1) restoring habitat of equal value within temporary PIAs and/or (2) in the form of either enhancement, restoration, and/or creation of habitat, on- or off-site; deduction of credits from a pre-approved mitigation area; or other off-site preservation for permanent impacts.

Mitigation for 0.12 acre of temporary impacts is proposed at a 1:1 replacement ratio and will be revegetated in place to pre-construction conditions for a total mitigation to 0.12 acre.

Permanent impacts to Diegan coastal sage scrub, including 0.07 acre BRCA and 1.47 acre non-BRCA would be mitigated within BRCA lands at a ratio of 1.5:1 and 1:1, respectively. This equates to a mitigation total of 1.58 acres (0.11 acre BRCA and 1.47 acre non-BRCA) of Diegan coastal sage scrub (see Table 4).

4.1.2.5 Cumulative Impacts: Diegan Coastal Sage Scrub

Projects that comply with the MSCP as specified by the County's Subarea Plan and its implementing ordinances are not expected to result in a significant cumulative impact for those biological resources adequately covered by the MSCP, including vegetation communities. Additionally, implementation of the compensatory mitigation would reduce impacts associated with sensitive vegetation communities to a level that is less than significant. All other impacts associated with biological resources would be less than significant. Therefore, implementation of the project would not result in significant cumulative impacts related biological resources and the project would result in a less than significant cumulative impact.

4.1.3 Discussion: Wildlife Movement Corridors/Habitat Connectivity

Habitat linkages and wildlife corridors are defined as areas that connect suitable wildlife habitat areas in a region otherwise fragmented by rugged terrain, changes in vegetation, or human

disturbance. Natural features such as canyon drainages, ridgelines, or areas with vegetation cover provide corridors for wildlife travel. Habitat linkages and wildlife corridors are important because they provide access to mates, food, and water; allow the dispersal of individuals away from high population density areas; and facilitate the exchange of genetic traits between populations (Beier and Loe 1992). Wildlife movement corridors are considered sensitive by resource and conservation agencies.

4.1.3.1 Survey Results: Wildlife Movement Corridors/Habitat Connectivity

The San Diego River in the BSA serves as a movement corridor for terrestrial and avian wildlife species. Although the portion of the river that occurs within and adjacent to the BSA is immediately surrounded by urban development to the north and south, the floodplain and adjacent slopes support a variety of native riparian and upland habitats, providing cover and movement opportunities for many terrestrial species.

4.1.3.2 Project Impacts: Wildlife Movement Corridors/Habitat Connectivity

The project would not result in direct permanent impacts to wildlife movement along the San Diego River. A small portion of the PIA is noted along Riverford Road bridge which crosses the river; however, this will be temporary work on top of the bridge and would not affect the river itself or be expected to disrupt wildlife movement under the bridge.

While the majority of project impacts would be to the disturbed and developed lands, direct and indirect temporary impacts may marginally occur to wildlife movement as a result of a small amount of vegetation removal (<0.01 acre) and construction activity along the outer edge of the habitat along the San Diego River. Removal or trampling of vegetation during construction would temporarily decrease cover adjacent to the wildlife corridor along the San Diego River. However, this vegetation loss and associated potential impacts to wildlife movement would be temporary since it will be revegetated following completion of bridge construction, restoring the area to functionally pre-construction conditions. Although construction activity would not occur directly within San Diego River corridor (i.e., work would primarily occur in existing developed/disturbed areas), construction in the vicinity of sensitive habitat has the potential to deter wildlife from using or passing through the area due to increased human activity level; however, wildlife activity levels within work areas would return to pre-construction conditions following completion of the project.

4.1.3.3 Avoidance and Minimization Efforts: Wildlife Movement Corridors/Habitat Connectivity

As mentioned in Section 4.1.1.3, the project has been designed to keep permanent impacts to the minimum necessary to fulfill the project's purpose and has been designed to minimize impacts to natural vegetation communities. Implementation of BIO-1 through BIO-3, described in Section 4.1.1.3 above, would minimize impacts to wildlife movement.

4.1.3.4 Compensatory Mitigation: Wildlife Movement Corridors/Habitat Connectivity

No impacts to wildlife movement corridors or habitat connectivity would occur. Therefore, no mitigation is required. In addition, all temporarily-impacted vegetation would be revegetated upon project completion.

4.1.3.5 Cumulative Impacts: Wildlife Movement Corridors/Habitat Connectivity

Projects that comply with the MSCP as specified by the County's Subarea Plan and its implementing ordinances are not expected to result in a significant cumulative impact for those biological resources adequately covered by the MSCP, including wildlife movement. All other impacts associated with biological resources would be less than significant. Therefore, implementation of the project would not result in significant cumulative impacts related to biological resources, including wildlife movement, and the project would result in a less than significant cumulative impact.

4.1.4 Discussion of Jurisdictional Wetlands and Waters

An aquatic resources delineation was conducted to determine the extent of resources within the Review Area that have the potential to fall under the jurisdiction of water regulatory agencies. As detailed in Section 2.1 above, USACE regulates the discharge of dredged or fill material into WOTUS in accordance with Section 404 of the CWA. CDFW regulates activities that would divert or obstruct the natural flow or would substantially change the bed, channel, or bank of any river, stream, or lake that supports fish or wildlife in accordance with sections 1600–1607 of the CFGC. CDFW also has jurisdiction over riparian habitats associated with these watercourses, as delineated by the outer edge of riparian vegetation or at the top of the bank of streams or lakes, whichever is wider. RWQCB is the regional agency responsible for protecting water quality in California, with jurisdiction including all WOTS and all WOTUS, as mandated by both the federal CWA and the California Porter-Cologne Water Quality Control Act.

4.1.4.1 Survey Results: Jurisdictional Wetlands and Waters

As presented in the Aquatic Resources Delineation Report for the Riverford Road Roundabouts Project (Appendix F) and shown on Appendix A: Figure 8, resources potentially under the jurisdiction of USACE, RWQCB, and CDFW were investigated to determine whether or not they are present within the PIA. These include potential Wetland WOTUS/WOTS, Non-wetland WOTUS/WOTS, Non-wetland WOTS, and CDFW Riparian.

4.1.4.2 Project Impacts: Jurisdictional Wetlands and Waters

Direct permanent and temporary impacts to potentially jurisdictional aquatic resources for each agency are presented in Table 5 and Appendix A: Figure 10.

Table 5: Potential Jurisdictional Resources within Review Area.

Jurisdictional Resource[1]	Acreage in Review Area (linear feet)	Acreage of Temporary Impacts[1]	Acreage of Permanent Impacts
USACE Waters of the U.S.			
Wetland Waters of the U.S.	1.96	--	--
Non-wetland Waters of the U.S.	0.13 (110)	--	--
USACE Subtotal[2]	**2.08 (110)**		
RWQCB Waters of the State			
Wetland Waters of the State	1.96	--	--
Non-wetland Waters of the State	0.16 (410)	--	--
RWQCB Subtotal[2]	**2.12 (410)**		
CDFW Jurisdictional Waters			
Riparian	3.27	0.04	0.04
Streambed	0.16 (410)	--	--
CDFW Subtotal[2]	**3.43 (410)**		

[1]This table does not include jurisdictional resources underneath Riverford Road bridge because the project only occurs on Riverford Road. No project features or impacts are proposed underneath the bridge
[2]Any discrepancies in totals are due to rounding.

The project would result in direct permanent impacts to 0.04 acre of potential CDFW Riparian and direct temporary impacts to 0.04 acre of potential CDFW Riparian. Temporary and permanent impacts to CDFW Riparian would coincide with the impacts to southern cottonwood-willow riparian forest. No direct impacts would occur to potential USACE/RWQCB Wetland or Non-wetland WOTUS/WOTS as the work along the Riverford Road bridge would not result in direct impacts to the aquatic resources within the San Diego River below and the project would avoid direct impacts to all other onsite aquatic resource areas.

4.1.4.3 Avoidance and Minimization Efforts: Jurisdictional Wetlands and Waters

As mentioned in Section 4.1.1.3, the project has been designed to keep permanent impacts to the minimum necessary to fulfill the project purpose and need. Implementation of BIO-1 through BIO-3, described in Section 4.1.1.3 above, would minimize impacts to jurisdictional wetlands and waters.

4.1.4.4 Compensatory Mitigation: Jurisdictional Wetlands and Waters

Mitigation for temporary and permanent impacts to CDFW Riparian would coincide with the above-proposed compensatory mitigation for impacts to southern cottonwood-willow riparian forest, and would be accomplished by either: (1) restoring habitat of equal value within temporary PIAs and/or (2) in the form of either enhancement, restoration, and/or creation of habitat, on- or off-site; deduction of credits from a pre-approved mitigation area; or other off-site preservation for permanent impacts. This will be subject to permitting by CDFW who will determine the final mitigation ratio required.

Mitigation for 0.04 acre of temporary impacts is proposed at a 1:1 ratio for a total of 0.04 acre and will be revegetated in place to pre-construction conditions. Mitigation for 0.04 acre of permanent

impacts is proposed at a 1:1 ratio as defined by the BMO when the impacted lands do not meet the criteria for BRCA and mitigation lands meet the criteria for BRCA (see Table 4).

4.1.4.5 Cumulative Impacts: Jurisdictional Wetlands and Waters

Projects that comply with the MSCP as specified by the County's Subarea Plan and its implementing ordinances are not expected to result in a significant cumulative impact for those biological resources adequately covered by the MSCP. Additionally, implementation of the compensatory mitigation would reduce impacts associated with riparian habitat to a level that is less than significant. All other impacts associated with biological resources would be less than significant. Therefore, implementation of the project would not result in significant cumulative impacts related riparian resources and the project would result in a less than significant cumulative impact.

4.2 Special Status Plant Species

Plant species are considered sensitive if they (1) are listed by state or federal agencies as threatened or endangered or are proposed for listing; (2) have a California Native Plant Society Rare Plant Rank (CRPR) of 1B (considered endangered throughout its range), 2B (considered endangered in California but more common elsewhere), 3 (lacking sufficient distribution, endangerment, and/or taxonomic information), or 4 (limited distribution) of the CNPS Inventory of Rare and Endangered Vascular Plants of California (2023); (3) are covered under the South County MSCP Subarea Plan (County of San Diego 1997) or included on the County of San Diego Sensitive Plant List (County of San Diego 2010c); or (4) are considered rare, endangered, or threatened by the State of California (CDFW 2023a–c) or local conservation organizations or specialists.

As shown on Appendix A: Figure 7, only one special status plant species was observed within the BSA: southwestern spiny rush. The following sections provide the results of focused surveys, impact analyses, and avoidance, minimization, and mitigation measures for this species. Survey work, impact analyses, and avoidance, minimization, and mitigation measures for the following additional two species with moderate potential to occur within the BSA are also provided in the following sections: San Diego sagewort (=Palmer's sage; *Artemisia palmeri*) and Robinson's peppergrass (*Lepidium virginicum* var. *robinsonii*).

Table 3 provides an assessment for an additional eight special status plant species that were not observed but have potential to occur. Four of these have suitable habitat present, but two are unexpected and two have a low potential to occur. The BSA does not support habitat for the other four species (see Table 3).

4.2.1 Discussion of Southwestern Spiny Rush

Southwestern spiny rush is a County List D and CRPR 4.2 species (limited distribution and moderately threatened in California). It is a rhizomatous herb in the Juncaceae family that blooms from May to June. This species typically is found along ephemeral drainages, alkaline marshes and seeps, mesic areas of coastal dunes, and coastal salt marsh. Southwestern spiny rush is known from southern California in Imperial, Los Angeles, Orange, Santa Barbara, San Diego, San Luis Obispo, and Ventura counties; from Nevada, Arizona, and Georgia; and from Baja California, Mexico; as well

as into South America. It is found at elevations between 10 and 2,955 feet above mean sea level. This species is threatened by development and flood control activities (CNPS 2023).

4.2.1.1 Survey Results: Southwestern Spiny Rush

An approximate total of 32 southwestern spiny rush were observed within the BSA within the San Diego River east of the Riverford Road bridge (see Appendix A: Figure 7). There is minimal suitable habitat for spiny rush within the BSA around the Riverford Road bridge.

4.2.1.2 Project Impacts: Southwestern Spiny Rush

No direct or indirect permanent or temporary impacts to southwestern spiny rush are anticipated from construction, as this species was not observed within the PIA (see Appendix A: Figure 9). No mitigation would be required.

4.2.1.3 Avoidance and Minimization Efforts: Southwestern Spiny Rush

As no impacts are anticipated, no avoidance or minimization measures are proposed.

4.2.1.4 Compensatory Mitigation: Southwestern Spiny Rush

No compensatory mitigation would be required.

4.2.1.5 Cumulative Impacts: Southwestern Spiny Rush

As impacts to southwestern spiny rush (known to be present in the BSA but outside the PIA) would be avoided, the project would not contribute to cumulative impacts to this species.

4.2.2 Discussion of San Diego Sagewort (=Palmer's Sage)

San Diego sagewort (=Palmer's sage) is a County List D and CRPR 4.2 species (CNPS 2023). This perennial in the sunflower family (Asteraceae) grows as a series of long wand-like stems from the base and blooms from July to September (Munz 1974). It is found in San Diego County and northern Baja California, Mexico (CNPS 2023). In San Diego County, its distribution ranges from La Jolla south to Otay and east to Alpine (Beauchamp 1986). In coastal areas it occurs mostly near creeks and drainages; where it can occur in low numbers in dense riparian vegetation and may be difficult to detect. Further inland it may occur in mesic chaparral vegetation, such as that found on the north-facing slopes (Reiser 2001).

4.2.2.1 Survey Results: San Diego Sagewort

This species was not observed during general surveys but has a moderate potential to occur within the BSA. There is 0.08 acre of suitable riparian habitat present in the PIA.

4.2.2.2 Project Impacts: San Diego Sagewort

There is a potential for direct or indirect permanent or temporary impacts to San Diego sagewort to occur from construction, as this species does have a moderate potential to occur within the PIA. However, impacts to a few individuals that might be present within the 0.08 acre of riparian habitat within the PIA are not expected to reduce this species to a less then self-sustaining level. In addition, avoidance and minimization measures would be implemented to ensure that impacts would not be considered significant.

4.2.2.3 Avoidance and Minimization Efforts: San Diego Sagewort

Implementation of BIO-1 through BIO-3 described in Section 4.1.1.3 above would avoid impacts to San Diego sagewort by keeping construction activity within approved work limits.

4.2.2.4 Compensatory Mitigation: San Diego Sagewort

Compensatory mitigation would not be required.

4.2.2.5 Cumulative Impacts: San Diego Sagewort

As impacts to any potentially occurring individuals would be less than significant, the project would not contribute to cumulative impacts to this species.

4.2.3 Discussion of Robinson's Peppergrass

Robinson's peppergrass is a County List A and CRPR 4.3 species (CNPS 2023). This annual plant in the mustard family (Brassicaceae) has divided or lobed leaves along its stem, grows from 4 to 8 inches tall, and flowers between January and April (Munz 1974). Robinson's peppergrass occurs from Los Angeles County south to Baja California and on Santa Cruz Island. It grows in openings in coastal sage scrub and chaparral vegetation below 1,600 feet. In San Diego County, it is typically found on relatively dry, exposed sites, rather than beneath shrubs or near creeks (Reiser 2001). Robinson's peppergrass is shorter than two more widespread varieties of this species that grow in its range, *L. v.* var. *virginicum* and *L. v.* var. *pubescens*. These varieties grow in disturbed areas, such as old fields and roadsides, are taller than eight inches when mature, and have stem leaves that are dissected to entire. To identify this species using a taxonomic key, however, it is necessary to examine it in fruit (Hickman 1993).

4.2.3.1 Survey Results: Robinson's Peppergrass

This species was not observed during general surveys but has a moderate potential to occur within the BSA.

4.2.3.2 Project Impacts: Robinson's Peppergrass

If this species is present within the PIA, potential direct or indirect permanent or temporary impacts may occur from construction, as this species has a moderate potential to occur within the BSA. As a County List A and MSCP narrow endemic, these impacts, if present, would be significant. Therefore, several measures would be required to ensure avoidance of or mitigate for impacts to this species.

4.2.3.3 Avoidance and Minimization Efforts: Robinson's Peppergrass

Implementation of BIO-1 through BIO-3 described in Section 4.1.1.3 above would avoid impacts to Robinson's peppergrass, by keeping construction activity within approved work limits, if present.

The following additional measures are included to avoid or minimize impacts to potentially occurring individuals within the PIA, if present:

BIO-4. Conduct a focused rare plant survey in the spring prior to the start of construction to confirm extent of on-site populations of special status plant species.

BIO-5. If observed within the PIA, prior to initiation of construction activities, a qualified biologist will flag or fence special status plant species that occur within the temporary impact areas as confirmed during the focused rare plant survey (see measure BIO-4). Special status plant species will be avoided to the maximum extent feasible within the temporary impact areas.

BIO-6. Any special status plant species that cannot be avoided within temporary impact areas will be salvaged for transplant or included in the seed or plant palette for revegetation. If project timing allows, seed should be collected from individuals within the PIA prior to the start of construction.

4.2.3.4 Compensatory Mitigation: Robinson's Peppergrass

If this species is found on-site during pre-construction focused plant surveys, and would be impacted by the project, then mitigation would be required and could be accomplished through inclusion of this species in on-site restoration of the temporarily impacted coastal sage scrub areas. If impacted, all available Robinson's peppergrass seed from within the temporary impact areas of the PIA would be collected prior to project impact to be used in the on-site restoration plant palette. Additional seed from within the project vicinity would be collected, if needed, and would be no more than 5 percent of the total available seed.

4.2.3.5 Cumulative Impacts: Robinson's Peppergrass

With implementation of the proposed avoidance and minimization measures, and on-site habitat creation and restoration, the project is anticipated to result in no substantial loss of Robinson's peppergrass, if present on site. Therefore, the project would not contribute to cumulative impacts to this species.

4.3 Special Status Animal Species Occurrences

Wildlife species are considered sensitive if they (1) are listed by state or federal agencies as threatened or endangered or are proposed for listing; (2) are state species of special concern or fully-protected; (3) are covered under the South County MSCP Subarea Plan or included on the County of San Diego Sensitive Animal List (County of San Diego 2010c); or (4) are considered rare, endangered, or threatened by the State of California (CDFW 2023d and 2023e), CNDDB (CDFW 2023a), or local conservation organizations or specialists. Migratory birds are covered from direct impact under the federal MBTA. Raptors (birds of prey) and active raptor nests are protected by the CFGC 3503.5, which states that it is "unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird" unless authorized.

As shown on Appendix A: Figure 7, the following ten special status wildlife species were detected within the BSA: two listed bird species – least Bell's vireo and coastal California gnatcatcher; seven additional special status birds and raptors – Cooper's hawk (*Accipiter cooperii*), red-shouldered hawk (*Buteo lineatus*), Vaux's swift (*Chaetura vauxi*), green heron (*Butorides virescens*), yellow warbler (*Setophaga* [=*Dendroica*] *petechia*), yellow-breasted chat (*Icteria virens*), and double-crested cormorant (*Nannopterum auritum* =[*Phalacrocorax auritus*]); and one special status reptile – Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi* [=*Cnemidophorus*

hyperythrus]). The following sections provide the results of focused surveys, impact analyses, and avoidance, minimization, and mitigation measures for these species.

Survey work, impact analyses, avoidance, minimization, and mitigation measures for twenty additional special status species or groups of species that were not observed but have a moderate potential to occur within the BSA are also provided in the following sections. These species include two special status invertebrates – Crotch's bumble bee and monarch butterfly; nine special status amphibians and reptiles – western spadefoot (*Spea hammondii*), coast range newt (*Taricha torosa*), San Diegan legless lizard (*Anniella stebbinsi* [=*Anniella pulchra*]), California glossy snake (*Arizona elegans occidentalis*), red diamond rattlesnake (*Crotalus ruber*), southwestern pond turtle (*Actinemys pallida* [=*Clemmys marmorata pallida*]); coast horned lizard (*Phrynosoma blainvillii*), Coronado skink (*Plestiodon* [=*Eumeces*] *skiltonianus interparietalis*); and San Diegan tiger whiptail (*Aspidoscelis tigris stejnegeri*); southwestern willow flycatcher and other special status birds – white-tailed kite (*Elanus leucurus*) and southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*); migratory birds and raptors; southern mule deer (*Odocoileus hemionus fuliginata*) and five crevice dwelling and tree-roosting bats.

The remaining federally listed species that were identified on the USFWS list (see Appendix B) are only addressed in Table 3, as they were not observed and have a low potential to occur based on the presence of marginal habitat within the BSA: Quino checkerspot butterfly and arroyo toad. One state candidate for listing as threatened, tricolored blackbird (*Agelaius tricolor*), was also evaluated as having a low potential to occur based on lack of suitable habitat.

4.3.1 Discussion of Crotch's Bumble Bee

This species is a state candidate for listing as endangered that is found in coastal areas, open grasslands, and upland shrub habitats. In accordance with CDFW guidance, as a candidate for a California Endangered Species Act listing, a species is temporarily afforded the same protections as a state-listed endangered or threatened species until a final decision is made.

The Crotch's bumble bee occurs primarily in California in a variety of habitats, from the coast to the desert (Williams et al. 2014). Within southern California, this species can be found in San Diego, Orange, Los Angeles, western Riverside, San Bernardino, Ventura, Kern, Santa Barbara counties, and potentially within the western portions of Imperial County. This bumble bee is considered a generalist and can be found within a range of disturbed and natural habitats; however, they seem to prefer scrub or open grasslands habitats (The Xerces Society for Invertebrate Conservation et al. 2018). Nests are established underground, using existing features such as abandoned rodent burrows (Williams et al. 2014). Overwintering is not well-studied, but hibernation sites may occur within ground cover, such as leaf litter, or soft earth, and/or within features similar to nesting sites (The Xerces Society for Invertebrate Conservation et al. 2018).

Crotch's bumble bee colonies require nectar and pollen, and as generalists, they have been reported to use a wide variety of pollen and nectar sources (The Xerces Society for Invertebrate Conservation et al. 2018). They have been known to forage 1 kilometer or more from their nesting sites (Osborne, pers. comm., 2023; Richardson, pers. comm., 2023).

4.3.1.1 Survey Results: Crotch's Bumble Bee

There are no reported records within a mile of the site (CDFW 2023a) and no bumble bees were noted during the survey; however, much of the upland habitat of the project site is potentially suitable given the species' preference for scrub habitats that support flowering plants. Thus, this species has moderate potential to occur on-site.

4.3.1.2 Project Impacts: Crotch's Bumble Bee

Potential direct or indirect permanent or temporary impacts may occur from construction, as this species has potential to occur within the BSA. If this species were determined to be present and becomes listed, these impacts would be significant. Therefore, several preventive measures would be required to ensure avoidance of or mitigate for impacts to this species.

4.3.1.3 Avoidance and Minimization Efforts: Crotch's Bumble Bee

Implementation of BIO-1 through BIO-3 described in Section 4.1.1.3 above would avoid impacts to Crotch's bumble bee by keeping construction activity within approved work limits.

The following additional measures are included to minimize impacts to potentially occurring individuals within the PIA:

BIO-7a. Prior to vegetation clearing for construction, a Crotch's bumble bee (*Bombus crotchii*) habitat assessment should be conducted by a qualified biologist during the spring when nectar plants are at peak bloom, in accordance with the most current draft survey guidance developed by CDFW (2023f). Prior to the habitat assessment, the baseline data and recent aerial photographs should be reviewed to identify locations with the highest potential to support Crotch's bumble bee. During the habitat assessment, the BSA should be traversed, and potential nectar sources mapped based on the location and abundance of blooming plants. In accordance with CDFW's survey guidance, habitat quality should be characterized and classified based on criteria which includes but is not limited to: the presence and abundance of nectar plants and physical characteristics of the habitat (slope and vegetation density), out-of-season nectar sources, nesting resources (e.g., abandoned burrows), quality of overwintering habitat and other criteria. Criteria used to categorize low, moderate, and high nectar abundance within the BSA should include the presence of potential nesting resources (e.g., small mammal burrows, flowering plants, and openings within scrub and grassland habitats).

BIO-7b. If species or nectar sources are observed/mapped during the habitat assessment prior to vegetation clearing for construction, a focused survey will be conducted by a qualified biologist during the Crotch's bumble bee flight season prior to any vegetation clearing or grading based on the location of nectar sources mapped during the habitat assessment. The survey will be conducted in accordance with the current CDFW guidelines in effect at the time of the survey, which currently requires three surveys conducted during the colony active period between April through August, spaced at least two weeks apart (CDFW 2023f). The survey would be repeated during each subsequent flight season, should additional vegetation removal be required following the initial clearing prior to construction commencement. Per the guidance, any non-lethal capture and handling of bees will require a Memorandum of Understanding 2081(a) from CDFW. If non-capture methods are employed for Crotch's bumble

bee detections, such as taking photographs for an identification voucher, these will need to be verified by a taxonomic expert.

BIO-8. If Crotch's bumble bee is not detected, no further action would be required. A report of the negative survey will be submitted to CDFW.

If any Crotch's bumble bees are detected outside of the flight seasons referenced in BIO-7b, a qualified biologist shall notify the CDFW and County and will attempt to identify any nest locations. Caltrans or County shall consult with CDFW to determine if project activities would result in impacts to Crotch's bumble bee, in which case an Incidental Take Permit (ITP) may be required. If an ITP is required, it shall be obtained prior to construction (i.e., project activities). ITP conditions shall be fulfilled prior to initiation of project activities. Take of any endangered, threatened, candidate species, as a result of project construction, is prohibited, except as authorized by state law under the California Endangered Species Act.

This measure is based on current draft guidance (CDFW 2023f); however, updated protocols and avoidance measures that would provide equivalent protections may be employed as approved by CDFW and the County or Caltrans.

4.3.1.4 Compensatory Mitigation: Crotch's Bumble Bee

No species-specific compensatory mitigation is proposed. All temporary-impacted areas would be revegetated to pre-construction conditions upon project completion.

4.3.1.5 Cumulative Impacts: Crotch's Bumble Bee

Projects that comply with the MSCP as specified by the County's Subarea Plan and its implementing ordinances are not expected to result in a significant cumulative impact for those biological resources adequately covered by the MSCP. While this species is not covered by the County's Subarea Plan, the habitat utilized by this species is. Additionally, implementation of the compensatory mitigation would reduce impacts associated with sensitive vegetation communities that could support this species to a level that is less than significant. All other impacts associated with biological resources would be less than significant. Therefore, implementation of the project would not result in significant cumulative impacts related biological resources and the project would result in a less than significant cumulative impact.

4.3.2 Discussion of Monarch Butterfly

This butterfly species is not currently state or federally listed; however, the federal status is being reviewed annually in the Candidate Notice of Review. This species is considered a "candidate" for listing either as federally threatened or endangered until more information is available (USFWS 2023). This species was included in the IPac letter obtained for this project (see Appendix B).

It can occur in many habitats but is more common in coastal areas where it can be found year-round. Monarchs seek out very specific microclimate conditions, including dappled sunlight, high humidity, access to fresh water, and an absence of freezing temperatures or high winds. This species migrates south from many areas of western North America to overwinter on the California coast and in Mexico (Emmel and Emmel 1973). Monarchs begin arriving at these overwintering sites in September and October, forming winter aggregations often congregating on eucalyptus trees

(Western Association of Fish and Wildlife Agencies 2019). The butterflies cluster in dense groups on the branches, leaves, and occasionally, the trunks of trees. During spring and summer this species focuses on breeding and nectaring on flowers and females are searching for milkweed in which to deposit their eggs. At the age of six to nine months, adults lay their eggs, typically on or near sources of the larvae's necessary food plant, milkweed (*Asclepias* sp.). Several broods can occur throughout spring and summer, until fall weather prompts another migration.

Threats to this species include loss of overwintering habitat from development, pesticide use, and senescence of groves (Pelton et al. 2016).

4.3.2.1 Survey Results: Monarch Butterfly

While this species was not observed during general surveys, suitable overwintering habitat containing eucalyptus trees is present within the BSA and there is a moderate potential for this species to occur within the BSA. A few eucalyptus trees are planted along the disturbed lands adjacent to the park and ride parking lot south of SR-67; however, no eucalyptus trees are present within the PIA. No host plant (milkweed) for this species was observed during project surveys, ; thus, this species is not expected to breed within the PIA.

4.3.2.2 Project Impacts: Monarch Butterfly

No direct or indirect permanent or temporary impacts to monarch are anticipated from construction, as no host plant was observed and eucalyptus trees, for overwintering, were not observed within the PIA.

4.3.2.3 Avoidance and Minimization Efforts: Monarch Butterfly

As no impacts are anticipated, no avoidance or minimization measures are proposed.

4.3.2.4 Compensatory Mitigation: Monarch Butterfly

No species-specific compensatory mitigation is proposed.

4.3.2.5 Cumulative Impacts: Monarch Butterfly

As no impacts are expected to occur to this species, the project is anticipated to result in no substantial loss of monarch. Therefore, the project would not contribute to cumulative impacts to this species.

4.3.3 Discussion of Special Status Amphibians and Reptiles

This section discusses nine reptiles and amphibians either observed within the BSA or that have potential to occur. One sensitive reptile was detected within the BSA during the surveys: Belding's orange-throated whiptail. Although not observed on-site, the following two special status amphibian species have moderate potential to occur within the BSA: western spadefoot and coast range newt. The following seven special status reptile species were not observed but also have moderate potential to occur within the BSA: San Diegan (=silvery) legless lizard, California glossy snake, red diamond rattlesnake, southwestern pond turtle, coast horned lizard, Coronado skink, and San Diegan tiger whiptail.

Belding's orange-throated whiptail is a CDFW watch list species, an MSCP covered species, and a County of San Diego Group 2 species (CDFW 2023e; County of San Diego 1997, 2010b). This species range extends from the coast to the Peninsular Mountain ranges from the Santa Ana River in Orange County and Colton in San Bernardino County, south to the tip of Baja California, Mexico (Stebbins and McGinnis 2018). The species is found in a variety of habitats and is most common in sandy areas of low, open sage scrub or chaparral, particularly where there is California buckwheat, sage (*Salvia* spp.), or chamise (*Adenostoma fasciculatum*; Lemm 2006). The Belding's orange-throated whiptail feeds primarily on termites (Reticulitermes sp.), which comprise 86 percent or more of the diet (Bostic 1966). It is active during spring and summer, but is largely dormant during the fall and winter, when temperatures drop (Jennings and Hayes 1994). Breeding occurs in spring and eggs are laid in June and July. The decline of this species is attributed to habitat loss and fragmentation, with approximately 75 percent of its historic range lost to development (McGurty 1980; Stebbins and McGinnis 2018).

Western spadefoot is a federal ESA proposed threatened species, CDFW species of special concern, and County of San Diego Group 2 species (USFWS 2023c, CDFW 2023e; County of San Diego 1997, 2010b). This species ranges from central northern California through the Coast Ranges from San Francisco south into Baja California, Mexico, at elevations from sea level to 4,500 feet (Stebbins and McGinnis 2018; Zeiner et al. 1988-1990). Habitat for the western spadefoot includes lowlands, washes, floodplains of rivers, alluvial fans, alkali flats, temporary ponds, and vernal pools. Although this species is generally found in areas of open vegetation with sandy or gravelly soil (Stebbins and McGinnis 2018), this species is known to inhabit clay soils associated with vernal pools. This species primarily inhabits uplands, only entering water to breed. It spends most of its life buried underground in burrows, and is typically active on the surface for breeding, which typically occurs between October and May with a peak in February (Jennings and Hayes 1994). The western spadefoot diet consists of a variety of arthropods, including crickets, butterflies, ants, flies, and earthworms (Morey and Gullin, as cited in Jennings and Hayes 1994). Decline in western spadefoot populations is primarily due to habitat loss and fragmentation, and possibly pesticide use.

Coast range newt is a CDFW species of special concern and County of San Diego Group 2 species (CDFW 2023e; County of San Diego 2010b). This species is endemic to California and occur from Mendocino County south to San Diego County (Stebbins 1959). Within San Diego County, populations occur on the western slope of the Peninsular ranges (Jennings and Hayes 1994). Coast range newts burrow in loose soil or use fallen logs or debris for cover.

San Diegan (=silvery) legless lizard is a CDFW species of special concern and a County Group 2 species (CDFW 2023e; County of San Diego 2010b). This species ranges from Contra Costa County south along the California Coast, Transverse, and Peninsular ranges into Baja California, Mexico, from sea level to 5,900 feet (Jennings and Hayes 1994). It is a nocturnal species that occurs in coastal scrub, chaparral, and open riparian habitats, where it tends to be found in leaf litter and loose soil with a relatively higher moisture level (Zeiner et al. 1988-1990). It uses sandy washes and beach dunes for burrowing and logs and leaf litter for cover and feeding. Breeding occurs between early spring and July. The California legless lizard is insectivorous and its diet consists of larval insects, adult beetles, termites (*Reticulitermes* sp.), and spiders. Threats to this species include urbanization, agricultural and pesticide use, livestock grazing, and recreational activities in habitat.

California glossy snake is a CDFW species of special concern (CDFW 2023e). This species primarily occurs in desert habitats, but also occurs in chaparral, sagebrush, valley-foothill hardwood, pine-juniper, and annual grasslands (Dixon and Fleet 1976). California glossy snakes are primarily nocturnal and spend daytime periods of inactivity in burrows and under debris. This species primarily preys on lizards and will also prey on young mice and small birds (Stebbins 1954).

Red diamond rattlesnake is a CDFW species of special concern and a County of San Diego Group 2 species (CDFW 2023e; County of San Diego 2010b). This species occurs from sea level to 5,000 feet on both sides of the Peninsular Ranges from southeastern Los Angeles and southwestern San Bernardino County south through San Diego and western Imperial counties, through most of Baja California, Mexico (Thompson et al. 2016, Stebbins and McGinnis 2018). It inhabits coastal sage scrub, chaparral, desert scrub, grasslands and orchards, particularly where there are abundant rock outcrops (Thompson et al. 2016, Stebbins and McGinnis 2018). This species is active from late February to November, with most activity occurring in spring and summer. During the winter, it occupies dens in rock crevices, burrows, or under dense shrubs (Thompson et al. 2016). Breeding activity occurs from March to May, and females bear live young during summer. Its diet consists principally of small mammals, and it will also consume lizards, birds, and other snakes. The primary cause of population decline includes habitat loss from urbanization and agriculture (Thompson et al. 2016).

Southwestern pond turtle is a federal ESA proposed threatened species, CDFW species of special concern, an MSCP covered species, and a County of San Diego Group 1 species (USFWS 2023d, CDFW 2023e; County of San Diego 2010b). It occurs in coastal watersheds ranging from the San Francisco Bay to Baja California, Mexico, from sea level to approximately 6,700 feet (Stebbins and McGinnis 2018). It is also reported in the Mojave River basin and San Andreas Canyon (Stebbins and McGinnis 2018; Jennings and Hayes 1994). It is typically found in persistent, slow-moving streams or ponds with abundant aquatic vegetation and basking spots. In southern California, the southwestern pond turtle is active year round, and breeding occurs in adjacent upland habitats between April and May. The southwestern pond turtle's diet consists of aquatic plants and invertebrates, amphibian eggs and larvae, and occasionally frogs and fish. Threats to this species include loss of habitat and interspecies competition from exotic freshwater turtle species.

Coast horned lizard is a CDFW species of special concern, an MSCP covered species, and a County of San Diego Group 2 species (CDFW 2023e; County of San Diego 2010b). This lizard's range extends from Butte County south through most of California west of the Sierra Nevada, at elevations between sea level and 8,000 feet (Stebbins and McGinnis 2018), to the desert foothills and into Baja California (Thompson et al. 2016). Coast horned lizard is often associated with open (20 to 40 percent bare ground) coastal sage scrub (Fisher et al. 2002), especially in areas of moderate topography and loose or sandy soil (Mills 1991). Adults are diurnally active year-round but are most common from late March to late August, when temperatures are warm but not extreme. They breed in the spring, and females lay clutches of 6 – 21 eggs in May and June. The eggs hatch in August and September. Coast horned lizard is largely dependent upon native harvester ants (*Pogonomyrmex* sp.), which contribute up to 90 percent of the species' diet (Pianka and Parker 1975), but it rarely eats invasive Argentine ants (*Linepithema humile*) (Jennings and Hayes 1994). Populations have been severely reduced by loss of habitat and introduction of Argentine ants.

Coronado skink is a CDFW species of special concern and a County of San Diego Group 2 species (CDFW 2023e; County of San Diego 1997, 2010b). The Coronado skink breeding range extends from central Riverside County south to Baja California, Mexico (Jennings and Hayes 1994). In San Diego County, the Coronado skink is found in a variety of plant communities including grassland, open woodland, forest, and broken chaparral habitats and is often associated with mesic areas. The Coronado skink is diurnal and most active from early spring until fall and breeding occurs in June or July (Jennings and Hayes 1994). The diet of the Coronado skink consists of moths, beetles, crickets, grasshoppers, and leafhoppers. This species is threatened by habitat loss and fragmentation resulting from urbanization and agriculture.

San Diegan tiger whiptail is a CDFW species of special concern and a County Group 2 species (CDFW 2023e; County of San Diego 2010b). Its range lies in coastal southern California, predominantly on the coastal slope of the Peninsular Ranges from Santa Barbara County south into northwestern Baja California (Stebbins and McGinnis 2018). This species occurs in a variety of arid and semi-arid areas, such as sage scrub, chaparral, and woodland, where there are sufficient open areas for running. It is less common in areas with dense grass or shrub cover. San Diegan tiger whiptail is a diurnal species and is active from mid-March through October, with breeding occurring in spring and summer, with one to two clutches laid in cooler areas between April and August (Stebbins and McGinnis 2018; Thompson et al. 2016). Its diet consists of a wide variety of insects, spiders, scorpions, and other lizards (Lemm 2006). The decline of populations of coastal western whiptail is attributed to habitat loss and fragmentation from urban development (Thompson et al. 2016).

4.3.3.1 Survey Results: Special Status Amphibians and Reptiles

Observed

A single individual Belding's orange-throated whiptail was observed during the surveys conducted approximately 130 feet outside of the PIA.

Not Observed but Moderate Potential to Occur

Historical records for western spadefoot are known within a mile of the PIA (CDFW 2023a) and there is suitable habitat present for this species present within and adjacent to the BSA; thus, there is a moderate potential for this species to occur.

No historical records for coast range newt, San Diegan (=silvery) legless lizard, and southwestern pond turtle are reported within one mile of the PIA (CDFW 2023a); however, the southern cottonwood-willow riparian forest provides suitable habitat within and adjacent to the BSA for these species and there is a moderate potential for them to occur.

Coronado skink has been observed within one mile of the PIA and there is a moderate potential for this species within the southern cottonwood-willow riparian forest and stream habitats in the northern portion of the BSA.

No historical records for coast horned lizard, San Diegan tiger whiptail, California glossy snake, or red diamond rattlesnake were noted within a mile of the PIA; however, the Diegan coastal sage

scrub does provide suitable habitat for these species within the BSA and there is a moderate potential for them to occur.

4.3.3.2 Project Impacts: Special Status Amphibians and Reptiles

Although Belding's orange-throated whiptail were not observed within the PIA, vegetation removal, grubbing, grading, and excavation activities within suitable habitat associated with the project may result in direct impacts to this species.

In addition, due to the presence of suitable habitat within the PIA, there is potential for the project to result in impacts to the following species, if present: western spadefoot, coast range newt, San Diegan (=silvery) legless lizard, California glossy snake, red diamond rattlesnake, southwestern pond turtle, coast horned lizard, Coronado skink, and San Diegan tiger whiptail. Direct impacts to vegetation communities on site may also result in indirect impacts to special status amphibian and reptile species through removal of suitable habitat.

Although direct impacts to special status amphibian and reptile species have potential to occur, these impacts would occur within a small amount of habitat relative to the available habitat along the river corridor within and adjacent to the BSA, and much of the impacted habitat is already subject to ongoing disturbance from the adjacent roadways and trails. Therefore, if present, the number of affected individuals would likely be very low, and this loss would not likely impact the regional long-term survival of Belding's orange-throated whiptail, western spadefoot, Coronado skink, coast range newt, coast horned lizard, San Diegan legless lizard, California glossy snake, red diamond rattlesnake, southwestern pond turtle, and San Diegan tiger whiptail.

4.3.3.3 Avoidance and Minimization Efforts: Special Status Amphibians and Reptiles

Implementation of BIO-1 through BIO-3, described in Section 4.1.1.3 above, would minimize direct impacts to special status amphibian and reptile species so that no substantial long-term adverse effects would occur to survival of the local or regional populations of Belding's orange-throated whiptail, western spadefoot, Coronado skink, coast range newt, San Diegan (=silvery) legless lizard, California glossy snake, red diamond rattlesnake, southwestern pond turtle, coast horned lizard, and San Diegan tiger whiptail.

4.3.3.4 Compensatory Mitigation: Special Status Amphibians and Reptiles

Because much of the PIA is already disturbed and developed, and because the number of individual species potentially affected (if present) would be low, the project would not impact the regional long-term survival of these species. Therefore, no species-specific compensatory mitigation is proposed.

4.3.3.5 Cumulative Impacts: Special Status Amphibians and Reptiles

Projects that comply with the MSCP as specified by the County's Subarea Plan and its implementing ordinances are not expected to result in a significant cumulative impact for those biological resources adequately covered by the MSCP. Additionally, implementation of the compensatory mitigation would reduce impacts associated with sensitive vegetation communities and wetlands to a level that is less than significant. All other impacts associated with biological resources would be less than significant. Therefore, implementation of the project would not result

in significant cumulative impacts related biological resources and the project would result in a less than significant cumulative impact.

4.3.4 Discussion of Least Bell's Vireo

The least Bell's vireo is a small, olive-gray colored, migratory songbird that is federally and State-listed as endangered, and is a County MSCP-covered species. One of four subspecies of Bell's Vireo, the least Bell's vireo is endemic to California and Baja California, Mexico. This highly migratory species arrives in California in mid-March and departs by late September to fly south to wintering grounds near the tip of Baja California, Mexico. This species formally bred in lowland riparian habitat ranging from coastal Southern California through the Sacramento and San Joaquin Valleys as far north as Redbluff, and other scattered locations east of the Sierra Nevada (USFWS 1998; Grinnell and Miller 1986).

The least Bell's vireo is dependent upon riparian habitat during the breeding season and prefers willow-dominated woodland or scrub that typically exists along streams and rivers. Other habitat types used include Baccharis scrub, mixed oak/willow woodland, mesquite woodland, and elderberry scrub. Habitat characteristics that appear to be essential for vireo occupation include dense cover from 3 to 6 feet in height for nesting and foraging, and a stratified canopy providing both foraging habitat and song perches for territorial advertisement.

By the time least Bell's vireo was listed by the CDFW in 1984 it had been extirpated from much of its former range and was restricted to eight counties south from Santa Barbara with just 300 pairs statewide (Unitt 2004). Declines were caused by widespread clearing of riparian habitat combined with brood parasitism by brown-headed cowbirds, whose increase in California was as dramatic as the species' decline. Currently, with restriction of habitat destruction, extensive cowbird trapping, and protection from the federal and State Endangered Species Acts, populations have recovered in some areas of cismontane southern California. San Diego County holds the largest breeding population of least Bell's vireo in the State, where it is a fairly common breeder in appropriate habitats, primarily in the coastal lowlands (Unitt 2004).

4.3.4.1 Survey Results: Least Bell's Vireo

A total of 14.4 acres were identified within the BSA as supporting suitable habitat for vireo and, thus, further survey efforts were focused on these areas (Appendix G). Suitable nesting habitat found within the survey area includes southern cottonwood-willow riparian forest. Vegetation communities and land cover types that were not considered suitable for nesting were primarily excluded from the survey area, including Diegan coastal sage scrub, disturbed habitat, and urban/developed land, due to a lack of suitable cover of willows or other riparian tree or shrub species to support vireo.

Suitable, high-quality nesting habitat occurs as a contiguous habitat in the northwest, northeast, and northern portions of the BSA along the San Diego River. One other potentially suitable habitat exists within a small patch of disturbed southern cottonwood-willow riparian forest that is isolated from the San Diego River, found north of the SR-67 southbound off-ramp and south of the existing commercial development. This patch of disturbed southern cottonwood-willow riparian forest is considered moderate quality habitat due to its isolated nature. Dominant trees throughout the BSA are tree willows (*Salix gooddingii* and *S. lasiolepis*) and Fremont cottonwoods (*Populus fremontii*).

The riparian habitat varies from sparsely to densely vegetated with varying amounts of native and non-native trees, shrubs, and other herbaceous vegetation. The BSA does not contain any areas mapped as federal critical habitat for vireo.

Numerous vireo were detected within the BSA during the 2023 focused surveys. A total of 30 vireo detections were made during the 2023 focused surveys. Vireo were detected both visually and vocally during the focused surveys, with a total of 15 visual observations of vireo from May 9, 2023 to July 24, 2023. A single observation point is defined as a momentary observation where a bird was observed outside of any previously or subsequently identified use areas during other surveys. Two of the vireo visual observations occurred with no vocalization, suggesting that the individual vireos were potentially female; all remaining detections were audible males singing. No vireo breeding pairs, nesting behavior, or nests were observed.

Four vireo use areas were identified within or adjacent to the BSA (see Appendix A, Figure 7). None of the four use areas are within the PIA. Vireo use areas were extrapolated from the sum of the field observations made by the surveyors and represent the total area observed to be used by vireo during the current 2023 focused survey. Field data used to determine vireo use areas included breaks in vegetation and simultaneous detection of multiple counter-singing males.

4.3.4.2 Project Impacts: Least Bell's Vireo

Due to the lack of high-quality riparian habitat within the PIA, no vireo were observed within the PIA. However, the riparian habitat outside the PIA is currently occupied by least Bell's vireo. In the event that least Bell's vireo is present within the PIA at the time of construction, the proposed removal of riparian habitat during construction activity may result in direct and indirect impacts to this species.

The project would result in direct permanent impacts to 0.04 acre and direct temporary impacts to 0.04 acre of disturbed southern cottonwood-willow riparian forest, which could result in a significant impact to 0.08 acre of suitable nesting and foraging habitat for least Bell's vireo.

Construction duration has the potential to overlap with up to two vireo breeding seasons (March 15 to September 15) for least Bell's vireo.

Because the project site consists largely of publicly-maintained roadways (and will continue to do so upon completion of construction), no ongoing operational noise impacts are anticipated. The project is not expected to increase capacity, and by calming traffic through the roundabouts, should reduce ambient traffic noise. Therefore, no substantial change in operational traffic noise is anticipated.

As part of the project, additional streetlights would be installed and operational post-construction, to help illuminate both roundabouts for drivers' safety. As with all standard streetlights, they would be pointed downward, away from the nearby least Bell's vireo habitat within the river corridor.

As least Bell's vireo is a migratory species that is unlikely to occur in the PIA outside the breeding season, no significant impacts to this species would occur outside the breeding season.

4.3.4.3 Avoidance and Minimization Efforts: Least Bell's Vireo

Implementation of measures BIO-1 though BIO-3 described in Section 4.1.1.3 above, would avoid and minimize impacts to least Bell's vireo habitat adjacent to the PIA by ensuring that work would occur within designated areas and general BMPs are implemented.

The following additional measures are included to minimize direct impacts to individuals that could occur within the PIA.

BIO-9. Any nighttime construction lighting (e.g., staging areas, equipment storage sites, active work areas) shall be selectively placed and directed toward the construction site. Lighting shall be limited to the lowest illumination necessary to allow for safe completion of work and directed away from, shielded, or pointed downward, away from the adjacent habitat of the river corridor (for least Bell's vireo habitat) and adjacent Diegan coastal sage scrub (for coastal California gnatcatcher habitat).

BIO-10. Roadway lighting (permanent project lighting) shall be installed to help illuminate both roundabouts for drivers' and pedestrians' safety. Roadway lighting facilities shall be consistent with the County's and Caltrans' illumination standards and general design requirements.

BIO-11. All clearing/grubbing of vegetation shall take place between September 16 – March 14, outside the least Bell's vireo nesting season. If vegetation removal needs to occur during the breeding season, pre-construction surveys and monitoring would be required. If vegetation is removed outside of the breeding season, no additional monitoring would be required for least Bell's vireo. If vegetation removal occurs during the breeding season, pre-construction surveys and biological monitoring shall be required. If construction pauses for longer than seven days during the MBTA nesting bird period, a repeat of the bird nesting survey shall occur before construction can restart.

During the bird breeding season, a qualified biologist will perform a minimum of three focused pre-construction surveys, on separate days, in and adjacent to suitable habitat for the species, to determine the presence of least Bell's vireo within the PIA. Surveys will begin a maximum of 7 days prior to performing construction within 300 feet of suitable habitat during the breeding season, and one survey will be conducted the day immediately prior to the initiation of construction within 300 feet of suitable habitat during the breeding season. If the suitable habitat is not removed during the initial construction clearing/grading, additional surveys will be conducted immediately prior to each habitat removal within 300 feet of suitable habitat. If pre-construction surveys are negative for vireo within the PIA, no additional measures for this species would be required and vegetation clearing/grading can proceed.

BIO-12. To ensure noise levels during construction are in compliance with the USFWS guidance of 65 A-weighted decibels [dB(A)] and do not affect least Bell's vireo use areas, all rock removal activities at the northern and southern roundabouts that may involve the use of a hydraulic splitter, pneumatic hammer, or any other noise-producing rock removal equipment shall not occur simultaneously with any other general construction activities occurring north of the Environmentally Sensitive Area line identified the construction noise analysis (Appendix H, Figure 6) for all stages of construction.

4.3.4.4 Compensatory Mitigation: Least Bell's Vireo

No species-specific compensatory mitigation is required since impacts to least Bell's vireo will be avoided with the above-listed measures. Additionally, as the project is located within the adopted South County MSCP, and as least Bell's vireo is a covered species by the MSCP, any direct impacts would be fully mitigated below a level of significance through habitat-based compensation for the permanent loss of disturbed southern cottonwood-willow riparian forest in accordance with the County's Biological Mitigation Ordinance.

4.3.4.5 Cumulative Impacts: Least Bell's Vireo

Projects that comply with the MSCP as specified by the County's Subarea Plan and its implementing ordinances are not expected to result in a significant cumulative impact for those biological resources adequately covered by the MSCP. Additionally, implementation of the compensatory mitigation would reduce impacts associated with sensitive vegetation communities and wetlands to a level that is less than significant. All other impacts associated with biological resources would be less than significant. Therefore, implementation of the project would not result in significant cumulative impacts related biological resources and the project would result in a less than significant cumulative impact.

4.3.5 Discussion of Southwestern Willow Flycatcher

The southwestern willow flycatcher is a small, olive-colored, migratory songbird that is federally and state-listed as endangered. One of four subspecies of willow flycatcher, it is distinguished by breeding distribution, song, call and plumage. The southwestern willow flycatcher is a neotropic migrant that is endemic to the Americas and is a summer breeding resident in the southwestern U.S., specifically within Arizona, New Mexico, southern California, southern portions of Nevada and Utah, southwestern Colorado, far western Texas, and extreme northwestern Mexico (USFWS 2002). It is the only race of willow flycatcher that is known to breed in southern California, ranging from Kern County to San Diego County. This species arrives on breeding territories by late April to early May and migrates southward again to wintering areas in southern Mexico, Central America, and northern South America in August and September. The two other subspecies of willow flycatcher (e.g., *E. t. brewsteri* and *E. t. adastus*) migrate through southern California in the spring and fall to and from their breeding grounds in northern California.

The southwestern willow flycatcher typically breeds in patchy to dense, well-developed riparian woodlands that occur along streams, rivers, lakes, or other wetlands, are below 8,000 feet in elevation, and provide surface water and/or saturated soil during mid-summer (Sedgwick 2000; Sogge et al. 1997; USFWS 2002). Typical breeding habitat for southwestern willow flycatcher is composed of native riparian plant species such as willows (Salix spp.) and mule fat in patches at least two acres in size or in linear-shaped habitats at least 10 meters (33 feet) wide (Sogge et al. 1997). However, the species has also been observed successfully breeding in riparian communities dominated by extensive patches of non-native species such as tamarisk (*Tamarix ramosissima*) and Russian olive (*Eleagnus angustifolia*) (USFWS 2002).

Once a common species in southern California, in the early twentieth century the southwestern willow flycatcher population collapsed from the combined effects of habitat loss and nest parasitism by brown-headed cowbird (Garrett and Dunn 1981; Sedgwick 2000; Unitt 2004; USFWS 2002). Currently, in southern California it breeds locally at 75 known sites within 18 drainages from

San Diego to Santa Barbara and Kern counties and the Owens Valley, most notably within the San Luis Rey, Santa Ana, Santa Ynez, Owens, and Kern rivers, which support approximately 70 percent of known territories (Sogge et al. 2003). Currently, of the estimated 200 breeding pairs in southern California, nearly half of them occur in San Diego County, primarily along the upper San Luis Rey River (Unitt 2004).

4.3.5.1 Survey Results: Southwestern Willow Flycatcher

No southwestern willow flycatchers were detected within the BSA during protocol presence/absence surveys conducted for the least Bell's vireo or any of the other general survey conducted. There are no reported sightings within a mile of the PIA (CDFW 2023a). Although this species is rare and localized in San Diego County, the BSA contains suitable habitat to support nesting southwestern willow flycatchers. Southwestern willow flycatcher has a moderate potential to occur within the BSA due to the presence of suitable southern cottonwood-willow riparian forest habitat containing appropriate nesting trees in the northern portion of the BSA. However, the riparian habitat within the PIA is disturbed, isolated from the main river corridor, and does not support the canopy or density of trees required to support nesting by this species.

4.3.5.2 Project Impacts: Southwestern Willow Flycatcher

Given the lack of detection during current survey efforts, lack of historical data; and marginal unsuitable habitat within the PIA, no impacts are anticipated to this species, even if it were to colonize the area at a later date. Furthermore, the noise analysis provided in Section 4.3.4.2 and in Appendix H, indicates that construction would not exceed 65 dB(A) and thus, construction noise would not cause significant impacts to the species.

As no Final Critical Habitat (FCH) for southwestern willow flycatcher is mapped within the PIA (USFWS 2023b), no impacts are anticipated to occur to FCH for this species.

4.3.5.3 Avoidance and Minimization Efforts: Southwestern Willow Flycatcher

Implementation of measures BIO-1 though BIO-3 described in Section 4.1.1.3 above, would avoid and minimize impacts to southwestern willow flycatcher habitat adjacent to the PIA by ensuring that work would occur within designated areas and general BMPs are implemented. No species-specific measures are required as there are no significant impacts anticipated.

4.3.5.4 Compensatory Mitigation: Southwestern Willow Flycatcher

No species-specific compensatory mitigation is proposed.

4.3.5.5 Cumulative Impacts: Southwestern Willow Flycatcher

Ongoing and anticipated future work within the lower reach of the San Diego River will likely be restricted to flood control and infrastructure maintenance projects. Known ongoing and future projects are summarized in Section 4.1.1.5.

When combined with current, future, and reasonably foreseeable actions in the vicinity of the BSA, implementation of the project is not anticipated to result in adverse cumulative impacts to southwestern willow flycatcher. In accordance with federal, state, and local policies, other projects in the region with similar impacts will be required to minimize and/or mitigate impacts to this

species and its habitat. In addition, the project would restore suitable habitat within temporary impact areas.

4.3.6 Discussion of Coastal California Gnatcatcher

The coastal California gnatcatcher is a federally listed threatened species, a CDFW species of special concern, and a County MSCP-covered species. One of three subspecies of the California gnatcatcher, the coastal California gnatcatcher occurs on coastal slopes and foothills in southern Ventura County, Los Angeles County, Orange County, southwestern San Bernardino County, western Riverside County, and San Diego County, and northwestern Baja California, Mexico (Atwood 1990). This species typically inhabits coastal sage scrub dominated by California sagebrush (Atwood 1990). Other plant species important for the nesting and foraging of this species include California buckwheat, white sage (*Salvia apiana*), black sage, coyote brush, and broom baccharis (*Baccharis sarothroides*). Chamise (*Adenostoma fasciculatum*) habitats may also support breeding pairs, especially where coastal sage scrub may occur nearby or form a component of the habitat (Bontrager 1991). The coastal California gnatcatcher breeding season extends from mid-February through the end of August, with peak nesting activity occurring from mid-March through mid-May (Mock et al. 1990).

Primary threats to the coastal California gnatcatcher include loss, fragmentation, and adverse modification of habitat from urban and agricultural development; wildfire; invasive non-native plants; grazing; nest predation; and brood parasitism by brown-headed cowbirds (Mock et al. 1990).

4.3.6.1 Survey Results: Coastal California Gnatcatcher

In total, two coastal California gnatcatcher use areas were identified within the BSA, both occurring in the southern portion of the survey area outside of the PIA and extending beyond the survey area (see Appendix A, Figure 7; Appendix I). Neither of these use areas are located within the PIA. Detections within the survey area consisted of one pair, two family units (adults and juveniles), and five individual coastal California gnatcatchers. Four of these individual observation points were made adjacent to and beyond the southern BSA boundary. In total, four coastal California gnatcatcher use areas were extrapolated from the sum of the mapped observation points, which represent the total observed area used by gnatcatcher during the current 2023 breeding season. A single observation point is defined as a momentary observation where a bird could not be followed due to the individual going quiet or having not been seen leaving the area. The mapped occupied habitat for this species is outside and south of the PIA and is contiguous to a small strip of approximately 0.33 acre of high-quality Diegan coastal sage scrub found within the PIA.

4.3.6.2 Project Impacts: Coastal California Gnatcatcher

No coastal California gnatcatcher were observed within the PIA. The Diegan coastal sage scrub within the southern portion of the BSA, south of Woodside Avenue and outside of the PIA, is currently occupied by coastal California gnatcatcher.

The project would result in direct permanent impacts to 1.54 acres (1.47 acres of non-BRCA and 0.07 acre of BRCA) and direct temporary impacts to 0.12 acre of Diegan coastal sage scrub as part of habitat clearing, which could result in a significant impact to suitable nesting and foraging

habitat for this species. No coastal California gnatcatcher were observed within the PIA and the majority of the potential habitat to be permanently impacted (1.21 acres) is disturbed and is located north of the occupied habitat, immediately south of North Woodside Avenue, and adjacent to the SR-67 southbound on-ramp. Thus, avoidance and minimization measures are recommended as further discussed in the next section to mitigate for potential direct impacts.

As part of the project, additional streetlights would be installed and operational post-construction, to help illuminate both roundabouts for drivers' safety. As with all standard streetlights, they would be pointed downward, away from the nearby gnatcatcher habitat.

As no FCH for coastal California gnatcatcher is mapped within the PIA (USFWS 2023b), no impacts are anticipated to occur to FCH for this species.

4.3.6.3 Avoidance and Minimization Efforts: Coastal California Gnatcatcher

Implementation of measures BIO-1 through BIO-3, described in Section 4.1.1.3 and BIO-9, 10 and 12 in Section 4.3.4.3 above, would avoid and minimize impacts to coastal California gnatcatcher.

The following additional measure is included to minimize potential direct impacts to individuals that could occur within the PIA.

> BIO-13. All clearing/grubbing of vegetation shall take place between August 16 – February 28, outside the coastal California gnatcatcher nesting season. If vegetation removal needs to occur during the breeding season, pre-construction surveys and monitoring would be required. If vegetation is removed outside of the breeding season, no additional monitoring would be required.
>
> During the bird breeding season, a qualified biologist will perform a minimum of three focused pre-construction surveys, on separate days, in and adjacent to suitable habitat for the species to determine the presence of gnatcatchers within the PIA. Surveys will begin a maximum of 7 days prior to performing construction within 300 feet of suitable habitat during the breeding season, and one survey will be conducted the day immediately prior to the initiation of construction within 300 feet of suitable habitat during the breeding season. If the suitable habitat is not removed during the initial construction clearing/grading, additional surveys will be conducted immediately prior to each habitat removal within 300 feet of suitable habitat. If pre-construction surveys are negative for gnatcatcher within the PIA, no additional measures for this species would be required and vegetation clearing/grading can proceed.

4.3.6.4 Compensatory Mitigation: Coastal California Gnatcatcher

No species-specific compensatory mitigation is required since impacts to coastal California gnatcatcher will be avoided with the above listed measures. Additionally, as the project is located within the adopted South County MSCP, and as coastal California gnatcatcher is a covered species by the MSCP, any direct impacts would be fully mitigated below a level of significance through habitat-based compensation for the permanent loss of disturbed Diegan coastal sage scrub in accordance with the County's Biological Mitigation Ordinance.

4.3.6.5 Cumulative Impacts: Coastal California Gnatcatcher

Projects that comply with the MSCP as specified by the County's Subarea Plan and its implementing ordinances are not expected to result in a significant cumulative impact for those biological resources adequately covered by the MSCP, including coastal California gnatcatcher. Additionally, implementation of the compensatory mitigation would reduce impacts associated with sensitive vegetation communities to a level that is less than significant. All other impacts associated with biological resources would be less than significant. Therefore, implementation of the project would not result in significant cumulative impacts related biological resources and the project would result in a less than significant cumulative impact.

4.3.7 Discussion of Noise Impacts on Least Bell's Vireo and Coastal California Gnatcatcher

Ambient noise level measurements and construction equipment noise modeling was performed at both least Bell's vireo and coastal California gnatcatcher use areas located near the project site. Based on guidance provided by the USFWS and as communicated by Caltrans to the County of San Diego on November 13, 2023, for this project, the greater of either the ambient noise level or the standard 65 dB(A) L_{eq}[1]threshold is used to analyze construction noise impacts on sensitive bird species. Noise modelling determined that the ambient noise level at the vireo use areas was 55 dB(A), thus the 65 dB(A) L_{eq} threshold was used for this project. As the loudest construction noise level is not anticipated to rise above 65 dB(A) within the mapped vireo use areas with implementation of BIO-12 in Section 4.3.4.3, no significant impacts to least Bell's vireo from construction noise would occur (RECON 2023; Appendix H).

Noise modelling determined that the ambient/existing condition noise level at the gnatcatcher use areas was 67 dB(A), thus this was used as the threshold for this project. As construction noise is not anticipated to rise above 67 dB(A) within the mapped gnatcatcher use areas, there would be no significant impacts to coastal California gnatcatcher from construction noise (RECON 2023; Appendix H).

Once the project is built, no changes to noise levels within the SR-67/Riverford Road interchange are anticipated because reconfiguration of both intersections would not result in an increase in the number or frequency of vehicles using this interchange, nor would it decrease the proximity of vehicles in relation to locations of use areas for either species.

Additionally, projects that comply with the MSCP, as specified by the County's Subarea Plan, and its ordinances are not expected to result in significant cumulative impacts for those biological resources adequately covered by the MSCP, which includes coastal California gnatcatcher and least Bell's vireo. Therefore, project implementation would not result in significant cumulative impacts.

4.3.8 Discussion of Other Sensitive Birds

An additional seven special status bird species were observed during surveys: yellow-breasted chat, yellow warbler, Cooper's hawk, red-shouldered hawk, Vaux's swift, double-crested cormorant, and

[1] L_{eq} represents an average of the sound energy occurring during a one-hour period. The A-weighted scale is used for assessing the effects of noise on birds.

green heron. In addition, two other special status birds were not observed but have a moderate potential (white-tailed kite and southern California rufous-crowned sparrow) to occur within the BSA.

Yellow-breasted chat is a CDFW species of special concern and a County of San Diego Group 1 species (CDFW 2023e; County of San Diego 1997, 2010b). Yellow-breasted chats arrive in San Diego County to breed in March and April, and leave as early as August, with most departing in September (Unitt 2004). Breeding occurs within dense brush or scrub along streams or marshy areas with dense riparian woodlands (Eckerle and Thompson 2001) particularly in the shrubby understory (Shuford and Gardali 2008). Chats are typically found within the coastal slope, less than 1,500 feet in elevation (Unitt 2004). This species also occurs within the desert slope along large creeks such as Coyote Creek and San Felipe Creek (Unitt 2004). Destruction of riparian woodlands by development, other human activities, and brown-headed cowbird parasitism have contributed to the decline of the species (Shuford and Gardali 2008). Due to this species' preference to nest within the understory for its breeding grounds, the chat is also susceptible to grazing impacts.

Yellow warbler is a CDFW species of special concern and a County of San Diego Group 2 species (CDFW 2023e; County of San Diego 1997, 2010b). Yellow warblers commonly breed in San Diego County and are considered to be a rare winter visitor (Unitt 2004). This species is an obligate riparian species, nesting and foraging almost exclusively in mature riparian corridors on the coastal slopes and within the desert in San Felipe Valley (Unitt 2004). Shuford and Gardali (2008) describe yellow warblers as showing a high degree of site fidelity, with 60 to 64.5 percent of males and 32 to 44 percent of females returning to their previous year's territory. They are often observed in riparian habitat where surface water is evident, although it is not necessary. Nesting occurs from April (Unitt 2004) through early August, and nests are typically three to five feet from the ground (Lowther et al. 1999). This species is declining due to the loss of riparian habitat and as a result of nest parasitism by brown-headed cowbirds (Unitt 2004; Zeiner et al. 2005).

Cooper's hawk is a CDFW watch list species (nesting), a County of San Diego MSCP-covered species, and a County of San Diego Group 1 species (CDFW 2023e; County of San Diego 1997, 2010b). The Cooper's hawk's year-round range extends throughout most of the United States. Its wintering range extends south to Central America, and its breeding range extends north to southern Canada (Rosenfeld and Bielefeldt 1993). Breeding birds are widespread over San Diego County's coastal slope and most abundant in lowland and foothill canyons and in urban areas. It is a common breeder in both oak and willow riparian woodlands and urban environments, with eucalyptus trees used nearly as often as oaks (Unitt 2004). Additionally, this species has been known to nest within planted trees including pine, redwood, and avocado (Unitt 2004). Breeding occurs from March to June, and nests are typically located high in the tree but under the canopy. This hawk forages primarily on medium-sized birds, but is also known to eat small mammals such as chipmunks and other rodents (Rosenfeld and Bielefeldt 1993). Although urbanization and loss of habitat have contributed to the decline of this species, the Cooper's hawk acclimation to city living over the last 20 years has generously increased their numbers (Unitt 2004).

Red-shouldered hawk is a County of San Diego Group 1 species (County of San Diego 2010b). This species occurs as a resident along the west coast of California, as well as throughout most of eastern North America (Dykstra et al. 2020). Red-shouldered hawks breed in oak and riparian

woodlands, eucalyptus groves and palms, and are known to utilize urbanized habitats for both foraging and nesting (Unitt 2004). This species primarily preys on rodents and small mammals, reptiles, and amphibians. Red-shouldered hawks are also known to occasionally prey on crustaceans and small birds (Dykstra et al. 2020).

Vaux's swift is a CDFW species of special concern (CDFW 2023e). This species breeds in coniferous, old-growth forests such as the coast redwoods and firs of the Sequoia region in California (Shuford and Gardali 2008). This swift is an occasionally common spring and fall migrant in San Diego County (Unitt 2004). This species is known to winter in Oceanside, California, and in spring it can be found in the coastal lowlands, such as Torrey Pines State Reserve, and less abundantly in Anza-Borrego Desert. Large numbers of Vaux's swifts roost together and use trees, snags, chimneys, or smokestacks with large hollows or cavities for nighttime roosting (Shuford and Gardali 2008). This species nests in cavities of various types of trees but may also nest in artificial structures, such as chimneys. Threats to the Vaux's swift include the harvesting of old growth timber and fire-control programs, which destroy nesting and roosting habitats in their breeding and wintering grounds (Unitt 2004).

Double-crested cormorant is on CDFW's watch list (nesting colonies) and is a County Group 2 species (non-breeding) (CDFW 2023e, County of San Diego 2010b). This species occurs on the seacoast and inland waters, including bays, lagoons, estuaries, and reservoirs, and was once only a non-breeding visitor in San Diego County. The double-crested cormorant breeds between the end of May to mid-July in isolated colonies along the coast and interior from Alaska to northern Belize (Hatch and Weseloh 1999). This bird is far more common in the fall and winter in San Diego County than in the spring and summer (Unitt 2004). This species' diet consists primarily of schooling fish species but expands to aquatic insects, crustaceans, and amphibians (Hatch and Weseloh 1999). The double-crested cormorant suffered a population decline from direct removal as a pest and from nesting failure due to the presence of pesticide residues in marine food chains in the 1950s and early 1960s. Since the suspension of dichlorodiphenyltrichloroethane (DDT) use, population recovery has been increasing (Hatch and Weseloh 1999).

Green heron is a County of San Diego Group 2 species (County of San Diego 2010b). This species occurs in coastal and inland wetlands, and nest near swamps, marshes, lakes, ponds, and other wet habitats that contain suitable nesting trees. This species preys on small fish, insects, spiders, crustaceans, snails, amphibians, reptiles, and rodents (Davis and Kushlan 1994). Green herons are fairly common across their range; however, this species has declined by approximately 1.3 percent per year between 1966 to 2019, resulting in a cumulative decline of approximately 51 percent (Sauer et al. 2019).

White-tailed kite is a California fully protected species and a County of San Diego Group 1 species (CDFW 2023e; County of San Diego 2010b). This raptor is widespread within the coastal region of San Diego County, and its preferred nesting habitat include riparian woodlands, oaks, or sycamore groves, specifically in the crowns of the trees, that border grassland or open fields. It also uses non-native trees freely, including citrus orchards (Unitt 2004). Nesting sites may vary from isolated trees to large stands of trees to shrubs three meters in height (Dunk 1995). Egg laying may begin as early as the beginning of February to May (Unitt 2004). The white-tailed kite forages over open areas and grasslands feeding primarily on small rodents, particularly the California vole (*Microtus*

californicus) or meadow vole (*Microtus pennsylvanicus*). The white-tailed kite's population size fluctuates with rain and rodent numbers and the shifting of roosting sites (Unitt 2004). Lightly grazed or ungrazed fields also provide suitable hunting grounds for the kite, as they support larger prey populations. Areas with extensive winter freezes are generally avoided by this species (Dunk 1995).

Southern California rufous-crowned sparrow is a CDFW watch list species, a County of San Diego MSCP-covered species, and a County of San Diego Group 1 species (CDFW 2023e; County of San Diego 1997, 2010b). This subspecies of rufous-crowned sparrow is a San Diego County resident and ranges throughout southern California from Los Angeles County to Baja California, Mexico (Collins 1999). Southern California rufous-crowned sparrows nest and forage in sage scrub, broken or burned chaparral habitats, and grasslands with scattered shrubs. The species exhibits a strong preference for moderate to steep, south-facing, dry, rocky slopes with a 50 percent cover of low shrubs but will also use gently rolling slopes (Unitt 2004; Collins 1999). Nests occur primarily on the ground at the base of bunch grasses, but may also be built at the base of native shrub or on dirt clods. Only a small percent of nests are built above ground in low shrubs (Unitt 2004). Breeding occurs from March through June, and pair–bonds are formed that may last year-round (Collins 1999). Loss of habitat due to urbanization and habitat fragmentation has decreased the amount of suitable habitat for southern California rufous-crowned sparrows (Unitt 2004).

4.3.8.1 Survey Results: Other Sensitive Birds

None of these seven special status bird species were observed foraging or nesting within the PIA. Accordingly, the following survey results summarize activity within the BSA but outside the PIA (see Figure 7).

Two yellow-breasted chats were detected in the northwestern corner of the BSA within southern cottonwood-willow riparian forest habitat during the biological resources survey. This species has the potential to nest within the southern cottonwood-willow riparian forest and disturbed southern cottonwood-willow riparian forest within the BSA.

Three yellow warblers were detected along the northern edge of the BSA within southern cottonwood-willow riparian forest habitat during the biological resources survey. Additional yellow warblers were detected during the focused surveys for the least Bell's vireo. This species has the potential to nest within the southern cottonwood-willow riparian forest and disturbed southern cottonwood-willow riparian forest within the BSA.

One Cooper's hawk was observed in the northern portion of the BSA within southern cottonwood-willow riparian forest habitat during the biological resources survey. This species has the potential to nest within the southern cottonwood-willow riparian forest, as well as disturbed land and urban/developed containing ornamental eucalyptus trees, within the BSA.

One red-shouldered hawk was observed in the northwestern portion of the BSA, within southern cottonwood-willow riparian forest habitat during the biological survey. This species has the potential to nest within the southern cottonwood-willow riparian forest, as well as disturbed land and urban/developed containing ornamental eucalyptus trees, within the BSA.

One Vaux's swift was observed in the western edge of the BSA foraging above southern cottonwood-willow riparian forest habitat during the biological resources survey. This species does not breed in southern California and does not have the potential to nest within the BSA; however, Vaux's swift has the potential to winter within the BSA.

Multiple individual double-crested cormorants were observed flying over the BSA during protocol coastal California gnatcatcher and least Bell's vireo surveys. Although this species was observed flying over the BSA, the potential for the BSA to support a nesting colony is low, due to the lack of large water body.

An individual green heron was observed foraging along the San Diego River channel during protocol least Bell's vireo surveys. Due to the presence of aquatic resources and suitable nesting trees, this species has a moderate potential to nest within the BSA.

White-tailed kite was not observed but has a moderate potential to occur within the BSA and PIA due to the presence of suitable southern cottonwood-willow riparian forest habitat containing appropriate nesting trees in the northern portion of the BSA.

Southern California rufous-crowned sparrow was not observed but has a moderate potential to occur within the BSA and PIA due to the presence of Diegan coastal sage scrub and disturbed Diegan coastal sage scrub habitat with moderate slopes, in the southern portion of the BSA.

4.3.8.2 Project Impacts: Other Sensitive Birds

If vegetation removal takes place during the combined avian and raptor nesting season (January 15 through September 15), direct impacts may occur to special status bird species.

4.3.8.3 Avoidance and Minimization Efforts: Other Sensitive Birds

Implementation of measures BIO-1 through BIO-3, described in Section 4.1.1.3. and BIO-9, 10, and 12 in Section 4.3.4.3 above, would avoid and minimize impacts to other special status bird species. The following additional measures are included to minimize direct impacts to individuals occurring within the PIA:

BIO-14. All clearing/grubbing of vegetation shall take place between September 16 – January 14, outside the combined avian nesting season. If vegetation removal needs to occur during the breeding season, pre-construction surveys and monitoring would be required.

During the bird breeding season, a qualified biologist will perform a focused pre-construction surveys in and adjacent to suitable habitat for the species to determine the presence of active nests within the PIA. Survey will be conducted a maximum of 7 days prior to performing construction within 300 feet of suitable habitat during the breeding season. If the suitable habitat is not removed during the initial clearing/grading construction effort during the breeding season, additional surveys will be conducted immediately prior to each habitat removal during project construction within 300 feet of suitable habitat. If pre-construction surveys are negative for active nests within the PIA, no additional measures for this species would be required.

4.3.8.4 Compensatory Mitigation: Other Sensitive Birds

No species-specific compensatory mitigation is proposed.

4.3.8.5 Cumulative Impacts: Other Sensitive Birds

Projects that comply with the MSCP as specified by the County's Subarea Plan and its implementing ordinances are not expected to result in a significant cumulative impact for those biological resources adequately covered by the MSCP. Additionally, implementation of the compensatory mitigation would reduce impacts associated with sensitive vegetation communities and wetlands to a level that is less than significant. All other impacts associated with biological resources would be less than significant. Therefore, implementation of the project would not result in significant cumulative impacts related biological resources and the project would result in a less than significant cumulative impact. While only two of the bird species discussed above are MSCP-covered species, Cooper's hawk and Southern California rufous-crowned sparrow, the compensatory mitigation for all of the birds' habitat and the species avoidance measures implemented as part of this project would reduce impacts to less than significant and thus not result in significant cumulative impact.

4.3.9 Discussion of Migratory Birds and Raptors

The MBTA, which is enforced by the USFWS, makes it unlawful "by any means or in any manner, to pursue, hunt, take, capture, [or] kill" any migratory bird, or attempt such actions, except as permitted by regulation. The take, possession, import, export, transport, sale, purchase, barter, or offering of these activities is prohibited, except under a valid permit or as permitted in the implementing regulations (50 CFR 21.11).

Nesting birds and raptors (birds of prey) and active raptor nests are also protected by the CFGC 3503 and 3503.5, which states that it is "unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto" and "unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird", respectively, unless authorized by CDFW.

4.3.9.1 Survey Results: Migratory Birds and Raptors

A variety of common and special status resident and migratory bird species were observed in and have potential to nest within the BSA; however, due to the developed nature of the PIA, which largely consists of developed and disturbed area, no nests were observed in the PIA.

4.3.9.2 Project Impacts: Migratory Birds and Raptors

If vegetation removal takes place during the combined avian nesting season (January 15 through September 15), direct impacts may occur to nesting migratory birds and raptors.

4.3.9.3 Avoidance and Minimization Efforts: Migratory Birds and Raptors

Implementation of measures BIO-1 through 3, and 8 through 14, described in Sections 4.1.1.3, 4.3.4.3, 4.3.6.3, and 4.3.8.3 above, would avoid and minimize impacts to migratory birds and raptors.

4.3.9.4 Compensatory Mitigation: Migratory Birds and Raptors

No species-specific compensatory mitigation is proposed.

4.3.9.5 Cumulative Impacts: Migratory Birds and Raptors

Projects that comply with the MSCP as specified by the County's Subarea Plan and its implementing ordinances are not expected to result in a significant cumulative impact for those biological resources adequately covered by the MSCP. Additionally, implementation of the compensatory mitigation would reduce impacts associated with sensitive vegetation communities and wetlands to a level that is less than significant. All other impacts associated with biological resources would be less than significant. Therefore, implementation of the project would not result in significant cumulative impacts related biological resources and the project would result in a less than significant cumulative impact.

4.3.10 Discussion of Bats

Several bat species listed as CDFW species of special concern have a moderate potential to occur within the BSA, primarily within the crevices within the Riverford Road and SR-67 bridges or within the tall trees in the riparian habitat: pallid bat (*Antrozous pallidus*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), big free-tailed bat (*Nyctinomops macrotis*), western red bat (*Lasiurus blossevillii*), and western yellow bat (*Lasiurus xanthinus*). All but the western yellow bat are also County Group 2 species.

Pallid bat ranges from southern British Columbia south to the tip of Baja California and central mainland Mexico, and east to Texas. In San Diego County, it is known from coastal areas in Camp Pendleton and a single observation in Chula Vista, as well as a number of locations in the foothills and mountains. This bat is most commonly associated with grasslands and open shrublands at lower elevations, but will use coniferous woodlands and forests at higher elevations, up to 6,400 feet. It is most common at lower elevations, but pallid bat roosts in rock and tree crevices, caves, mines, and buildings in rural settings (Tremor et al. 2017) It feeds on large, hard-shelled prey items such as centipedes, cicadas, spiders, scorpions, and crickets, which it captures on the ground (Bat Conservation International 2023a). Pallid bats are very sensitive to disturbance of the roosting sites as these roosts are crucial for metabolic economy and juvenile development. Population declines are generally attributable to loss of roost sites resulting from human intrusion and physical alteration (Zeiner et al. 1990).

The pocketed free-tailed bat is found in southwestern United States and western Mexico (Bat Conservation International 2023b). In San Diego County, it has been detected in a wide variety of locales, from the Anza-Borrego desert, through the mountains and foothills, and into coastal urban areas, with most records by ultrasonic detection of calls (Tremor et al. 2017). The pocketed free-tailed bat roosts in crevices in rugged canyons, rock outcrops, and high cliffs, and has been found roosting in rock quarries, in La Mesa and Mission Trails Regional Park (Tremor et al. 2017). Given its wide distribution, the species can be found foraging for large moths in a wide variety of habitats, including riparian areas, oak woodlands, grasslands, sage scrub, reservoirs, and ponds (Western Bat Working Group 2019a). Overall detections of pocketed free-tailed bats have increased in recent years, either as a result of population increases or increased ease of ultrasonic detection. Thus,

threats are poorly understood, but include loss of cliff roosting habitat from mining or quarrying, as well as recreational uses such as rock climbing (Tremor et al. 2017).

The big free-tailed bat's range includes the southwestern United States, from southern California to southern Texas, south to northern Baja California and Chiapas, Mexico, as well as the Caribbean and most of South America (Western Bat Working Group 2019b). Little is known of the species locally, though it appears to be a rare fall migrant in San Diego County and it is unclear if the species breeds locally; most records are from specimens recovered by public health departments and wildlife rehabilitators (Zeiner et al. 1990). The big free-tailed bat is known to roost in rock outcrops, cliff crevices, and quarries and can be found up to 8,000 feet in elevation (Tremor et al. 2017; Zeiner et al. 1990). It is found in a variety of habitats, including sage scrub, desert scrub, coniferous forest, and forages primarily for large moths (Western Bat Working Group 2019b). Potential threats to this species include loss or disruption of roosting cliff habitat from mining and quarrying activities (Tremor et al. 2017).

The western red bat ranges from southern British Columbia south through California, western Nevada, Arizona, southern Utah, and western Mexico into South America (Harvey et al. 2011). In San Diego County, it occurs throughout the coastal slope, with occasional records in Borrego Valley (Tremor et al. 2017) It is almost exclusively a tree-roosting bat that primarily roosts in riparian woodlands and forests near water dominated by sycamores, cottonwoods, velvet ash and elderberry trees (Bat Conservation International 2023c). Western red bat has adapted somewhat to urbanization, using orchard trees such as avocado, orange, fig, and walnut, as well as ornamental species like bougainvillea. It primarily forages for moths in riparian and adjacent habitats, but has also been found foraging around street lights in suburban neighborhoods and parks. The primary threat to the species is loss of riparian habitat; however, individuals in urban and orchard trees can be at risk from tree trimming and herbicide use (Tremor et al. 2017).

The western yellow bat's distribution extends from Los Angeles County east through western Arizona, southwestern New Mexico, and south to approximately Mexico City. It is found in riparian, desert wash, and palm oasis habitats in the deserts and mountains from near sea level up to over 5,000 feet in elevation. Western yellow bat roosts primarily in groves of California fan palm (*Washingtonia filifera*), but will also use non-native palms, cottonwoods, and yuccas. In palms, it prefers tall trees with a skirt of dead fronts around the trunks. While most common in the mountains and deserts, the western yellow bat appears to have expanded its range into suburban areas, roosting in exotic palms used in landscaping. Threats to this species include drought and resultant drying of palm oases, as well as maintenance and trimming of occupied suburban palm trees (Tremor et al. 2017).

4.3.10.1 Survey Results: Bats

A habitat assessment for bats was conducted as part of the general survey, and crevices exist on the underside of the Riverford Road bridge (that spans San Diego River) and SR-67 bridges that are suitable for the crevice roosting species and riparian trees are present that are suitable for the tree roosting western red bat and western yellow bat. The riparian trees are present primarily in the BSA but outside of the PIA.

4.3.10.2 Project Impacts: Bats

The project will conduct work underneath the SR-67 bridges and on top of the Riverford Road bridge deck related to construction of crosswalks and shared use pathways; however, this activity is not expected to exceed the ambient environment the bridges are exposed to on a daily basis. Thus, no impacts are expected for crevice-roosting bats.

Direct impacts to roosting western red or western yellow bats could occur, if present, during vegetation removal (including trees) that has the potential to support day-roosting. This would be significant and would require species-specific avoidance, minimization, and/or mitigation measures.

4.3.10.3 Avoidance and Minimization Efforts: Bats

Implementation of measures BIO-1 through 3 and 8-9, described in Sections 4.1.1.3 and 4.3.4.3 above, would minimize impacts to potentially occurring bat species. The following additional measure is included to further avoid and/or minimize impacts to bats:

> BIO-15. A biologist with expertise and experience with bats shall be retained as a designated bat biologist. The designated bat biologist shall have at least 3 years of experience in conducting bat habitat assessments, day roosting surveys, and acoustic monitoring, and have adequate experience identifying local bat species (visual and acoustic identification), type of habitat, and differences in roosting behavior and types (i.e., day, night, maternity). In order to avoid direct impacts to any potentially tree-roosting bats, the designated bat biologist shall survey any trees with potential to support this species that are proposed for trimming or removal immediately prior to the activities; if bats are present, the biologist shall be present during all vegetation removal and tree trimming at the occupied habitat, and examine the branches for nonvolant (nonflying) juvenile bats prior to disposal.
>
> During construction, the removal of trees or their branches shall be avoided to the maximum extent practicable within or adjacent to occupied bat habitat, if found. If tree removal or trimming is necessary for project construction, this activity shall be performed outside the bat maternity season (May through August 31) to avoid impact to flightless young. If any trees are occupied by tree-roosting bats, additional avoidance/mitigation measures shall be implemented as recommended by the biological monitor. Any injured or potentially injured bats shall be transported by the designated bat biologist to a CDFW-licensed bat rehabilitator within 24 hours. With the implementation of these measures, the project is expected to avoid significant direct impacts to the western red bat and western yellow bat, if present.

4.3.10.4 Compensatory Mitigation: Bats

No species-specific compensatory mitigation is proposed.

4.3.10.5 Cumulative Impacts: Bats

Implementation of the compensatory mitigation would reduce impacts associated with sensitive vegetation communities and wetlands to a level that is less than significant. All other impacts associated with biological resources would be less than significant. Therefore, implementation of the project would not result in significant cumulative impacts related biological resources and the project would result in a less than significant cumulative impact.

Chapter 5 – Conclusions and Regulatory Determinations

5.1 Federal Endangered Species Act Consultation Summary

Caltrans District 11 obtained the list of threatened and endangered species that may occur in and/or be affected by the Riverford Road Roundabouts project from USFWS on October 2, 2023 (see Appendix B). The species identified in this list are presented in Table 6 below. No designated critical habitat occurs within the BSA. Informal consultation was initiated on May 22, 2024 and concluded on August 14, 2024 via letter of concurrence in which concurrence with the effect determinations in Table 6 was provided (see Appendix B).

Table 6: Threatened and Endangered Species Identified by USFWS with Potential to Occur and/or Be Affected by the Project.

Species	Federal Status	Critical Habitat within the Project Area	Effect Determination
San Diego ambrosia (*Ambrosia pumila*)	Endangered	No	No effect
San Diego button-celery (*Eryngium aristulatum* var. *parishii*)	Endangered	No	No effect
San Diego mesa-mint (*Pogogyne abramsii*)	Endangered	No	No effect
San Diego thornmint (*Acanthomintha ilicifolia*)	Threatened	No	No effect
Thread-leaved brodiaea (*Brodiaea filifolia*)	Threatened	No	No effect
Willowy monardella (*Monardella viminea*)	Endangered	No	No effect
Quino checkerspot butterfly (*Euphydryas editha quino*)	Endangered	No	No effect
Monarch (*Danaus plexippus*)	Candidate	No	No effect
Arroyo toad (*Anaxyrus californicus*)	Endangered	No	No effect
Coastal California gnatcatcher (*Polioptila californica californica*)	Threatened	No	NLAA
Least Bell's vireo (*Vireo bellii pusillus*)	Endangered	No	NLAA
Southwestern willow flycatcher (*Empidonax traillii extimus*)	Endangered	No	No effect
NLAA = may affect, not likely to adversely affect.			

5.2 California Endangered Species Act Consultation Summary

The following two state-listed avian species occur or have potential to occur within the BSA: least Bell's vireo and southwestern willow flycatcher. One state candidate for listing as endangered, Crotch's bumble bee, also has potential to occur. However, none of these species were observed within the PIA. With implementation of the avoidance, minimization, and mitigation measures listed in Sections 4.1 and 4.3, no take of state-listed species is anticipated. The proposed avoidance and minimization measures include general best management practices, pre-construction surveys, biological monitoring during construction, seasonal restrictions, and noise monitoring. The proposed on-site and off-site habitat-based mitigation is discussed in Sections 4.1.1.4 and 4.1.2.4. Coordination with CDFW occurred during the preparation of this document and comments have been incorporated.

5.3 Wetlands and Other Waters Coordination Summary

An aquatic resource delineation for the project was conducted in 2023 (see Appendix F). Riparian habitat potentially under CDFW jurisdiction occurs within the PIA. Total jurisdictional waters that occur within the PIA are presented on Table 5 (see Section 4.1.4.2) and discussed in more detail in Section 4.1.4.

Permanent and temporary impacts to CDFW Riparian may be authorized through permit authorizations from CDFW through a 1602 Streambed Alteration Agreement.

Mitigation for temporary and permanent impacts to CDFW Riparian would coincide with the proposed compensatory mitigation for impacts to southern cottonwood-willow riparian forest, and would be accomplished by either: (1) restoring habitat of equal value within temporary PIAs and/or (2) in the form of either enhancement, restoration, and/or creation of habitat, on- or off-site; deduction of credits from a pre-approved mitigation area; or other off-site preservation for permanent impacts. This will be subject to permitting by CDFW who will determine the final mitigation ratio required.

Mitigation for 0.04 acre of temporary impacts is proposed at a 1:1 ratio and will be revegetated in place to pre-construction conditions. Mitigation for 0.04 acre of permanent impacts is proposed at a 1:1 ratio as defined by the BMO when the impacted lands do not meet the criteria for BRCA and mitigation lands meet the criteria for BRCA (see Table 4).

5.4 Invasive Species

Invasive species observed within the BSA are presented in Table 2 in Section 3.1.3.4. Implementation of proposed avoidance and minimization measures BIO-1, 2, and 3, discussed in Section 4.1.1.3 and which include general best management practices and biological monitoring during construction, is anticipated to prevent the introduction or spread of invasive species as a result of construction activities.

5.5 Migratory Bird Treaty Act Summary

The BSA supports a wide variety of resident and migratory avian species. This includes common species such as Anna's hummingbird, mourning dove, song sparrow, lesser goldfinch, and California towhee; as well as special status species such as least Bell's vireo, coastal California gnatcatcher, yellow warbler, and southern California rufous-crowned sparrow. Therefore, removal of vegetation during the combined breeding season (January 15 through September 15) may result in impacts to nesting birds protected by the MBTA unless avoided or minimized.

Implementation of measures BIO-1 through 3 and 8 through 14, described in Sections 4.1.1.3, 4.3.4.3, 4.3.6.3, and 4.3.8.3 above, would avoid and minimize impacts to migratory birds and raptors to a less than significant level.

5.6 California Environmental Quality Act

The project has the potential to impact biological resources. Implementation of the avoidance, minimization, and mitigation measures provided in Chapter 4 is anticipated to reduce impacts to a level of less than significant.

5.7 Conformance with MSCP Findings and County Local Ordinances

With the proposed avoidance, minimization, and mitigation measures in place, the project is not anticipated to significantly conflict with any County policies or ordinances protecting biological resources or with the provisions of an adopted habitat conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Section 4.5 of the Guidelines for Determining Significance: Biological Guidelines (County of San Diego 2010b) sets forth the criteria for analyzing any potential impacts to local policies, ordinances, and adopted plans, including Natural Community Conservations Plans such as the South County MSCP. As such, all criteria from the County Guidelines were assessed and only those with potential for significant impacts are discussed below.

1. The project will impact any amount of wetlands or sensitive habitat lands as outlined in the Resource Protection Ordinance (RPO).

   The project does not fall under any of the categories of discretionary action subject to the RPO (per Section 86.603 in County of San Diego 1991), so the RPO is not applicable. Furthermore, the RPO does not apply because the project is an essential public facility/project as exempted under Section 86.605. Nonetheless, the project would still mitigate for any impacts to sensitive vegetation communities in accordance with CEQA/NEPA.

2. The project would reduce the likelihood of survival and recovery of listed species in the wild.

   The project has potential to impact coastal California gnatcatcher, which is a federally listed species and least Bell's vireo, which is a state and federally listed species. Mitigation/avoidance measures discussed in the chapters above would reduce the impacts to less than significant.

3. The project would result in the killing of migratory birds or destruction of active migratory bird nests and/or eggs (MBTA).

   The project may result in impacts to nests or eggs protected by CFGC and MBTA during initial grading and vegetation removal. Mitigation/avoidance measures discussed above would reduce the impacts to less than significant.

Chapter 6 – References

American Society of Mammalogists. 2023. Mammalian Species (online). http://www.mammalsociety.org/publications/mammalian-species.

Atwood, J. 1990. Status review of the California gnatcatcher (*Polioptila californica*). Manomet Bird Observatory, Manomet, Massachusetts.

Bat Conservation International. 2023a. *Antrozous pallidus* Data Sheet. https://www.batcon.org/bat/antrozous-pallidus-2/ Accessed December.

———. 2023b. *Nyctinomops femorosaccus* Data Sheet. https://www.batcon.org/bat/nyctinomops-femorosaccus-2/ Accessed December.

———. 2023c. *Lasiurus blossevillii* Data Sheet. http://www.batcon.org/resources/ media-education/species-profiles/detail/2431. Accessed December.

Bradley, Robert D., Loren K. Ammerman, Robert J. Baker, Lisa C. Bradley, Joseph A. Cook, Robert C. Dowler, Clyde Jones, David J. Schmidly, Frederick B. Stangl, Jr., Ronald A. Van Den Bussche, and Bernd Würsig. 2014. Revised Checklist of North American Mammals North of Mexico. Occasional Papers, Museum of Texas Tech University No. 327. October.

Beauchamp, R. M. 1986. *A Flora of San Diego County, California*. Sweetwater River Press, National City, California.

Beier, P., and S. Loe. 1992. A Checklist for Evaluating Impacts to Wildlife Movement Corridors. Wildlife Society Bulletin 20:434-440.

Bontrager, D. R. 1991. Habitat requirements, home range and breeding biology of the California gnatcatcher (*Polioptila californica*) in South Orange County, California. Prepared for Santa Margarita Company, Rancho Santa Margarita, California.

Bostic, D. L. 1966. Food and Feeding Behavior of the Lizard, *Cnemidophorus hyperythrus beldingi*. Southwest Naturalist 11: 275-289.

Brenzel, K. N. 2001. *Sunset Western Garden Book*. Sunset Publishing. Menlo Park, California.

California Department of Fish and Wildlife (CDFW), Biogeographic Data Branch. 2023a. Natural Diversity Database. RareFind Version 5.

———. 2023b. Special Vascular Plants, Bryophytes, and Lichens List. Quarterly publication. 175 pp. April.

———. 2023c. State and Federally Listed Endangered, Threatened, and Rare Plants of California. Periodic publication. 25 pp. April.

——— 2023d. Special Animals List. Periodic publication. 135 pp. April.

———. 2023e. State & Federally Listed Endangered &Threatened Animals of California. 37 pp. April.

———. 2023f. Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species. June 6.

California Invasive Plant Council (Cal-IPC). 2023. California Invasive Plant Inventory. https://www.cal-ipc.org/plants/inventory/.

California Native Plant Society (CNPS), Rare Plant Program. 2023. Inventory of Rare and Endangered Plants (online edition, v9-01 0.0). California Native Plant Society, Sacramento, CA. http://www.rareplants.cnps.org.

Chesser, R. T., S. M. Billerman, K. J. Burns, C. Cicero, J. L. Dunn, B. E. Hernández-Baños, A. W. Kratter, I. J. Lovette, N. A. Mason, P. C. Rasmussen, J. V. Remsen, Jr., D. F. Stotz, and K. Winker. 2023. Check-list of North American Birds (online). American Ornithological Society. http://checklist.aou.org/taxa

Collins, Paul W. 1999. Rufous-crowned Sparrow (*Aimophila ruficeps canescens*). In *The Birds of North America*, no. 239, edited by A. Poole and F. Gill. The Birds of North America, Inc., Philadelphia.

Crother, Brian. I., Ronald M. Bonett, Jeff Boundy, Frank T. Burbrink, Kevin de Queiroz, Darrel R. Frost, Richard Highton, John B. Iverson, Elizabeth L Jockusch, Fred Kraus, Kenneth L. Krysko, Adam D. Leaché, Emilly Moriarty Lemmon, Roy W. McDiarmid, Joseph R. Mendelson III, Peter A. Meylan, Tod W. Reeder, Sara Ruane, Michael E. Seidel. 2017. *Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in our Understanding, Eighth Edition*. Society for the Study of Amphibians and Reptiles Herpetological Circular No. 43.

Davis Jr., William E., and James A. Kushlan. 1994. Green Heron (*Butorides virescens*), version 2.0. In *The Birds of North America* (P. G. Rodewald, editor). Cornell Lab of Ornithology, Ithaca, New York, USA.

Dixon, J. R., and R. R. Fleet. 1976. Arizona, *A. elegans*. Catalogue of American Amphibians and Reptiles 179.

Dunk, Jeff. 1995. White-tailed Kite (*Elanus leucurus*). In *The Birds of North America*, no. 178, edited by A. Poole. The Birds of North America, Inc., Philadelphia.

Dykstra, C. R., J. L. Hays, and S. T. Crocoll. 2020. Red-shouldered Hawk (*Buteo lineatus*), version 1.0. In *Birds of the World* (A. F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. https://doi.org/10.2173/bow.reshaw.01.

Eckerle, K. P., and C. F. Thompson. 2001. Yellow-breasted Chat (*Icteria virens*). In *The Birds of North America*, no. 575, edited by A. Poole and F. Gill. The Birds of North America, Inc., Philadelphia.

Emmel and Emmel 1973. The Butterflies of Southern California. Natural History Museum of Los Angeles County, Science Series 26:1-148. November 30.

Evans, Arthur V. 2008. *Field Guide to Insects and Spiders of North America*. Sterling Publishing Company, New York.

Fisher, R. N., A. V. Suarez, and T. J. Case. 2002. Spatial Patterns in the Abundance of the Coastal Horned Lizard. *Conservation Biology* 16 (1): 205-215.

Garrett, K. and J. Dunn. 1981. Birds of Southern California: Status and Distribution. Los Angeles Audubon Society, Los Angeles.

Grinnell, J., and A. H. Miller. 1986. *The Distribution of the Birds of California*. Pacific Coast Avifauna No. 27, published 1944 and reprinted by Artimisia Press, Lee Vining, California.

Harvey, M. J., J.S. Altenbach, and T. L. Best. 2011. *Bats of the United States and Canada*. The Johns Hopkins University Press. Baltimore, MD.

Hatch, J. J., and D. V. Weseloh. 1999. Double-crested Cormorant (*Phalacrocorax auritus*). In *The Birds of North America*, no. 441, edited by A. Poole and F. Gill. The Birds of North America, Inc., Philadelphia, PA.

Hickman, J. C. 1993. *The Jepson Manual: Higher Plants of California*. University of California Press.

Holland, R F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Nongame Heritage Program, California Department of Fish and Game. October.

Jennings, M. R. and M. P. Hayes. 1994. Amphibian and Reptile Species of Special Concern in California. Final report submitted to the California Department of Fish and Game.

Jepson Flora Project (eds.) 2023. *Jepson eFlora*, http://ucjeps.berkeley.edu/IJM.html. Accessed May 19, 2023.

Lemm, J. M. 2006. Field guide to amphibians and reptiles of the San Diego Region. University of California Press.

Lowther, P. E., C. Celada, N. K. Klein, C. C. Rimmer, and D. A. Spector. 1999. Yellow Warbler (*Dendroica petechia*). In *The Birds of North America*, no. 454, edited by A. Poole and F. Gill. The Birds of North America, Inc., Philadelphia.

McGurty, B. M. 1980. Preliminary Review of the Status of the San Diego Horned Lizard, *Phrynosoma coronatum blainvillei*, and the Orange-throated Whiptail, *Cnemidophorus hyperythrus beldingi*. Report for the California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, California, under Contract.

Mills, Mike. 1991. San Diego Horned Lizard (*Phrynosoma coronatum blainvillii*). San Diego Herpetological Society 13:9.

Mock, P. J., B. L. Jones, and J. Konecny. 1990. California Gnatcatcher Survey Guidelines. Unpublished Report Prepared by Environmental and Energy Services Company, San Diego, California.

Munsell. 2009. Munsell Soil Color Charts: with Genuine Munsell Color Chips. Grand Rapids, MI.

Munz, P. A. 1974. *A Flora of Southern California*. University of California Press. Berkeley.

Natural Resource Conservation Service (NRCS). 2023. Hydric Soils of California. https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/.

NatureServe. 2023. NatureServe Explorer. https://www.natureserve.org/.

Oberbauer, Thomas, Meghan Kelly, and Jeremy Buegge. 2008. Draft Vegetation Communities of San Diego County. Based on "Preliminary Descriptions of the Terrestrial Natural Communities of California," Robert F. Holland, Ph.D., October 1986. March.

Pelton E., S. Jepsen, C. Schultz, C. Fallon, S. Hoffman Black. 2016. State of the Monarch Butterfly Overwintering Sites in California. June.

Pianka, E. R. and W. S. Parker. 1975. Ecology of Horned Lizards: A Review with Special Reference to *Phrynosoma platyrhinos*. *Copeia* 1975(1):141-16.

Rebman, J. P., and M. G. Simpson. 2014. Checklist of the Vascular Plants of San Diego County, 5th edition. San Diego Natural History Museum.

RECON. 2023. Habitat Construction Noise Analysis for the Riverford Road Roundabouts Project (11-SD-67-R3.7/R4.2) (RECON Number 9009-30A).

Reiser, Craig H. 2001. *Rare Plants of San Diego County*. Aquafir Press.

Rosenfield, R. N., and J. Bielefeldt. 1993. Cooper's Hawk (*Accipiter cooperii*). In *The Birds of North America*, no. 75, edited by A. Poole and F. Gill. The Birds of North America, Inc., Philadelphia.

San Diego, County of. 1997. Multiple Species Conservation Program County of San Diego Subarea Plan. October 22.

———. 2010a. Biological Mitigation Ordinance. An Excerpt From The San Diego County Code of Regulatory Ordinances. April 2.

———. 2010b. Report Format and Content Requirements. Biological Resources, Land Use and Environment Group. September 15.

———. 2010c. Guidelines for Determining Significance. Biological Resources, Land Use and Environment Group. September 15.

———. 2023 SanBIOS points. SanGIS Data Warehouse. San Diego Geographic Information Source – JPA. Modified from the Biological Observation Database. Department of Planning and Land Use. Accessed May.

Sauer, J. R., D. K. Niven, J. E. Hines, D. J. Ziolkowski Jr., K. L. Pardieck, J. E. Fallon, and W. A. Link. 2019. The North American Breeding Bird Survey, Results and Analysis 1966–2019. Version 2.07.2019. USGS Patuxent Wildlife Research Center, Laurel, MD.

Shuford, W. D., and T. Gardali. 2008. California Bird Species of Special Concern: A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.

Sedgwick, James A. 2000. Willow Flycatcher (*Empidonax traillii*), The *Birds of North America* (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology.

Sogge, M. K., R. M. Marshall, S. J. Sferra, and T. J. Tibbitts. 1997. A Southwestern Willow Flycatcher Natural History Summary and Survey Protocol. Technical Report NPS/NAUCPRS/NRTR-97/12. USGS Colorado Plateau Research Station, Northern Arizona University, Flagstaff, Arizona.

Sogge, M. K., S. J. Sferra, T. D. McCarthey, S. O. Williams, and B. E. Kus. 2003. Distribution and Characteristics of Southwestern Willow Flycatcher Breeding Sites and Territories: 1993-2001. Studies in Avian Biology No. 26:5-11. Colorado River Valley. Univ. of Arizona Press, Tucson.

Stebbins, R. C. 1954. *Amphibians and Reptiles of Western North America*. McGraw-Hill, New York. 536pp.

———. 1959. Reptiles and Amphibians of the San Francisco Bay Region. University of California Press, Berkeley, California.

Stebbins, R. C., and S. M. McGinnis. 2018. *Field Guide to Western Reptiles and Amphibians*. 4th ed., revised. Houghton Mifflin

The Xerces Society for Invertebrate Conservation, Defenders of Wildlife, Center for Food Safety. 2018. Petition to List the Crotch bumble bee (*Bombus crotchii*), Franklin's bumble bee (*Bombus franklini*), Suckley cuckoo bumble bee (*Bombus suckleyi*), and western bumble bee (*Bombus occidentalis occidentalis*) as an Endangered Species. California Department of Fish and Wildlife. Available from: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=161902&inline [Accessed 20 February 2023].

Thompson, R. C., A. N. Wright, and H. B. Shaffer. 2016. *California Amphibian and Reptile Species of Special Concern*. University of California Press. Oakland.

Tremor, Scott, D. Stokes, W. Spencer, J. Diffendorfer, H. Thomas, S. Chivers, and P. Unitt, eds. 2017. *San Diego County Mammal Atlas.* San Diego Natural History Museum.

Unitt, P. A. 2004. *San Diego County Bird Atlas*. San Diego Natural History Museum. Ibis Publishing Company. San Diego, California.

U.S. Army Corps of Engineers. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, Department of the Army. January.

———. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region. Prepared by U.S. Army Engineer Research and Development Center. December.

———. 2020 National Wetland Plant List, version 3.5. https://wetland-plants.usace.army.mil/nwpl_static/v34/home/home.html. Accessed September 19, 2023.

U.S. Department of Agriculture (USDA). 1973. Soil Survey, San Diego Area, California. Soil Conservation Service and Forest Service. Roy H. Bowman, ed. San Diego. December.

———. 2017. Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils, Version 8.1.

———. 2023. The PLANTS Database. National Plant Data Team, Greensboro, North Carolina, USA. Accessed from http://plants.usda.gov.

U.S. Fish and Wildlife Service. 1997. Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Guidelines.

———. 1998. Draft Recovery Plan for the Least Bell's Vireo. U.S. Fish and Wildlife Service, Portland, OR. 139 pp.

———. 2001. Least Bell's Vireo Survey Guidelines.

———. 2002. Final Recovery Plan Southwestern Willow Flycatcher (*Empidonax traillii extimus*). Prepared by Southwestern Willow Flycatcher Recovery Team Technical Subgroup. August.

———. 2023a. All Species Occurrences GIS Database. Carlsbad Fish and Wildlife Office.

———. 2023b. Critical Habitat Portal.

———. 2023c. Endangered and Threatened Wildlife and Plants: Threatened Status With Section 4(d) Rule for the Northern and Southern Distinct Population Segments of the Western Spadefoot. Federal Register 88 FR 84252-84278. December 5.

———. 2023d. Endangered and Threatened Wildlife and Plants; Threatened Species Status With Section 4(d) Rule for the Northwestern Pond Turtle and Southwestern Pond Turtle. Federal Register 88 FR 68370-68399. October 3.

U.S. Geological Survey. 1994. El Cajon quadrangle, California 7.5-minute topographic map.

Western Association of Fish and Wildlife Agencies. 2019. Western monarch butterfly conservation plan, 2019–2069. Version 1.0.

Western Bat Working Group. 2019a. *Nyctinomops femorosaccus*, Pocketed Free-tailed Bat Species Account. http://wbwg.org/western-bat-species/. Accessed August.

———. 2019b. *Nyctinomops macrotis,* Big Free-tailed Bat *Species Account.* http://wbwg.org/western-bat-species/. Accessed August.

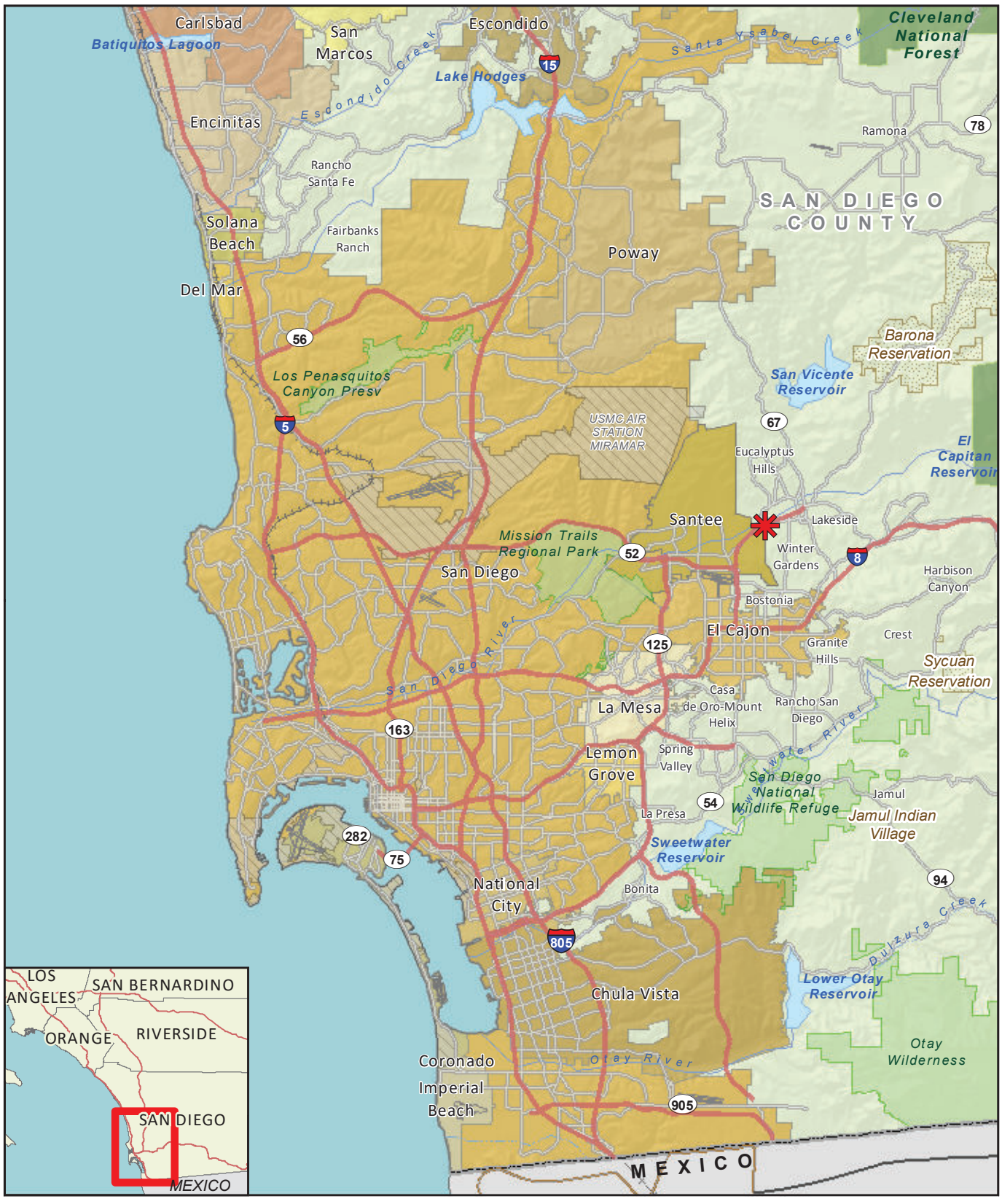
Williams, P. H., R. W. Thorp, L. L. Richardson, and S .R. Colla. 2014. The Bumble bees of North America: An Identification guide. Princeton University Press, Princeton.

Zeiner, D. C., W. F. Laudenslayer, Jr., K. E. Mayer, and M. White. 1988-1990. Amphibians and Reptiles. California's Wildlife, vol. 1. California Department of Fish and Game, Sacramento.

———. 1990. Mammals. California's Wildlife, vol. 3. California Department of Fish and Game, Sacramento.

———. 2005. Yellow Warbler (*Dendroica petechia*). California's Wildlife. Vol. I-III. California Department of Fish and Game, Sacramento, California. First published 1988-1990. Updated by California Wildlife Habitat Relationships Program Staff, August.

Appendix A – Project Maps



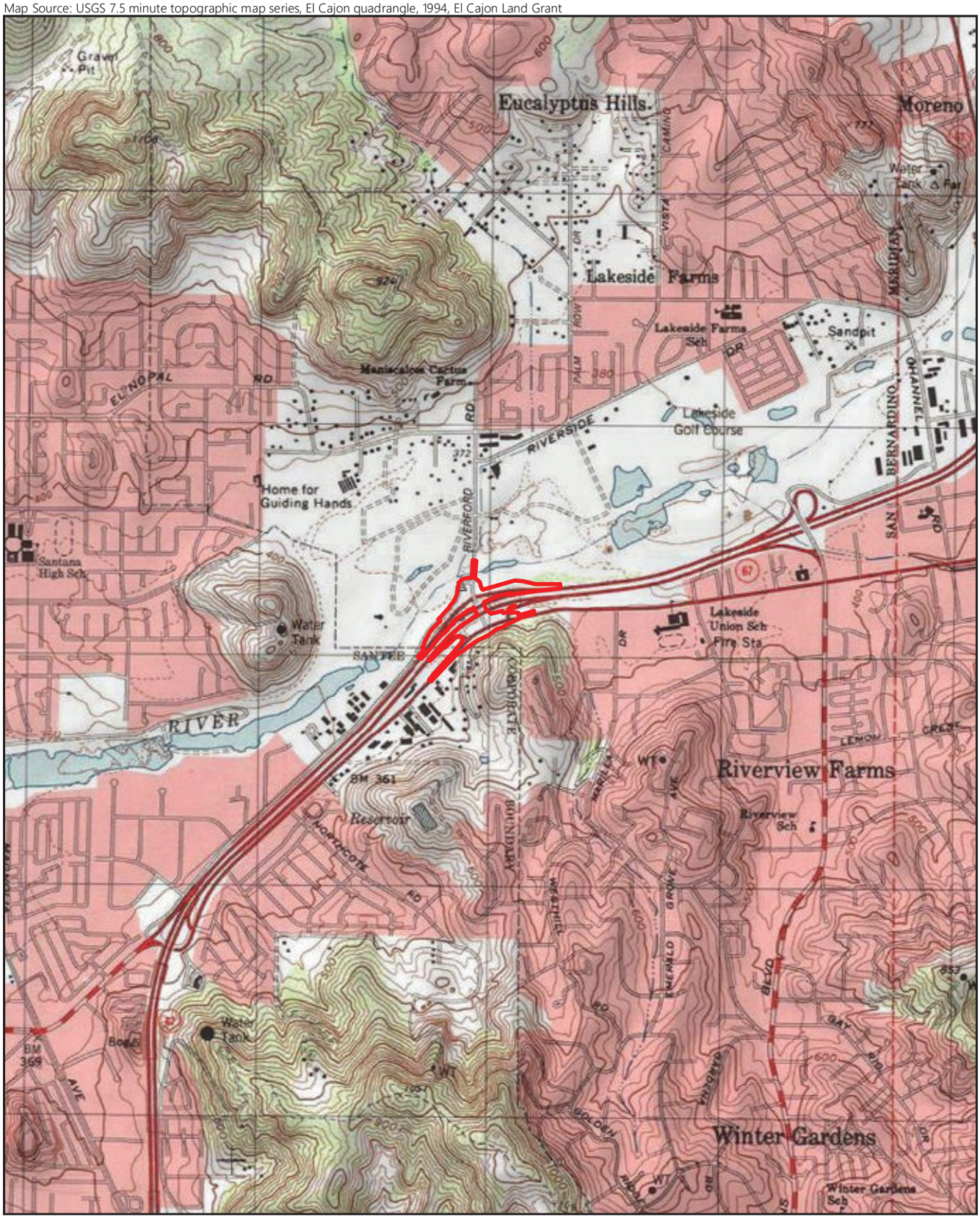
Project Location

RECON

\\serverfs02.recon-us.com\gis\JOBS5\9009\9009.30A\common_gis\MXD\NES\fig1.mxd 10/4/2023 fmm

FIGURE 1
Regional Location

Map Source: USGS 7.5 minute topographic map series, El Cajon quadrangle, 1994, El Cajon Land Grant



Project Impact Area

RECON

\\serverfs02.recon-us.com\gis\JOBS5\9009\9009.30A\common_gis\MXD\NES\fig2_USGS.mxd 10/4/2023 fmm

FIGURE 2
Project Location on USGS Topo

Image Source: NearMap (flown June 2023)

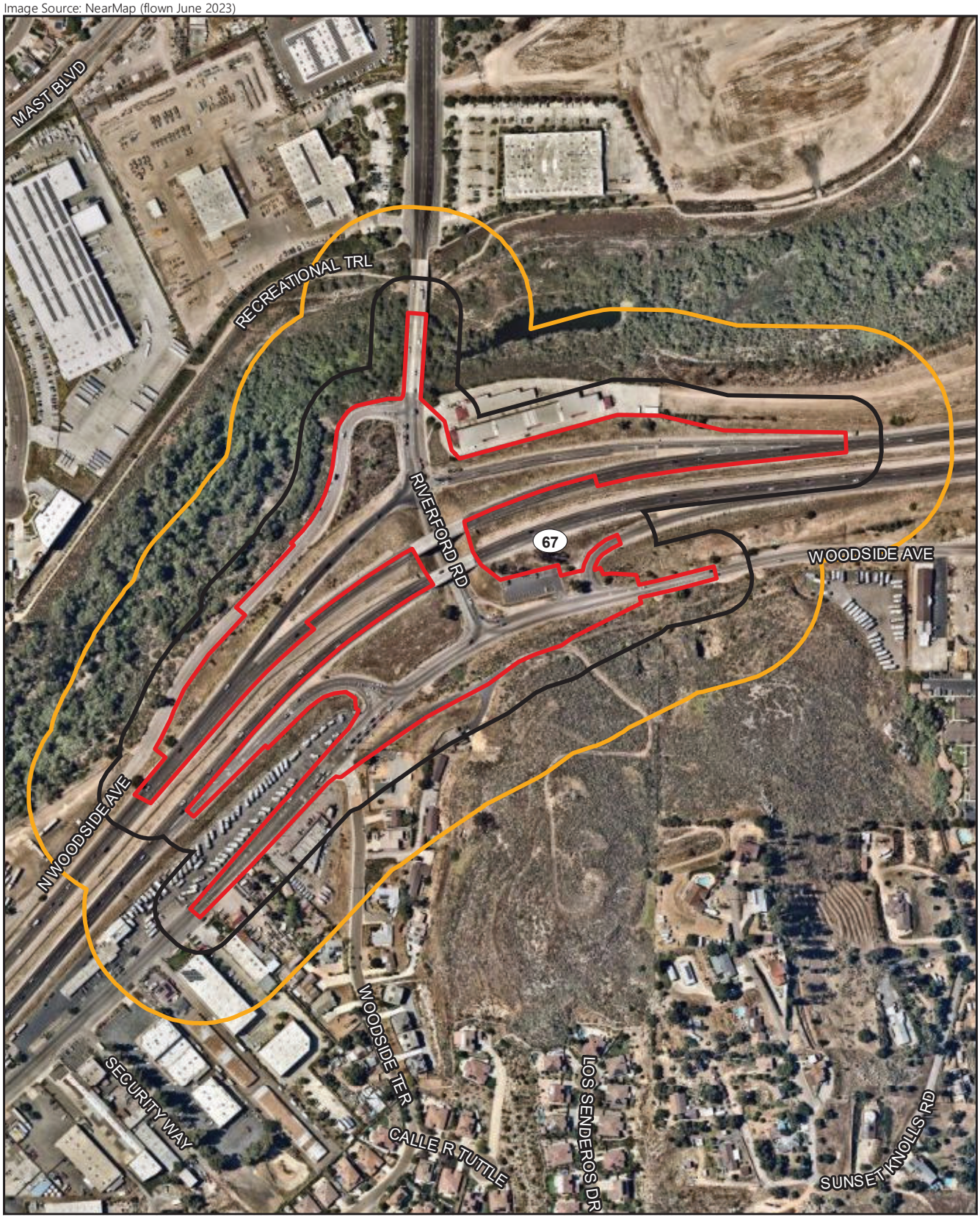
FIGURE 3

Project Location on Aerial Photograph

RECON

\\serverfs02.recon-us.com\gis\JOBS5\9009\9009.30A\common_gis\MXD\NES\fig3_aerial.mxd 10/5/2023 fmm

Image Source: NearMap (flown June 2023)



Biological Study Area

- Project Impact Area
- Vegetation Survey Area
- Wildlife Survey Area

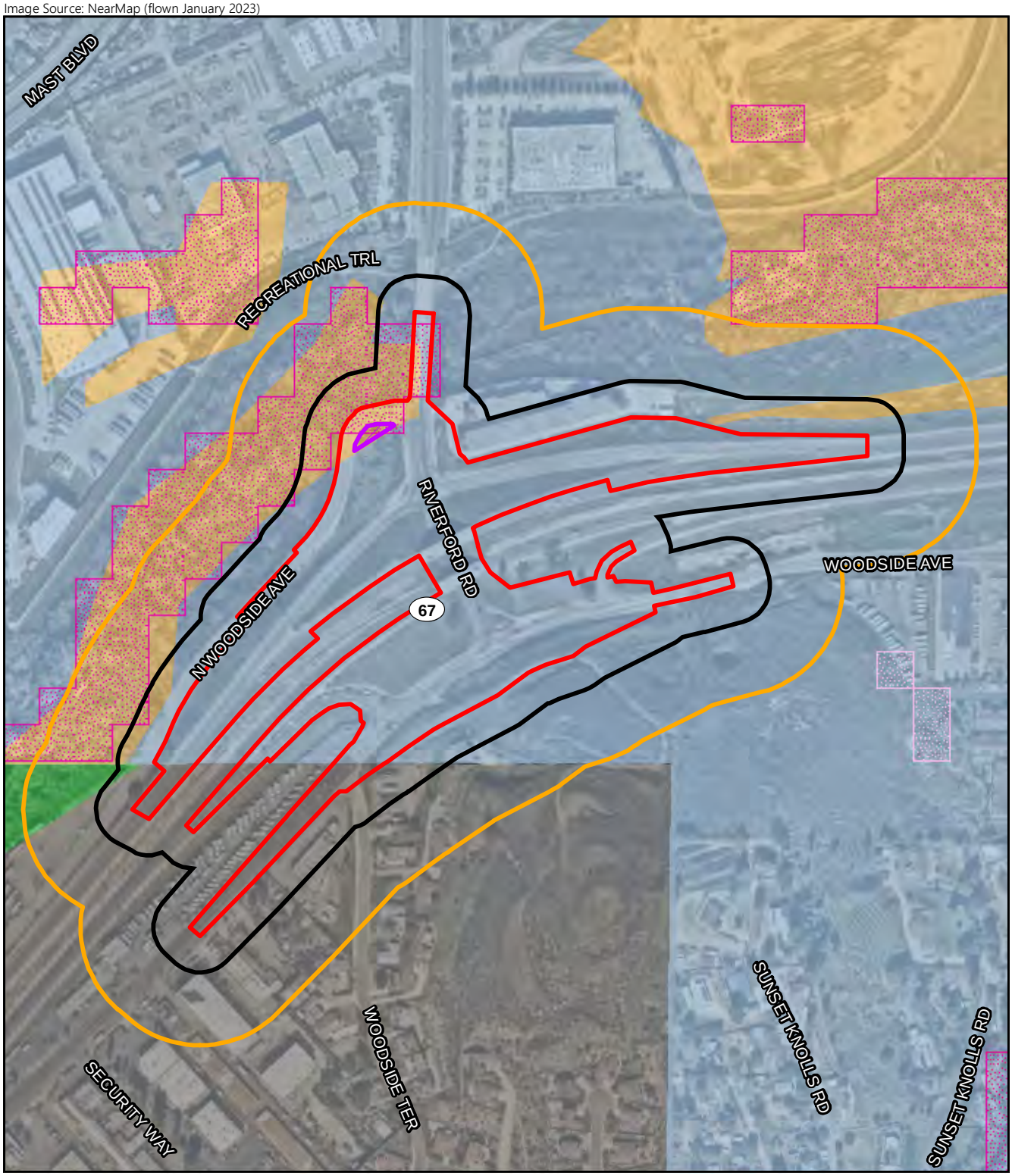
0 Feet 400

RECON

\\serverfs02.recon-us.com\gis\JOBS5\9009\9009.30A\common_gis\MXD\NES\fig4.mxd 10/4/2023 fmm

FIGURE 4
Biological Study Area

Image Source: NearMap (flown January 2023)



Biological Study Area
- Project Impact Area
- Vegetation Survey Area
- Wildlife Survey Area

Habitat Evaluation Model
- Very High
- High

County of SD MSCP Sub Area Plan
- Pre-Approved Mitigation Area
- Unincorporated Land in Metro-Lakeside-Jamul Segment
- Biological Resource Core Area

City of Santee Draft MSCP
- 100 Percent Conservation
- Outside Preserve

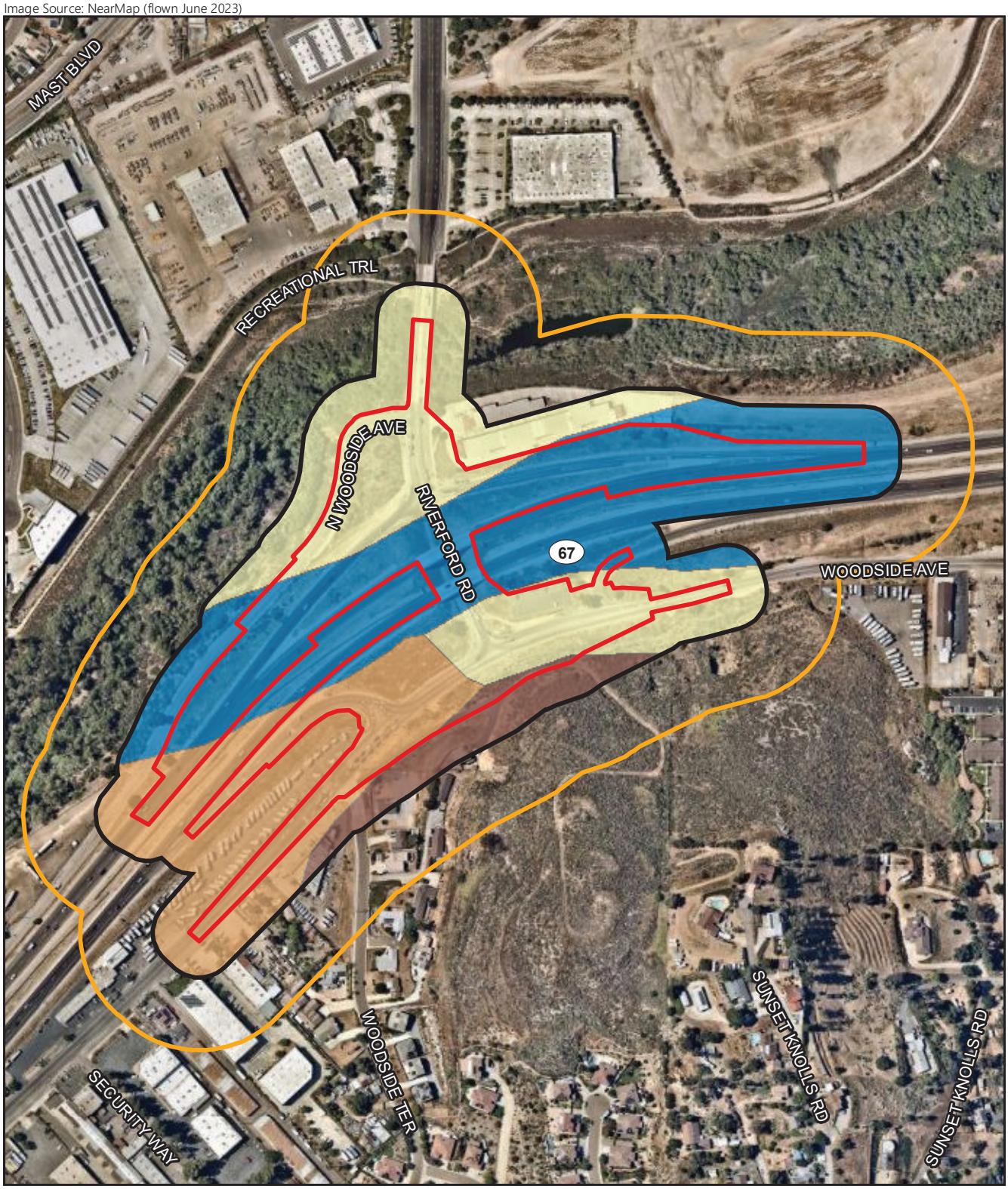
RECON

M:\JOBS5\9009\9009.30A\common_gis\MXD\NES\fig5_HEM.mxd 3/25/2024 fmm

FIGURE 5

Project in Relation to MSCP Preserve Area

Image Source: NearMap (flown June 2023)



Biological Study Area

- Project Impact Area
- Vegetation Survey Area
- Wildlife Survey Area

Soils

- Riverwash
- Tujunga Sand, 0 to 5 Percent Slopes
- Visalia Sandy Loam, 0 to 2 Percent Slopes
- Vista Coarse Sandy Loam, 30 to 65 Percent Slopes

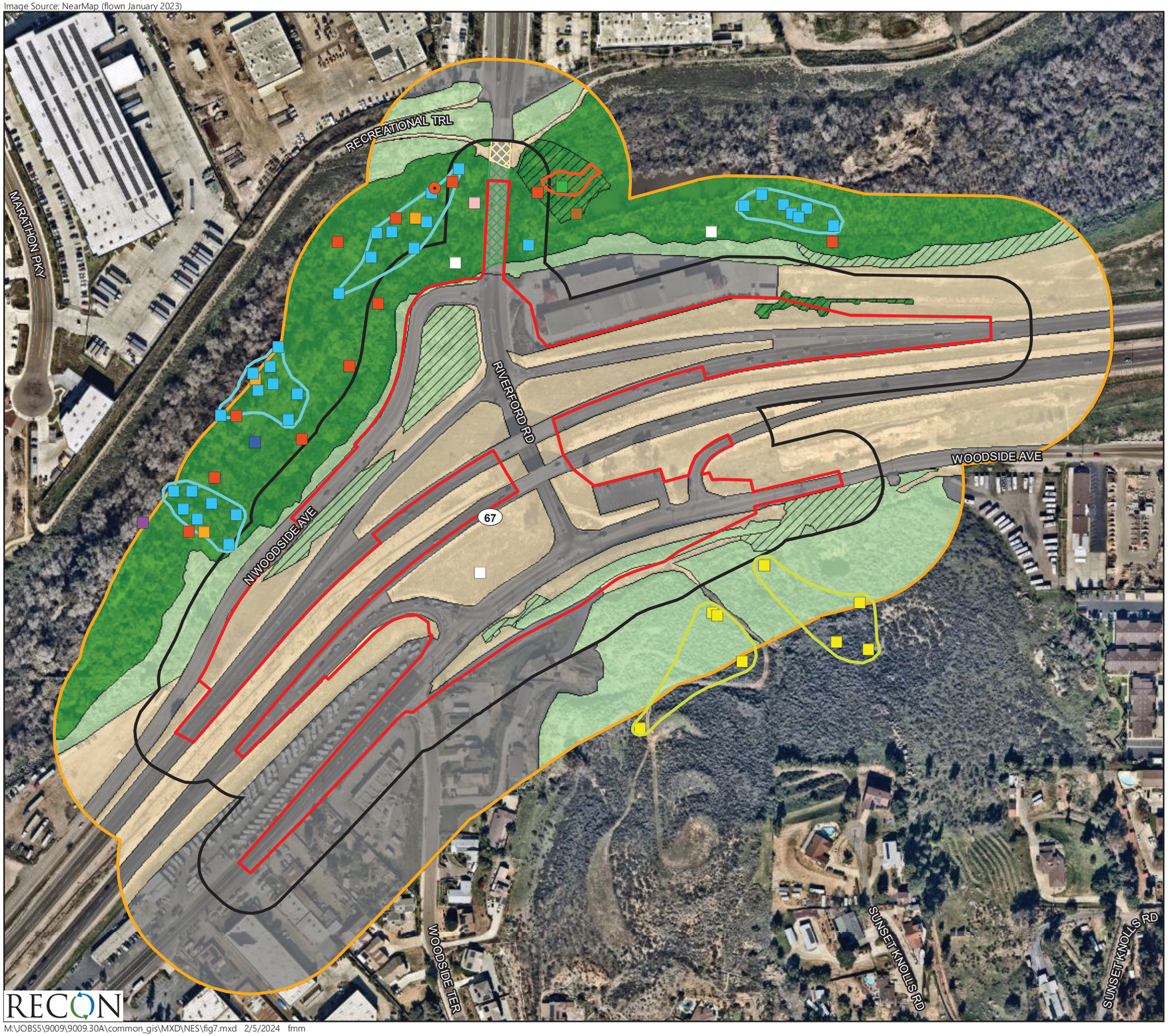
0 Feet 400

RECON

M:\JOBS5\9009\9009.30A\common_gis\MXD\NES\fig6.mxd 10/9/2023 fmm

FIGURE 6
Soils Within the Biological Study Area

Image Source: NearMap (flown January 2023)



Biological Study Area
- Project Impact Area
- Vegetation Survey Area
- Wildlife Survey Area
- Coastal California Gnatcatcher Use Areas
- Least Bell's Vireo Use Areas

Sensitive Wildlife Species
- Coastal California Gnatcatcher (*Polioptila californica californica*)
- Cooper's Hawk (*Accipiter cooperii*)
- Double-crested Cormorant (*Phalacrocorax auritus*)
- Green Heron (*Butorides virescens*)
- Least Bell's Vireo (*Vireo bellii pusillus*)
- Orange-throated Whiptail (*Aspidoscelis hyperythra*)
- Red-shouldered Hawk (*Buteo lineatus*)
- Vaux's Swift (*Chaetura vauxi*)
- Yellow Warbler (*Setophaga petechia*)
- Yellow-breasted Chat (*Icteria virens*)

Sensitive Plant Species
- Spiny Rush (*Juncus acutus*)

Vegetation Community
- Diegan Coastal Sage Scrub
- Disturbed Diegan Coastal Sage Scrub
- Southern Cottonwood-Willow Riparian Forest
- Disturbed Southern Cottonwood-Willow Riparian Forest
- Disturbed Land
- Urban/Developed
- Disturbed Land (Under Existing Bridge)
- Southern Cottonwood-Willow Riparian Forest (Under Existing Bridge)

0 Feet 200

RECON

M:\JOBS5\9009\9009.30A\common_gis\MXD\NES\fig7.mxd 2/5/2024 fmm

FIGURE 7

Biological Resources within the Biological Study Area

Image Source: NearMap (flown January 2023)

Project Impact Area
Review Area
Wetland SamplePoint
Upland Paired Point
OHWM Sample Transect
OHWM

Aquatic Resources

USACE Wetland Waters of the U.S., RWQCB Wetland Waters of the State, and CDFW Riparian

USACE Wetland Waters of the U.S., RWQCB Wetland Waters of the State, and CDFW Riparian (Under Existing Bridge)

USACE Non-wetland Waters or the U.S., RWQCB Non-wetland Waters of the State, and CDFW Streambed

USACE Non-wetland Waters or the U.S., RWQCB Non-wetland Waters of the State, and CDFW Streambed (Under Existing Bridge)

RWQCB Non-wetland Waters of the State, and CDFW Streambed

CDFW Riparian

CDFW Riparian (Under Existing Bridge)

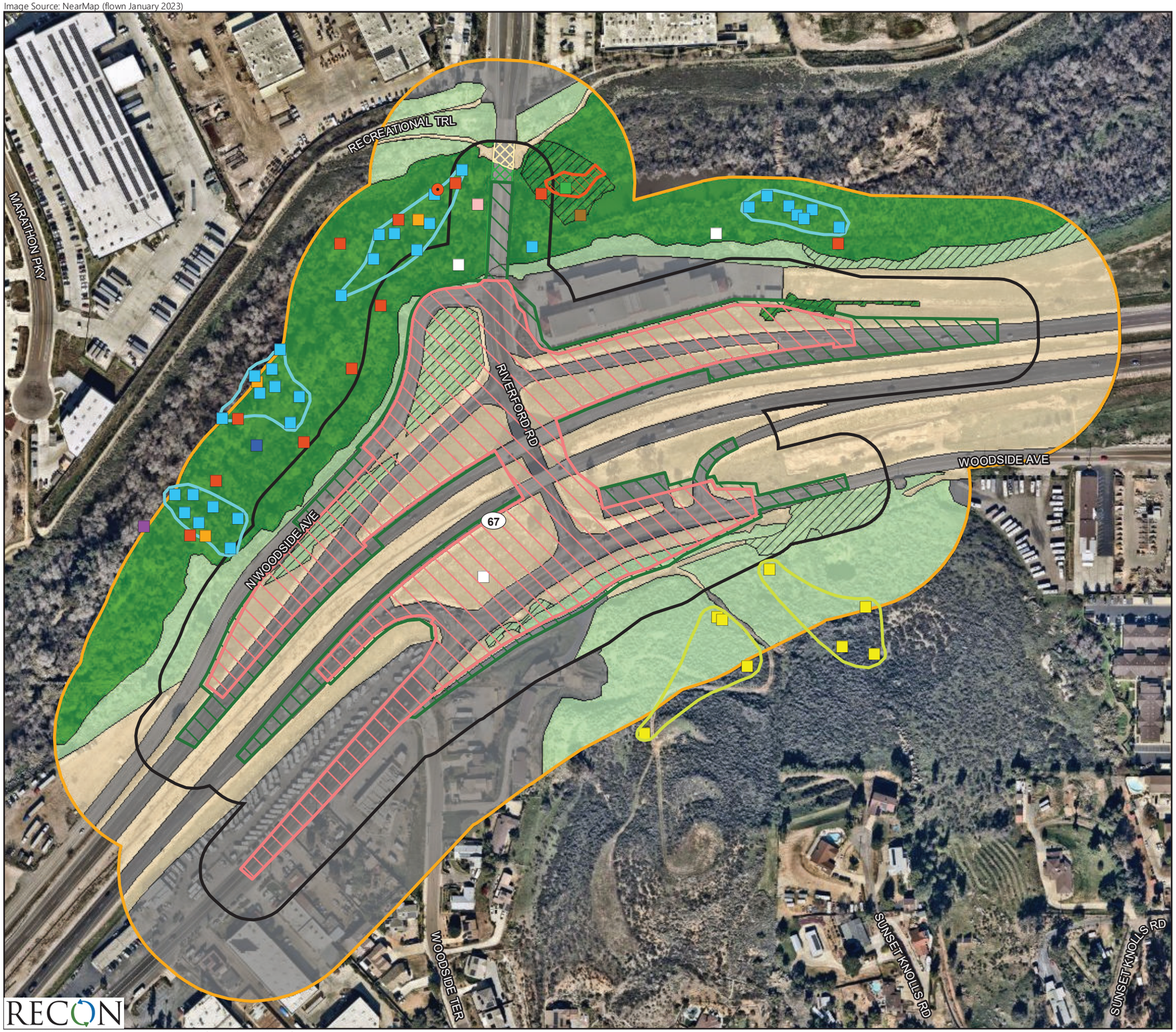
0 Feet 250

RECON

M:\JOBS5\9009\9009.30A\common_gis\MXD\NES\fig8.mxd 2/21/2024 fmm

FIGURE 8
Jurisdictional Wetlands and Waters

Image Source: NearMap (flown January 2023)



Biological Study Area
- Permanent Impacts
- Temporary Impacts
- Vegetation Survey Area
- Wildlife Survey Area

- Coastal California Gnatcatcher Use Areas
- Least Bell's Vireo Use Areas

Sensitive Wildlife Species
- Coastal California Gnatcatcher (*Polioptila californica californica*)
- Cooper's Hawk (*Accipiter cooperii*)
- Double-crested Cormorant (*Phalacrocorax auritus*)
- Green Heron (*Butorides virescens*)
- Least Bell's Vireo (*Vireo bellii pusillus*)
- Orange-throated Whiptail (*Aspidoscelis hyperythra*)
- Red-shouldered Hawk (*Buteo lineatus*)
- Vaux's Swift (*Chaetura vauxi*)
- Yellow Warbler (*Setophaga petechia*)
- Yellow-breasted Chat (*Icteria virens*)

Sensitive Plant Species
- Spiny Rush (*Juncus acutus*)

Vegetation Community
- Diegan Coastal Sage Scrub
- Disturbed Diegan Coastal Sage Scrub
- Southern Cottonwood-Willow Riparian Forest
- Disturbed Southern Cottonwood-Willow Riparian Forest
- Disturbed Land
- Urban/Developed
- Disturbed Land (Under Existing Bridge)
- Southern Cottonwood-Willow Riparian Forest (Under Existing Bridge)

0 Feet 200

RECON

M:\JOBS5\9009\9009.30A\common_gis\MXD\NES\fig9.mxd 2/5/2024 fmm

FIGURE 9
Impacts to Biological Resources

Image Source: NearMap (flown January 2023)

Review Area
Permanent Impacts
Temporary Impacts

Aquatic Resources

USACE Wetland Waters of the U.S., RWQCB Wetland Waters of the State, and CDFW Riparian

USACE Wetland Waters of the U.S., RWQCB Wetland Waters of the State, and CDFW Riparian (Under Existing Bridge)

USACE Non-wetland Waters or the U.S., RWQCB Non-wetland Waters of the State, and CDFW Streambed

USACE Non-wetland Waters or the U.S., RWQCB Non-wetland Waters of the State, and CDFW Streambed (Under Existing Bridge)

RWQCB Non-wetland Waters of the State, and CDFW Streambed

CDFW Riparian

0 Feet 250

RECON

M:\JOBS5\9009\9009.30A\common_gis\MXD\NES\fig10.mxd 2/21/2024 fmm

FIGURE 10
Impacts to Jurisdictional Wetlands and Waters

Appendix B – U.S. Fish and Wildlife Service Species List and Informal Consultation Concurrence Letter

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
Phone: (760) 431-9440 Fax: (760) 431-5901

In Reply Refer To:
Project Code: 2024-0000493
Project Name: Riverford Road Roundabouts Project

October 02, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A biological assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a biological assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a biological assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found at the Fish and Wildlife Service's Endangered Species Consultation website at:

https://www.fws.gov/service/esa-section-7-consultation

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

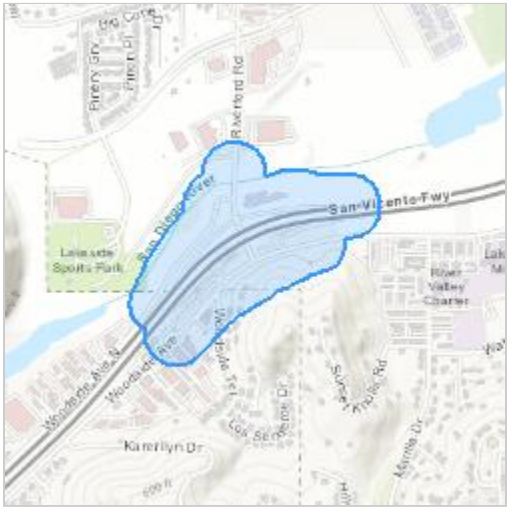
Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
(760) 431-9440

PROJECT SUMMARY

Project Code: 2024-0000493
Project Name: Riverford Road Roundabouts Project
Project Type: Road/Hwy - Maintenance/Modification
Project Description: The County DPW is proposing to build two roundabouts at the existing State Route 67 (SR-67)/Riverford Road interchange, at two separate but closely spaced intersections, to relieve local traffic congestion. The first roundabout would replace the existing signalized intersection at Woodside Avenue and Riverford Road, just north of the SR-67 northbound off-ramp; the second roundabout would replace the non-signalized intersection at the SR-67 southbound on- and off-ramps and Riverford Road, at a currently stop-sign-controlled intersection. Both intersections currently experience significant traffic congestion and vehicle queues, where movement delays have been observed at both intersections, sometimes spilling onto the SR-67 during peak hours. The project would also construct concrete sidewalks, pedestrian crosswalks, shared-use paths, and/or Class II bicycle paths. The project would provide a "complete street" accessible to users of the SR-67/Riverford Road interchange, including motorists, truck drivers, bicyclists, and pedestrians, and connect to/from Lakeside Middle School, as well as the housing and shopping developments located on the opposite side of SR-67. It is anticipated that work areas would mainly occur within existing paved and unpaved roadways and roadsides.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@32.854446249999995,-116.94688268692411,14z



Counties: San Diego County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 12 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

BIRDS

NAME	STATUS
Coastal California Gnatcatcher *Polioptila californica californica* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8178	Threatened
Least Bell's Vireo *Vireo bellii pusillus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered
Southwestern Willow Flycatcher *Empidonax traillii extimus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered

AMPHIBIANS

NAME	STATUS
Arroyo (=arroyo Southwestern) Toad *Anaxyrus californicus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3762	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate
Quino Checkerspot Butterfly *Euphydryas editha quino (=E. e. wrighti)* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5900	Endangered

FLOWERING PLANTS

NAME	STATUS
San Diego Ambrosia *Ambrosia pumila* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8287	Endangered
San Diego Button-celery *Eryngium aristulatum var. parishii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5937	Endangered
San Diego Mesa-mint *Pogogyne abramsii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5971	Endangered
San Diego Thornmint *Acanthomintha ilicifolia* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/351	Threatened
Thread-leaved Brodiaea *Brodiaea filifolia* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6087	Threatened
Willowy Monardella *Monardella viminea* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/250	Endangered

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: County of San Diego
Name: Wendy Loeffler
Address: 3111 Camino del Rio N
Address Line 2: Ste 600
City: San Diego
State: CA
Zip: 92108
Email wloeffler@reconenvironmental.com
Phone: 6193089333

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Department of Transportation

United States Department of the Interior
U.S. FISH AND WILDLIFE SERVICE
Ecological Services
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

In Reply Refer to:
2024-0000493-S7-I-SD

August 14, 2024
Sent Electronically

Shay Lynn M. Harrison
Chief, Environmental Analysis – Branch C
Department of Transportation
4050 Taylor Street, M.S. 120
San Diego, California 92110

Subject: Informal Section 7 Consultation for the Riverford Road Roundabouts Project, San Diego County, California

Dear Shay Lynn M. Harrison,

We are responding to your letter dated May 22, 2024, and received on May 31, 2024, and additional information provided June 14, 2024. You requested our concurrence with your determination that the Riverford Road Roundabouts Project (Project) is not likely to adversely affect the federally endangered least Bell's vireo (*Vireo bellii pusillus*; vireo) or the federally threatened coastal California gnatcatcher (*Polioptila californica californica*; gnatcatcher), in accordance with section 7 of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq*.). Your agency also evaluated potential impacts of the Project on, and determined no effects would occur to the federally endangered San Deigo ambrosia (*Ambrosia pumila*); San Diego button celery (*Eryngium aristulatum* var. *parishii*); San Diego mesa mint (*Pogogyne abramsii*); willowy monardella (*Monardella viminea*); Quino checkerspot butterfly (*Euphydryas editha quino*); arroyo toad {a. southwestern t. [*Anaxyrus californicus* (*Bufo microscaphus c.*)]; arroyo toad}; southwestern willow flycatcher (*Empidonax traillii extimus*); the federally threatened San Diego thornmint (*Acanthomintha ilicifolia*); thread-leaved brodiaea (*Brodiaea filifolia*); or the federal candidate monarch butterfly (*Danaus plexippus*). There is no critical habitat designated within the Project area. The Project is receiving Federal funding through the Federal Highway Administration (FHWA). The California Department of Transportation (Caltrans) has assumed FHWA's responsibilities under the Act for this consultation in accordance with Renewed 23 U.S.C. 326 and 23 U.S.C. 327 and as described in the National Environmental Policy Act Assignment Memorandum of Understanding between FHWA and Caltrans (effective October 1, 2012). Project related information for this letter was based on the Riverford Road Roundabouts Project Natural Environment Study and associated documents (CalTrans 2024).

Project Description

The Project will result in the construction of roundabouts at two intersections (northern roundabout and southern roundabout) in the unincorporated community of Lakeside in San Diego County (County). The northern roundabout would replace a two-way stop-controlled intersection at the on/off-ramps of State Route (SR) 67 southbound and Riverford Road. The southern roundabout would replace the existing three-way, signal-controlled intersection at Woodside Avenue and Riverford Road (southern roundabout) and is located just east of the SR-67 northbound off-ramp. The Project includes road realignment and widening, excavation, and improvements such as Class II bicycle lanes, sidewalk, crosswalks, and shared-use pathways (for pedestrians and bicyclists). The Project impact area is shown in Figure 1.

Construction of the proposed Project would begin in 2027 and be phased over 1 to 2 years. The Project will result in permanent and temporary impacts to a total of 17.62 acres of various landcover types within the Project footprint. Permanent impacts totaling 13.5 acres will occur to 0.33 acre Diegan coastal sage scrub, 1.21 acres disturbed Diegan coastal sage scrub, 0.04 acre disturbed southern cottonwood-willow riparian forest, 5.94 acres disturbed habitat, and 5.98 acres of urban/developed land. Temporary impacts totaling 4.12 acres will occur to 0.12 acre Diegan coastal sage scrub, 0.04 acre disturbed southern cottonwood-willow riparian forest, 0.70 acre disturbed habitat, and 3.26 acres of urban/developed land. A summary of impacts is presented in Table 1 and Figure 1.

Table 1. Summary of land cover types present in the BSA and permanent and temporary resulting from the Project (CalTrans 2024).

Land Cover Type	Permanent Impacts[3]	Temporary Impact[3]
Diegan Coastal Sage Scrub[1]	0.33	0.12
Disturbed Diegan Coastal Sage Scrub[1]	1.21	0
Total Upland Impacts	***1.54***	***0.12***
Disturbed Southern Cottonwood-Willow Riparian Forest[1]	0.04	0.04
Total Riparian Impacts	***0.04***	***0.04***
Total	**1.58**	**0.16**
Disturbed Land[2]	5.94	0.70
Urban/Developed	5.98	3.26
Total	**11.92**	**3.96**
Grand Total	**13.5**	**4.12**

[1] Natural Communities of Special Concern.
[2] Other Land Cover Types.
[3] Acres.

Conservation Measures

Caltrans will implement the following conservation measures (CM) to avoid and minimize adverse effects to federally listed species and their habitat. We consider the measures to be a part of the proposed action, and our analysis assumes that they will be implemented.

CM 1. Permanent impacts totaling 0.04 acre to southern cottonwood-willow riparian forest habitat will be offset by either: (a) restoring habitat of equal value within temporary project impact areas (PIA) and/or (b) in the form of either enhancement, restoration, and/or creation of habitat; deduction of credits from a County-approved mitigation area; or other off-site preservation. Caltrans will submit a mitigation plan to the Carlsbad Fish and Wildlife Office (CFWO) for review and approval prior to initiating Project impacts. Temporary impacts to 0.04 acre of southern cottonwood-willow riparian forest habitat will be revegetated onsite to pre-construction conditions at a 1:1 ratio, and documentation of the restoration will be provided to the CFWO.

CM 2. Permanent impacts totaling 1.54 acres (0.07 acre of Biological Resource Core Area (BRCA)[1] and 1.47 acres (non-BRCA) to Diegan coastal sage scrub habitat will be offset by either: (a) restoring habitat of equal value within temporary PIAs and/or (b) in the form of either enhancement, restoration, and/or creation of habitat; deduction of credits from a County-approved mitigation area; or other off-site preservation. Caltrans will submit a mitigation plan to the CFWO for review and approval prior to initiating Project impacts. BRCA lands would be mitigated at a ratio of 1.5:1 and non-BRCA lands would be mitigated at a ratio of 1:1. This equates to a mitigation total of 1.58 acres (0.11 acres BRCA and 1.47 acres non-BRCA). Temporary impacts to 0.12 acre of Diegan coastal sage scrub habitat will be revegetated onsite to pre-construction conditions at a 1:1 ratio, and documentation of the restoration will be provided to the CFWO.

CM 3. Prior to initiation of construction activities, orange construction fencing, or equivalent high-visibility fencing, shall be installed along the limits of disturbance adjacent to sensitive biological resource areas. All construction (including access/staging areas) shall be restricted to developed areas or previously defined and approved work areas. Equipment staging, storage, and maintenance shall be located outside the active river channel, riparian, and sage scrub vegetation. Temporary fencing will be removed at the completion of construction.

CM 4. A qualified biologist (Project Biologist) approved by the CFWO and California Department of Fish and Wildlife (CDFW) shall monitor construction activities as needed to oversee avoidance of sensitive biological resources, with full-time monitoring during initial vegetation removal, grubbing, and grading. The Project

[1] Mitigation standards have been established for lands within the MSCP Subarea Plan based on whether the impacted lands are considered a Biological Resource Core Area (BRCA). BRCA is defined as "land that qualifies as an integral component of a viable regional ecosystem."

Biologist shall be familiar with the special status species known to be present or with potential to occur on-site that could occur within the sensitive vegetation communities to be removed. Should a special status species be encountered, the Project Biologist shall request that the resident engineer (RE) stop work in the area. The Project Biologist shall determine the next steps required (e.g., implement avoidance measures, contact Caltrans, the County or Wildlife Agencies) and will work with the RE to identify areas where work can proceed while avoidance measures are determined.

CM 5. All clearing/grubbing of vegetation shall take place between September 16 and January 14, outside the combined avian nesting season. If vegetation removal needs to occur during the breeding season, pre-construction surveys and monitoring would be required. During the bird breeding season, a qualified biologist will perform a minimum of three focused pre-construction surveys, on separate days, in and adjacent to suitable habitat for the species to determine the presence of active nests within the PIA. Surveys will be conducted a maximum of 3 days prior to performing construction within 300 feet of suitable habitat during the breeding season. If the suitable habitat is not removed during the initial clearing/grading construction effort during the nonbreeding season, additional surveys will be conducted immediately prior to each habitat removal during Project construction within 300 feet of suitable habitat. If pre-construction surveys are negative for active nests within the PIA, no additional measures would be required.

CM 6. All rock removal activities at the northern and southern roundabouts that may involve the use of noise-producing rock removal equipment shall not occur simultaneously with any other general construction activities occurring north of the Environmentally Sensitive Area line identified the Natural Environment Report (Figure 2; RECON 2024) for all stages of construction.

CM 7. An employee education program will be developed and implemented by the Project Biologist. Each employee (including temporary, contractors, and subcontractors) will receive a training/awareness program prior to working on the proposed Project. They will be advised of the potential impact to the listed species and the potential penalties for taking such species. At a minimum, the program will include the following topics: occurrence of the listed and sensitive species in the area (including photographs), their general ecology, sensitivity of the species to human activities, legal protection afforded these species, penalties for violations of Federal and State laws, reporting requirements, and Project features designed to reduce the impacts to these species and promote continued successful occupation of the Project area.

CM 8. Project landscaping will follow the provisions set forth in Executive Order 13112, which mandates preventing the introduction of and controlling the spread of invasive plant species on highway rights-of-way. No invasive species listed in the

National Invasive Species Management Plan, State of California Noxious Weed List, or Cal-IPC Invasive Plant Inventory list will be used in the landscaping plans for the Project. Caltrans will review the landscaping plans for the Project and then submit them to the CFWO.

CM 9. The Project Biologist will monitor the Project site immediately prior to and during construction to identify the presence of invasive weeds and recommend measures to avoid their inadvertent spread in association with the Project. Such measures may include inspection and cleaning of construction equipment and use of eradication strategies. Special care will be taken during transport, use, and disposal of soils containing invasive weed seeds and all weedy vegetation removed during construction will be properly disposed of to prevent spread into areas outside of the construction area. All heavy equipment will be washed and cleaned of debris, sediment, and foreign matter prior to entering the Project area to minimize the spread of invasive weeds.

CM 10. If nighttime construction is necessary, all Project lighting (e.g., staging areas, equipment storage sites, roadway) will be selectively placed and directed toward the construction site and away from, shielded or pointed downward, away from the adjacent habitat within the river corridor. Lighting will be of the lowest illumination necessary for safety, and light glare shields will be used to reduce the extent of illumination into habitat.

CM 11. Permanent Project lighting will be of the lowest illumination necessary for safety and will be directed toward paved roadway and away from sensitive habitats. Light glare shields will be used to reduce the extent of illumination into sensitive habitats. Caltrans will review the permanent lighting plans for the Project and then submit them to the CFWO.

CM 12. All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities will be restricted to designated areas located outside of jurisdictional wetlands or waters. Appropriate types and sufficient quantities of materials (e.g., drip pans, spill kits) shall be maintained on-site to contain any spill or inadvertent release of materials that may cause a condition of pollution or nuisance if the materials reach Waters of the United States (WOTUS)/Waters of the State (WOTS).

CM 13. The Project site will be kept as clear of debris as possible. All food-related trash shall be enclosed in sealed wildlife-proof containers and removed from the site daily. All construction-related debris, excess materials, and building materials shall be removed from the Project site for disposal at an authorized landfill or other disposal site in compliance with federal, state, and local laws and regulations.

CM 14. Project personnel will be prohibited from bringing domestic pets to construction sites to ensure that domestic pets do not disturb or depredate wildlife in adjacent native habitats.

Baseline Conditions

Project Site Characteristics and Surrounding Land Uses

The Project area is located along Riverford Road between Woodside Avenue and N Woodside Avenue at the interchange of SR-67 in the unincorporated community of Lakeside, San Diego County, California. The Project is approximately 0.1 miles south of the San Diego River which flows east-to-west under the Riverford Road Bridge. The river is not within the Project footprint. Elevations in the BSA range from 345 to 515 feet above mean sea level, decreasing from south to north. Habitat types within and adjacent to the Project include urban/developed land, disturbed land, disturbed Diegan coastal sage scrub, Diegan coastal sage scrub, and disturbed cottonwood-willow riparian forest (CalTrans 2024). The majority of land in and adjacent to the Project is made up of developed highways and roadways, associated intersections and medians, parking lots, and commercial developments.

Relationship to Regional Preserves

The proposed Project is located within the unincorporated Metro-Lakeside-Jamul segment of the County of San Diego South County Multiple Species Conservation Program (MSCP) (County 1997) which was established to guide MSCP implementation in the southern portion of the county. Mitigation standards have been established for lands within the MSCP Subarea Plan based on whether the impacted lands are considered a Biological Resource Core Area (BRCA). BRCA is defined as "land that qualifies as an integral component of a viable regional ecosystem." Additionally, the Resource Agencies mapped areas of high and very high habitat value as Pre-Approved Mitigation Areas (PAMA) to identify high priority mitigation areas. Within the Project footprint, a small portion in the northwestern area is mapped as PAMA and qualifies as a BRCA. In total, 0.38 acre is mapped as a PAMA, of which 0.31 acre is already developed as North Woodside Avenue and Riverford Road. The remaining 0.07 acre consists of disturbed Diegan coastal sage scrub that is identified as a BRCA. Figure 3 shows the MSCP boundaries within the BSA.

Status of the Coastal California Gnatcatcher

Focused surveys for the coastal California gnatcatcher were conducted within the PIA and a 300-foot buffer around the PIA from May 9, 2023, to July 24, 2023 (Figure 4; CalTrans 2024). Within the Project footprint and survey area, Diegan coastal sage scrub (including the disturbed form) is considered suitable habitat for the gnatcatcher. The total acreage of suitable gnatcatcher habitat in the survey area is 12.5 acres. A total 15 gnatcatchers were observed during surveys (1 pair, 2 family units, and 5 individuals). Four of the detections were outside the southern boundary of the survey area. Two gnatcatcher use areas were identified at the southern border of the survey area through extrapolation of the sum of detections made during surveys (RECON 2023a). No critical habitat for gnatcatcher is present within the PIA or survey area.

Figure 5 shows the location of gnatcatchers detected during the surveys and the gnatcatcher use areas.

Status of the Least Bell's Vireo

Focused surveys for the least Bell's vireo were conducted within the PIA and a 300-foot buffer around the PIA from May 9, 2023, to July 24, 2023 (CalTrans 2024). Suitable habitat (southern cottonwood-willow riparian forest, including disturbed form) for vireo occurs contiguously along the San Diego River in the northern portions of the survey area totaling 14.4 acres. A small patch of disturbed cottonwood-willow riparian forest that is isolated from the San Diego River is located within the Project footprint north of the SR-67 southbound off-ramp and south of existing development. Due to its isolated nature, this patch of habitat is unlikely to support nesting vireo. A total of 30 vireos were detected audibly and visually during surveys, but none occurred within the PIA (RECON 2023b). No breeding pairs, nesting behavior, or nests were observed. Four vireo use areas were identified within the survey area by extrapolating the sum of observations made during surveys. No critical habitat for vireo is present within the PIA or survey area. Figure 5 shows the location of vireos detected during the surveys and the vireo use areas.

Effects Analysis

The Project will result in permanent and temporary impacts to a total of 17.62 acres of various landcover types within the Project footprint. Permanent impacts totaling 13.5 acres will occur to 0.33-acre Diegan coastal sage scrub, 1.21-acres disturbed Diegan coastal sage scrub, 0.04-acre disturbed southern cottonwood-willow riparian forest, 5.94 acres disturbed habitat, and 5.98 acres of urban/developed land. Temporary impacts totaling 4.12 acres will occur to 0.12 acre Diegan coastal sage scrub, 0.04 acre disturbed southern cottonwood-willow riparian forest, 0.70 acre disturbed habitat, and 3.26 acres of urban/developed land (Table 1; Figure 5).

Coastal California Gnatcatcher and Least Bell's Vireo

There is potential for the Project to result in construction disturbance to gnatcatchers and vireos as a result of vegetation removal, noise, lighting, introduction of invasive species, erosion, sedimentation, and human encroachment resulting from the Project. The Project will result in direct permanent impacts to 1.54 acres (1.47 acres non-BRCA and 0.07-acre BRCA) and direct temporary impacts to 0.12 acres of Diegan coastal sage scrub suitable for gnatcatcher nesting and foraging. There will also be direct permanent impacts to 0.04 acre and direct temporary impacts to 0.04 acre of disturbed cottonwood-willow riparian forest moderately suitable for vireo nesting and foraging.

Clearing and grubbing of vegetation will be conducted during the non-breeding season to ensure that there is no potential for the Project to remove vegetation occupied by gnatcatcher or vireo nests. If vegetation removal needs to occur during the breeding season, pre-construction surveys and monitoring will be required. To ensure that any effects of vegetation removal on individual gnatcatchers are reduced to the level of insignificance, the Project Biologist will be present to ensure that gnatcatchers are not directly killed or injured during any vegetation removal activities

conducted for the Project. Gnatcatchers may be passively flushed out of the work area in the direction of coastal sage scrub adjacent to the Project site as vegetation clearing is conducted. In the context of this Project, this low-level flushing activity during the non-breeding season is considered an avoidance and minimization measure that has an insignificant effect on individual gnatcatchers in that it is not measurable and does not rise to the level of take as defined by the Act. With incorporation of the above CMs, potential impacts to gnatcatchers from vegetation removal will be minimized to the point where such effects are insignificant.

Vireo nesting, foraging, and dispersal habitat occurs within and adjacent to the Project area. Habitat within the Project footprint where permanent and temporary impacts will occur is within an isolated patch of habitat surrounded by disturbed land between the SR-67 southbound offramp and existing development, approximately 100 to 150 feet south of where the high-quality habitat adjacent to the river corridor is located. To avoid potential impacts to vireo breeding, the Project proponents have agreed to conduct vegetation removal during the non-breeding season. As a migratory species, there will be no direct impacts to vireo because they will not be in the region during the vegetation clearing activities. If vegetation removal needs to occur during the breeding season, pre-construction surveys and monitoring will be required. With incorporation of the above conservation measures, potential impacts to vireo from vegetation removal will be minimized to the point where such effects are insignificant.

If construction impacts occur during the breeding season, noise associated with the use of mechanized equipment has the potential to disrupt gnatcatcher and vireo nesting behavior in adjacent habitat by masking intraspecific communication and startling birds (e.g., see Dooling and Popper 2007 for a discussion of observed effects of highway noise on birds). Ambient noise levels within the identified gnatcatcher use areas were measured at 67 dB (A); therefore, construction noise levels generated at greater than this threshold would be considered an impact to the gnatcatcher (CalTrans 2024, Appendix H). For this Project, noise would be generated from diesel engine-driven construction equipment and rock removal. For general construction, equipment required for each stage of the Project would include a mix of equipment, the loudest of which are an excavator and a front-end loader. Noise modeling was conducted under a “worst case scenario” of simultaneous use of both the excavator and front-end loader, resulting in an overestimate of anticipated construction noise and a conservative result of the effects. For rock removal, noise modeling scenarios were assessed for blasting and non-blasting methods. The analysis concluded that noise levels generated from general construction and rock removal activities are not anticipated to exceed ambient noise levels within gnatcatcher use areas. Therefore, impacts from construction noise during this Project will be minimized to the point where such effects are insignificant.

Within the identified vireo use areas, ambient noise levels were measured at 55 dB (A). To conduct noise modeling in vireo-use areas, an upper threshold of 65 dB (A) was used based on previous guidance from the Service which suggested that the ambient noise level or 65 dB (A), whichever is greater, should be used to determine effects from noise. Noise modeling for general construction of the Project determined that noise levels greater than the 65 dB (A) threshold would not be exceeded in vireo use areas. During rock breaking, noise levels are not anticipated to exceed the applicable threshold within vireo use areas unless rock removal is conducted at the southern and northern roundabouts simultaneously with other construction activities located

north of SR-67 (CalTrans 2024). Therefore, to avoid potential noise impacts to vireo, no rock removal activities conducted at the southern or northern roundabouts shall occur simultaneously with any other general construction activities occurring north of SR-67 during the vireo nesting season. Following construction, no ongoing operational noise sources are proposed, and the Project is not expected to change existing operational traffic noise. Therefore, impacts from construction noise will be minimized to the point where such effects are insignificant.

Construction and operational lighting may also affect gnatcatchers and vireos. Light that alters natural light patterns in ecosystems can lead to increased predation, disorientation, and disruption of inter-specific interactions (Longcore and Rich 2004). Lighting is present at the existing intersections, so adjacent habitat is already exposed to increased lighting. To avoid lighting impacts to gnatcatchers and vireo, construction lighting will be directed toward the work area and away from, shielded or pointed downward, the adjacent habitat. Operational lighting will be of the lowest illumination necessary for safety and will be directed toward the paved roadway and away from sensitive habitats. Light glare shields will be used to reduce the extent of illumination into sensitive habitats. Permanent lighting (streetlights) will be installed as part of the Project to illuminate the roundabouts for drivers' safety. As with all standard streetlights, they would be pointed downward, away from the nearby gnatcatcher habitat. With implementation of these measures, the effects of Project lighting on gnatcatchers are likely to be insignificant.

The Project has also incorporated measures (listed above) to minimize introduction of invasive species, and construction disturbance from human encroachment into the adjacent habitat. The introduction of invasive species into suitable habitat degrades the habitat and decreases its suitability for the gnatcatcher and vireo. With the proposed measures, any increase in habitat degradation associated with these factors is likely to be insignificant.

As stated above, the proposed Project is located within the County's South County MSCP, therefore the Project must include certain design criteria that minimizes impacts to habitat and impacts to any BRCA lands must meet specific mitigation standards. With the implementation of the measures listed above, the Project will comply with the requirements of the MSCP. To mitigate for impacts to gnatcatcher and vireo habitat, the Project proponents have included the mitigation outlined in Table 2 as part of their proposed Project. The proposed mitigation is consistent with the mitigation standards of the MSCP.

Table 2. Summary of Impacts and Mitigation to Coastal California Gnatcatcher Habitat and Least Bell's Vireo Habitat.

Vegetation Community	Permanent Impact (Acres)	Mitigation for Permanent Impacts	Temporary Impacts (Acres)	Mitigation for Temporary Impacts	Mitigation Ratio (perm/temp)	Mitigation Acres (perm/temp)
Diegan Coastal Sage Scrub (non-BRCA)	0.33	Off-site mitigation credit purchase	0.12	On-site restoration of temporary impacts	1:1/1:1	0.33/0.12
Disturbed Diegan Coastal Sage Scrub (non-BRCA)	1.14	Off-site mitigation credit purchase	--	On-site restoration of temporary impacts	1:1/--	1.14/--
Disturbed Diegan Coastal Sage Scrub (BRCA)	0.07	Off-site mitigation credit purchase	--	On-site restoration of temporary impacts	1.5:1/--	0.11/--
Total Upland Impacts	***1.54***		***0.12***			***1.58/0.12***
Disturbed Southern Cottonwood-Willow Riparian Forest (non-BRCA)	0.04	Off-site mitigation credit purchase	0.04	On-site restoration of temporary impacts	1:1/1:1	0.04/0.04
Total Riparian Impacts	***0.04***		***0.04***			***0.04/0.04***
Grand Total	**1.58**		**0.16**			**1.62/0.16**

Conclusion

Based on the information provided and the conservation measures that have been incorporated into the project description, we concur with your determination that the proposed Project is not likely to adversely affect the gnatcatcher and vireo. Therefore, the interagency consultation requirements of section 7 of the Act have been satisfied. Although our concurrence ends informal consultation, obligations under section 7 of the Act will be reconsidered if new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not previously considered or this action is subsequently modified in a manner that was not considered in this assessment.

Thank you for your coordination on this project. If you have any questions regarding this letter, please contact Sandra Hamilton[2] of this office by electronic mail.

Sincerely,

Jonathan D. Snyder
Assistant Field Supervisor

[2] Sandra_hamilton@fws.gov

LITERATURE CITED

[Caltrans] California Department of Transportation. 2024. Riverford Road Roundabouts Project (DPW 1023987) Natural Environment Study, Riverford Road and State Route 67. San Deigo County, California. 87 pp + Appendices.

[County] County of San Diego. 1997. Multiple Species Conservation Program County of San Diego Subarea Plan. Prepared by the County of San Diego in conjunction with the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife Service. Adopted October 22, 1997.

Dooling, R.J. and A.N. Popper. 2007. The effects of highway noise on birds. Prepared by Environmental BioAcoustics LLC for the California Department of Transportation, Sacramento, California. 74 pp.

Longcore, T. and C. Rich. 2004. Ecological light pollution. Front Ecological Environment 2:191-198.

[RECON] RECON Environmental. 2023a. Post-survey Notification of Focused Survey Results for the 2023 Coastal California Gnatcatcher Surveys for the Riverford Road Roundabouts Project. DPW Project Number 1026299; RECON 9009-30. Report to U.S. Fish and Wildlife Service. 6 pp.

[RECON] RECON Environmental. 2023b. Post-survey Notification of Focused Survey Results for the 2023 Least Bell's Vireo Surveys for the Riverford Road Roundabouts Project (DPW Project Number 1026299; RECON 9009-30). Report to U.S. Fish and Wildlife Service. 7 pp.

[RECON] RECON Environmental. 2024. Construction Noise Analysis for Biological Resources for the Riverford Road Roundabouts Project (11-SD-67-R3.7/R4.2) (RECON Number 9009-30A). Report to County of San Diego, Department of Public Works. 26 pp. + Attachments.

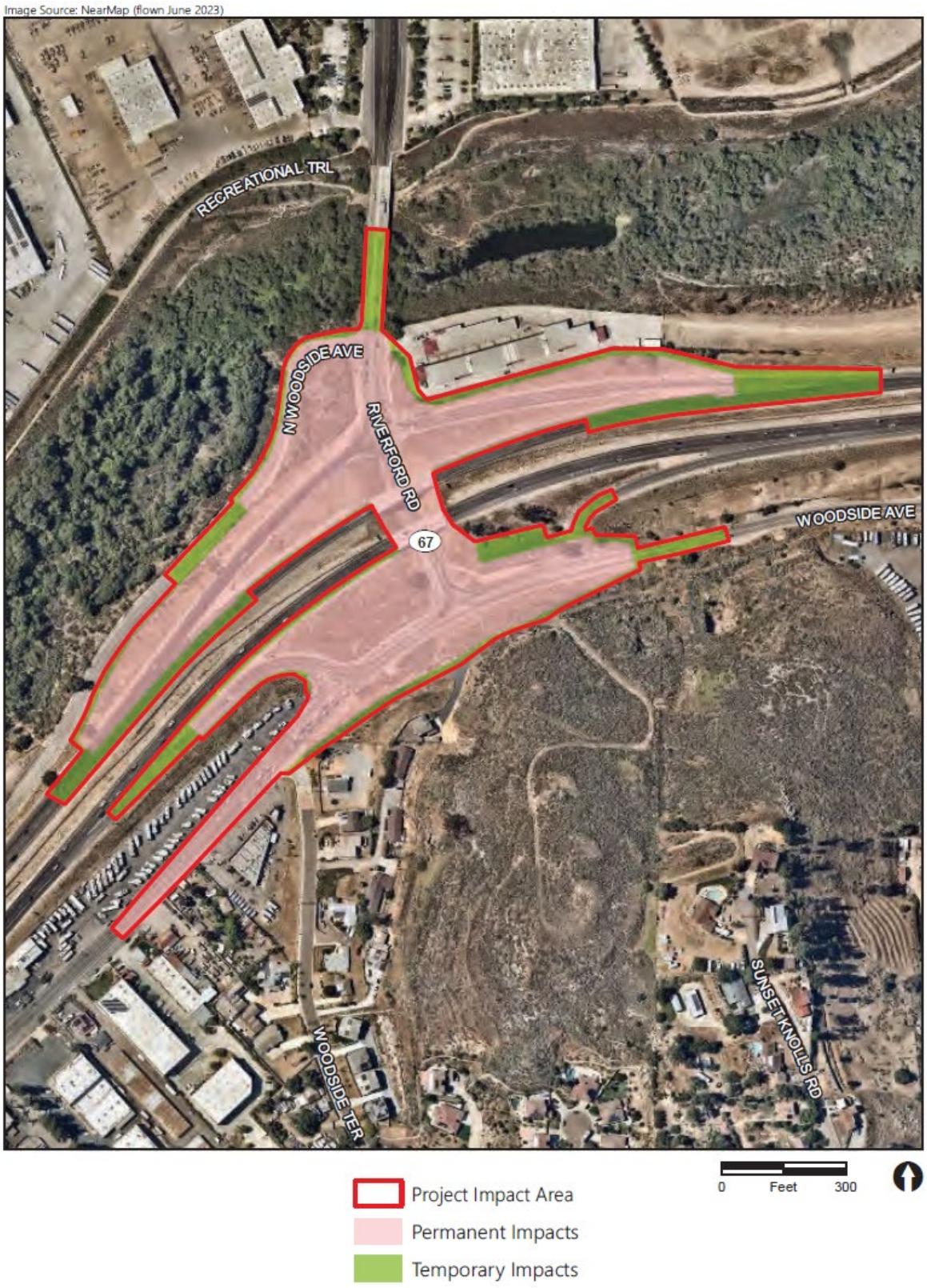


Figure 1. Project Impact Area and areas of permanent and temporary impacts (Source: Caltrans 2024).

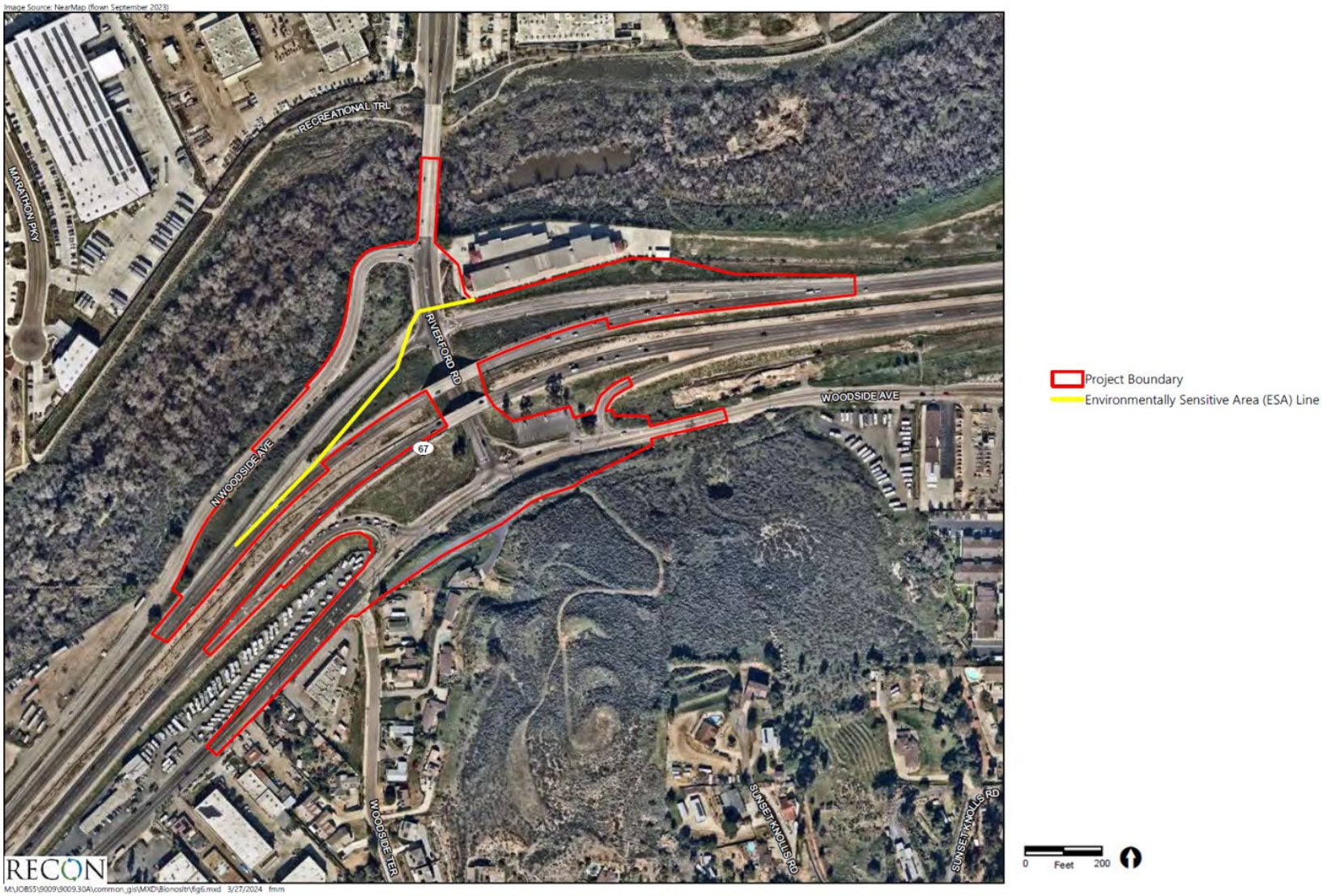


Figure 2. ESA line delimiting area north of which that construction activities may not occur simultaneously with rock removal activities.

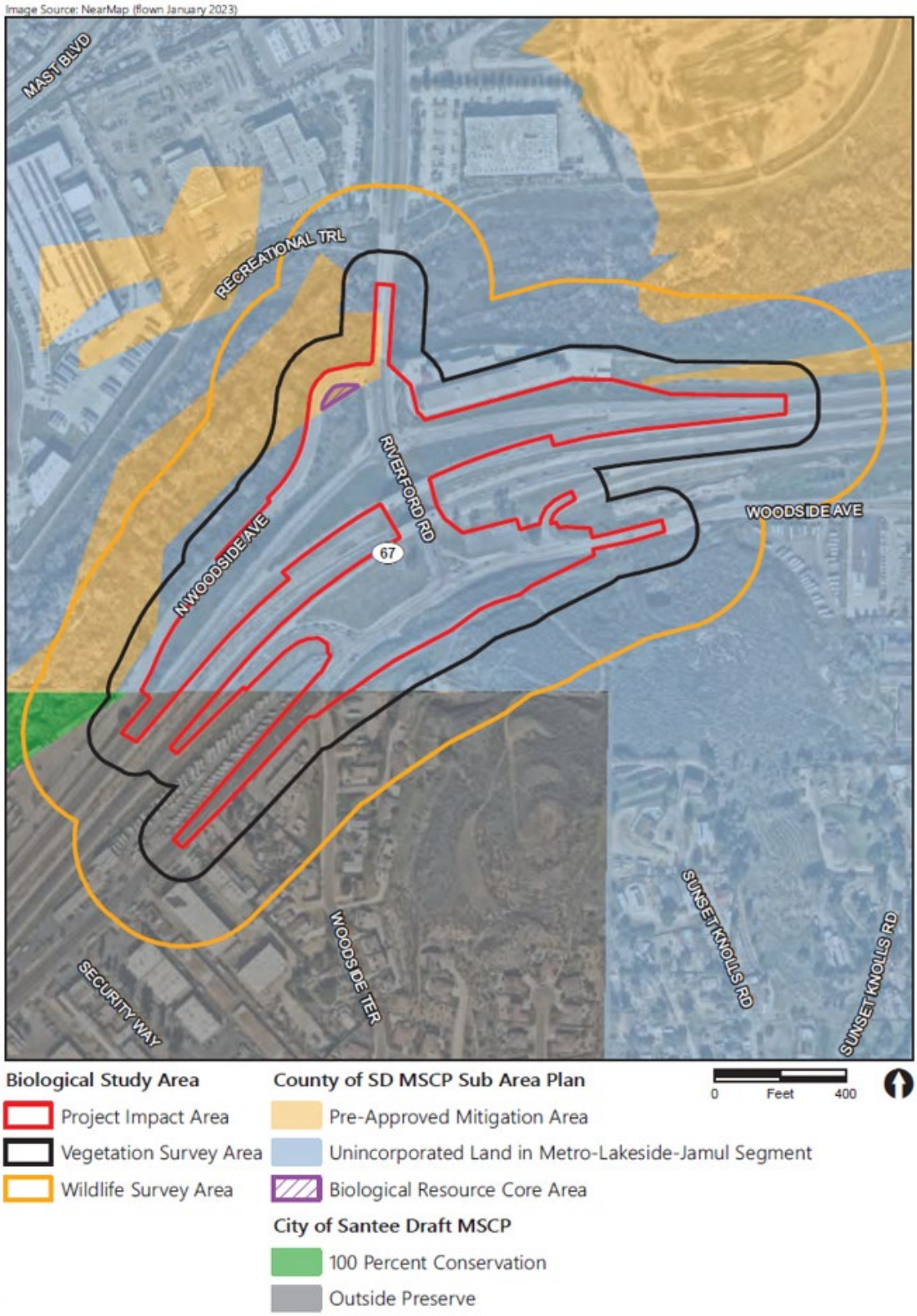


Figure 3. Project in relation to MSCP preserve areas (Source: CalTrans 2024).

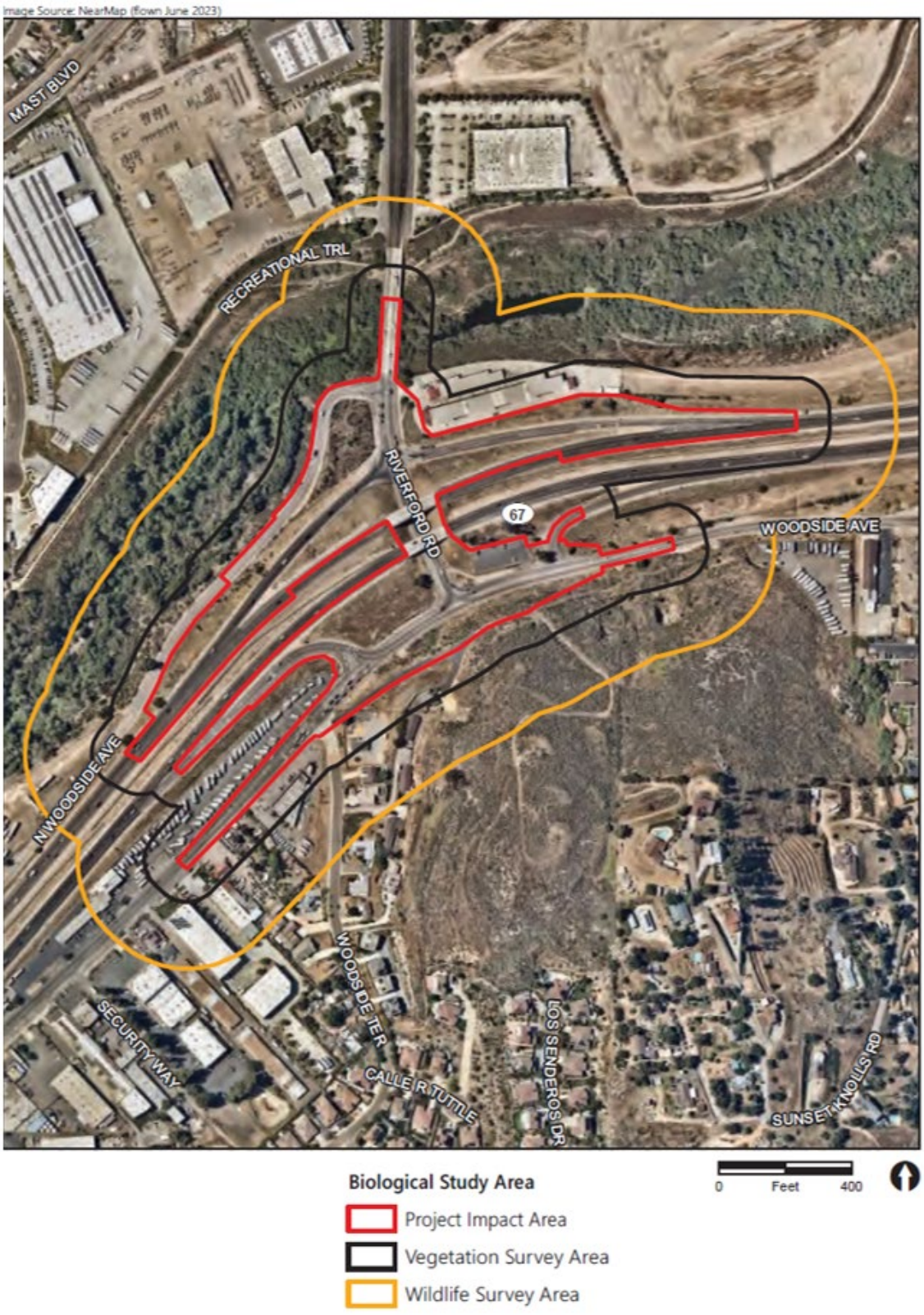


Figure 4. Project limits and 300-foot survey buffer (Source: CalTrans 2024).

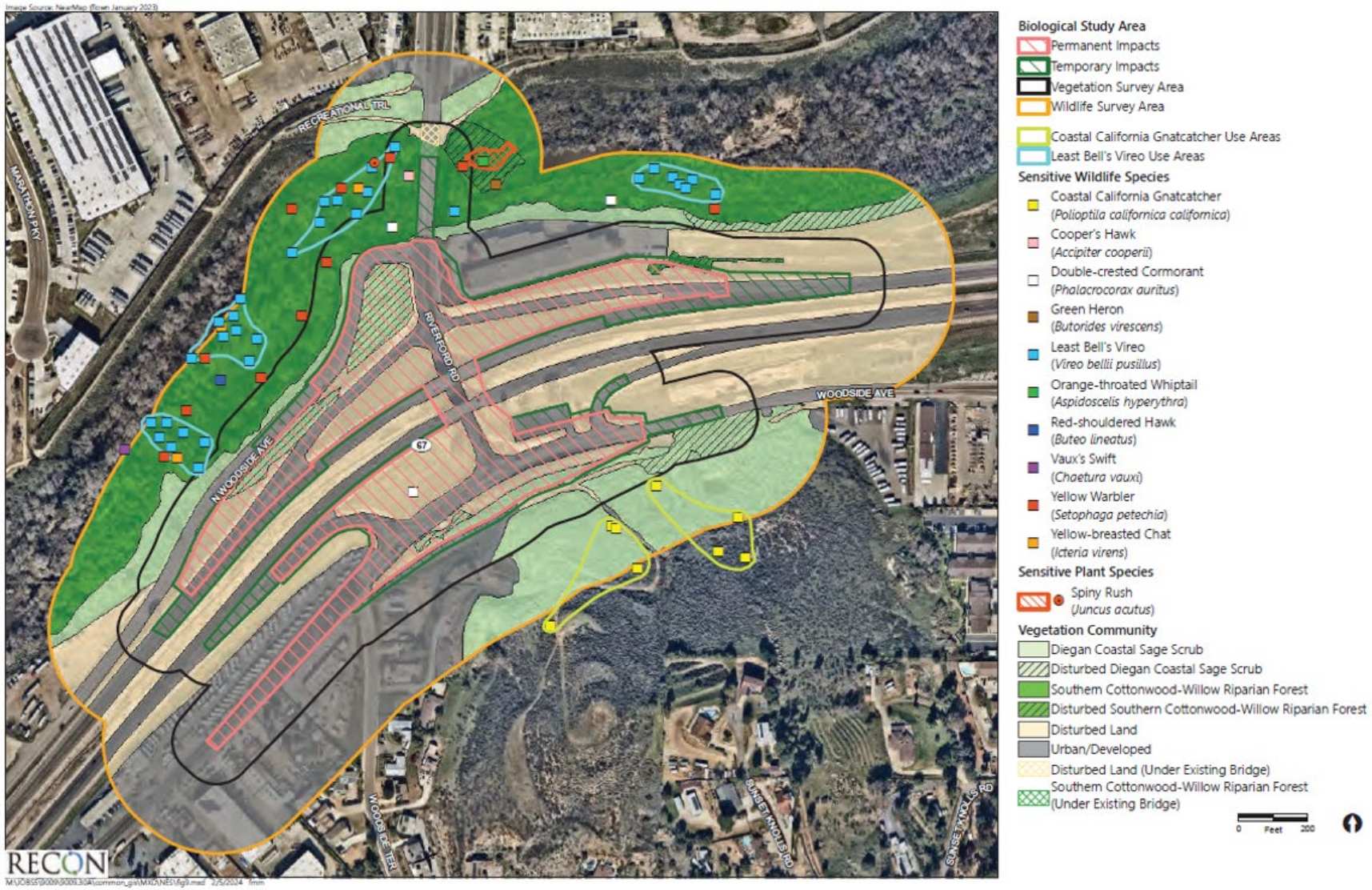


Figure 5. Coastal California gnatcatcher and vireo survey results and Project impacts to biological resources (Source: CalTrans 2024).

Appendix C – Photographs

PHOTOGRAPH 1
Overview of Southern Cottonwood-Willow Riparian Forest,
Looking Southeast

PHOTOGRAPH 2
View of San Diego River within Southern Cottonwood-Willow Riparian
Forest, Looking Southwest

PHOTOGRAPH 3
View of Southern Cottonwood-Willow Riparian Forest, Looking South

PHOTOGRAPH 4
View of Diegan Coastal Sage Scrub, Looking East

PHOTOGRAPH 5
View of Disturbed Diegan Coastal Sage Scrub (foreground) and Diegan Coastal Sage Scrub (background), Looking Southwest

PHOTOGRAPH 6
View of Disturbed Land and Urban/Developed Land, Looking Southwest

Appendix D – Plant Species Observed within the Biological Study Area

Appendix D Plant Species Observed within the Biological Study Area				
Major Plant Group	Family	Scientific Name / Common Name	Occupied Habitat	Origin
Angiosperms: Eudicots	Aizoaceae / Fig-Marigold Family	*Carpobrotus edulis* / freeway iceplant	DH, UD	I
	Anacardiaceae / Sumac or Cashew Family	*Schinus molle* / Peruvian pepper tree	UD	I
		Toxicodendron diversilobum / western poison oak	SCWRF	N
	Apiaceae (Umbelliferae) / Carrot Family	*Bowlesia incana* / American bowlesia	DCSS	N
	Asteraceae / Sunflower Family	*Ambrosia psilostachya* / western ragweed	SCWRF, DSCWRF	N
		Artemisia californica / California sagebrush	DCSS, DDCSS	N
		Baccharis salicifolia ssp. *salicifolia* / mule fat, seep-willow	SCWRF, DSCWRF	N
		Baccharis sarothroides / broom baccharis	SCWRF, DCSS, DDCSS	N
		Carduus pycnocephalus / Italian thistle	SCWRF, DSCWRF, DCSS, DDCSS, DH	I
		Cirsium vulgare / bull thistle	DDCSS	I
		Co*rethrogyne filaginifolia* var. *filaginifolia* / California sand-aster	DCSS	N
		Cotula coronopifolia / brass-buttons	SCWRF	I
		Dittrichia graveolens / stinkwort	SCWRF	I
		Euthamia occidentalis / western goldenrod	SCWRF	N
		Glebionis coronaria [=*Chrysanthemum coronarium*] / garland, crown daisy	DCSS, DDCSS, DH	I
		Helminthotheca echioides [=*Picris echioides*] / bristly ox-tongue	DCSS, DDCSS, DH	I
		Heterotheca grandiflora / telegraph weed	DDCSS, DH	N
		Hypochaeris glabra / smooth cat's-ear	DDCSS, DH	I
		Isocoma menziesii / coastal goldenbush	DCSS	N
		Logfia gallica [=*Filago gallica*] / daggerleaf cottonrose	SCWRF, DCSS, DDCSS	I
		Pluchea odorata / salt marsh fleabane	SCWRF	N
		Pluchea sericea / arrow-weed	SCWRF	N
		Sonchus asper ssp. *asper* / prickly sow thistle	SCWRF, DCSS, DDCSS	I
	Bignoniaceae / Bignonia Family	*Catalpa speciosa* / northern catalpa	DH	I
	Boraginaceae / Borage Family	*Plagiobothrys* sp. / popcornflower	DCSS, DDCSS	N
	Brassicaceae (Cruciferae) / Mustard Family	*Brassica nigra* / black mustard	SCWRF, DCSS, DDCSS, DH	I
		Raphanus sativus / radish	SCWRF	I
	Cactaceae / Cactus Family	*Opuntia littoralis* / coast prickly-pear, shore cactus	SCWRF	N
	Caryophyllaceae / Pink Family	*Spergularia bocconi* / Boccone's sand-spurrey	SCWRF	I

Appendix D Plant Species Observed within the Biological Study Area				
Major Plant Group	Family	Scientific Name / Common Name	Occupied Habitat	Origin
Angiosperms: Eudicots	Convolvulaceae / Morning-Glory Family	*Calystegia macrostegia* / morning-glory	DCSS	N
		Cuscuta californica / chaparral dodder	DCSS	N
	Crassulaceae / Stonecrop Family	*Dudleya pulverulenta* / chalk lettuce, chalk dudleya	DCSS	N
	Cucurbitaceae / Gourd Family	*Cucurbita foetidissima* / buffalo gourd, calabazilla	DCSS	N
		Marah macrocarpa / wild cucumber	DCSS	N
	Euphorbiaceae / Spurge Family	*Croton setiger* [=*Eremocarpus setiger*] / turkey-mullein, dove weed	SCWRF, DCSS, DDCSS	N
	Fabaceae (Leguminosae) / Legume Family	*Acmispon glaber* [=*Lotus scoparius*] / deerweed, California broom	DCSS, DDCSS	N
		Lathyrus vestitus var. *alefeldii* / San Diego sweet pea	DCSS	N
		Melilotus indicus / sourclover	DCSS, DDCSS, DH	I
		Parkinsonia aculeata / Mexican palo verde	DDCSS	I
	Fagaceae / Oak Family	*Quercus agrifolia* / coast live oak, encina	SCWRF	N
	Geraniaceae / Geranium Family	*Erodium botrys* / long-beak filaree	DCSS, DDCSS, DH	I
	Heliotropiaceae / Heliotrope Family	*Heliotropium curassavicum* var. *oculatum* / seaside heliotrope, alkali heliotrope	SCWRF	N
	Hydrophyllaceae / Waterleaf Family	*Phacelia cicutaria* var. *hispida* / caterpillar phacelia	SCWRF	N
	Lamiaceae / Mint Family	*Salvia apiana* / white sage	DCSS	N
	Lythraceae / Loosestrife Family	*Lythrum hyssopifolia* / grass poly, hyssop loosestrife	SCWRF, DSCWRF	I
	Myrsinaceae / Myrsine Family	*Lysimachia arvensis* [=*Anagallis arvensis*] / scarlet pimpernel	SCWRF, DSCWRF	I
	Myrtaceae / Myrtle Family	*Eucalyptus* sp. / gum tree	SCWRF, DH, UD	I
	Onagraceae / Evening-Primrose Family	*Camissoniopsis* sp. [=*Camissonia* sp.] / sun cup	SCWRF, DCSS	N
		Clarkia purpurea ssp. *quadrivulnera* / four-spot	DCSS	N
		Oenothera elata ssp. *hirsutissima* / great marsh evening-primrose	SCWRF	N
	Plantaginaceae / Plantain Family	*Plantago major* / common plantain	SCWRF	I
	Polygonaceae / Buckwheat Family	*Eriogonum fasciculatum* / California buckwheat	DCSS, DDCSS	N
		Rumex crispus / curly dock	SCWRF, DSCWRF	I
	Rhamnaceae / Buckthorn Family	*Rhamnus crocea* / spiny redberry	DCSS	N
	Rubiaceae / Madder Family	*Galium angustifolium* ssp. *angustifolium* / narrow-leaf bedstraw	DCSS	N
		Galium aparine / goose grass, stickywilly	SCWRF	N
	Salicaceae / Willow Family	*Populus fremontii* ssp. *fremontii* / Fremont cottonwood, alamo	SCWRF, DSCWRF	N
		Salix gooddingii / Goodding's black willow	SCWRF, DSCWRF	N
		Salix lasiolepis / arroyo willow	SCWRF	N
	Scrophulariaceae / Figwort Family	*Myoporum parvifolium* / slender myoporum	UD	I

Appendix D Plant Species Observed within the Biological Study Area				
Major Plant Group	Family	Scientific Name / Common Name	Occupied Habitat	Origin
Angiosperms: Eudicots	Scrophulariaceae / Figwort Family	*Scrophularia californica* / California figwort	DCSS	N
	Simaroubaceae / Quassia or Simarouba Family	*Ailanthus altissima* / tree of heaven	DH, UD	I
	Solanaceae / Nightshade Family	*Nicotiana glauca* / tree tobacco	DDCSS, DH	I
	Tamaricaceae / Tamarisk Family	*Tamarix ramosissima* / saltcedar	SCWRF, DSCWRF	I
	Viburnaceae / Muskroot Family	*Sambucus mexicana* [=*Sambucus nigra* ssp. *caerulea*] / blue elderberry	DCSS	N
	Vitaceae / Grape Family	*Vitis girdiana* / desert wild grape	SCWRF	N
Angiosperms: Magnoliids-Piperales	Saururaceae / Lizard's Tail Family	*Anemopsis californica* / yerba mansa	SCWRF	N
Angiosperms: Monocots	Arecaceae / Palm Family	*Phoenix canariensis* / Canary Island palm	SCWRF	I
		Washingtonia robusta / Mexican fan palm	SCWRF	I
	Cyperaceae / Sedge Family	*Cyperus eragrostis* / tall flatsedge	SCWRF	N
		Eleocharis macrostachya / pale spike-rush	SCWRF	N
		Schoenoplectus californicus [=*Scirpus californicus*] / southern bulrush	SCWRF	N
	Poaceae (Gramineae) / Grass Family	*Avena* sp. / oats	DCSS, DDCSS, DH	I
		Bromus diandrus / ripgut grass	DCSS, DDCSS, DH	I
		Cortaderia selloana / pampas grass	SCWRF	I
		Festuca myuros [=*Vulpia myuros*] / rattail sixweeks grass	DCSS, DDCSS, DH	I
		Lamarckia aurea / golden-top	DDCSS, DH	I
		Polypogon monspeliensis / annual beard grass, rabbitfoot grass	SCWRF, DSCWRF	I
		Stipa miliacea var. *miliacea* [=*Piptatherum miliaceum* ssp. *miliaceum* and *Oryzopsis miliacea*] / smilo grass	SCWRF, DSCWRF	I
	Typhaceae / Cattail Family	*Typha latifolia* / broad-leaved cattail	SCWRF	N
Conifers	Pinaceae / Pine Family	*Pinus pinea* / Italian stone pine	UD	I

Attachment 2 Plant Species Observed
NOTE: Scientific and common names were primarily derived from Jepson eFlora (Jepson Flora Project 2023). In instances where common names were not provided in this resource, common names were obtained from Rebman and Simpson (2014). Additional common names were obtained from the USDA maintained database (USDA 2023a) or the *Sunset Western Garden Book* (Brenzel 2001), the Integrated Taxonomic Information System database (ITIS 2023), the Plant Finder (Missouri Botanical Garden 2023) for ornamental/horticultural plants. Common names denoted with * are from County of San Diego 2010b. Federal and state listing status is based on California Department of Fish and Wildlife, Natural Diversity Database (CDFW) 2023a. **HABITAT** DCSS= Diegan Coastal Sage Scrub DDCSS= Disturbed Diegan Coastal Sage Scrub SCWRF= Southern Cottonwood-Willow Riparian Forest DSCWRF= Disturbed Cottonwood-Willow Riparian Forest DH= Disturbed Habitat UD= Urban/Developed **ORIGIN** N =Native to locality. I = Introduced species from outside locality.

Appendix E – Wildlife Species Observed within the Biological Study Area

Appendix E Wildlife Species Observed within the Biological Study Area					
Major Wildlife Group	Family	Scientific / Common Name	Origin	Occupied Habitat	Evidence of Occurrence
Birds	Accipitridae / Hawks, Kites, & Eagles	*Accipiter cooperii* / Cooper's hawk	N	SCWRF	O
		Buteo jamaicensis / red-tailed hawk	N	SCWRF, DCSS	O
		Buteo lineatus / red-shouldered hawk	N	SCWRF	O
	Aegithalidae / Bushtit	*Psaltriparus minimus* / bushtit	N	SCWRF, DCSS	O
	Anatidae / Ducks, Geese, & Swans	*Anas platyrhynchos platyrhynchos* / mallard	N	SCWRF	FO
	Apodidae / Swifts	*Aeronautes saxatalis* / white-throated swift	N	SCWRF, DCSS	O
		Chaetura vauxi / Vaux's swift	N	SCWRF	O
	Ardeidae / Herons & Bitterns	*Ardea herodias* / great blue heron	N	SCWRF	FO
		Butorides virescens / green heron	N	SCWRF	O
		Egretta thula / snowy egret	N	SCWRF	FO
	Cardinalidae / Cardinals & Grosbeaks	*Pheucticus melanocephalus* / black-headed grosbeak	N	SCWRF	O
		Piranga ludoviciana / western tanager	N	SCWRF	O
	Cathartidae / New World Vultures	*Cathartes aura* / turkey vulture	N	DCSS	FO
	Columbidae / Pigeons & Doves	*Zenaida macroura* / mourning dove	N	DCSS, DDCSS, SCWRF, DSCWRF, DH, UD	O
	Corvidae / Crows, Jays, & Magpies	*Corvus brachyrhynchos* / American crow	N	DCSS, DDCSS, DH	O
	Estrildidae / Weaver-Finches	*Lonchura punctulata* / scaly-breasted munia [=nutmeg manikin]	I	SCWRF	O
	Falconidae / Falcons	*Falco sparverius* / American kestrel	N	SCWRF, DCSS, DDCSS, DH	O
	Fringillidae / Finches	*Haemorhous* [=*Carpodacus*] *mexicanus* / house finch	N	DCSS, DDCSS, SCWRF, DSCWRF, DH, UD	O
		Spinus [=*Carduelis*] *lawrencei* / Lawrence's goldfinch	N	DCSS	O
		Spinus [=*Carduelis*] *psaltria* / lesser goldfinch	N	DCSS, DDCSS, SCWRF, DSCWRF, DH, UD	O
	Hirundinidae / Swallows	*Petrochelidon pyrrhonota* / cliff swallow	N	SCWRF	O
		Stelgidopteryx serripennis / northern rough-winged swallow	N	SCWRF	O
		Tachycineta bicolor / tree swallow	N	SCWRF	O
	Icteridae / Blackbirds & New World Orioles	*Euphagus cyanocephalus* / Brewer's blackbird	N	SCWRF	O

Appendix E Wildlife Species Observed within the Biological Study Area					
Major Wildlife Group	Family	Scientific / Common Name	Origin	Occupied Habitat	Evidence of Occurrence
Birds	Icteridae / Blackbirds & New World Orioles	*Icteria virens* / yellow-breasted chat	N	SCWRF	O
		Icterus cucullatus / hooded oriole	N	SCWRF	H
		Molothrus ater / brown-headed cowbird	N	SCWRF	O
	Mimidae / Mockingbirds & Thrashers	*Mimus polyglottos* / northern mockingbird	N	DCSS, DDCSS, DH, UD	O
		Toxostoma redivivum / California thrasher	N	DCSS	O
	Parulidae / Wood Warblers	*Cardellina* [=*Wilsonia*] *pusilla* / Wilson's warbler	N	SCWRF	O
		Geothlypis trichas / common yellowthroat	N	SCWRF	O
		Leiothlypis [=*Vermivora, Oreothlypis*] *celata* / orange-crowned warbler	N	SCWRF	O
		Setophaga [=*Dendroica*] *petechia* / yellow warbler	N	SCWRF	O
	Passerellidae / New World Passerines	*Melospiza melodia* / song sparrow	N	SCWRF, DSCWRF	O
		Melozone [=*Pipilo*] *crissalis* / California towhee	N	DCSS, DDCSS	O
		Pipilo maculatus / spotted towhee	N	SCWRF, DCSS	O
	Phalacrocoracidae / Cormorants	*Nannopterum auritum* =[*Phalacrocorax auritus*] / double-crested cormorant	N	SCWRF, DH	FO
	Picidae / Woodpeckers & Sapsuckers	*Dryobates* [=*Picoides*] *nuttallii* / Nuttall's woodpecker	N	SCWRF	O
		Dryobates [=*Picoides*] *pubescens* / downy woodpecker	N	SCWRF	O
	Polioptilidae / Gnatcatchers	*Polioptila caerulea* / blue-gray gnatcatcher	N	SCWRF	O
		Polioptila californica californica / coastal California gnatcatcher	N	DCSS	O
	Sturnidae / Starlings & Mynas	*Sturnus vulgaris* / European starling	I	DDCSS, DH, UD	O
	Sylviidae / Babblers	*Chamaea fasciata* / wrentit	N	DCSS	H
	Trochilidae / Hummingbirds	*Calypte anna* / Anna's hummingbird	N	SCWRF, DCSS, UD	O
		Selasphorus sasin / Allen's hummingbird	N	SCWRF	O
	Troglodytidae / Wrens	*Thryomanes bewickii* / Bewick's wren	N	DCSS	O
		Troglodytes aedon / house wren	N	SCWRF	O
	Turdidae / Thrushes	*Catharus ustulatus* / Swainson's thrush	N	SCWRF	H
		Sialia mexicana / western bluebird	N	SCWR	O
	Tyrannidae / Tyrant Flycatchers	*Contopus sordidulus* / western wood-pewee	N	SCWRF	O

Appendix E Wildlife Species Observed within the Biological Study Area					
Major Wildlife Group	Family	Scientific / Common Name	Origin	Occupied Habitat	Evidence of Occurrence
Birds	Tyrannidae / Tyrant Flycatchers	*Empidonax difficilis* / Pacific-slope flycatcher	N	SCWRF	H
		Myiarchus cinerascens / ash-throated flycatcher	N	SCWRF	O
	Vireonidae / Vireos	*Vireo bellii pusillus* / least Bell's vireo	N	SCWRF	O
		Vireo huttoni huttoni / Hutton's vireo	N	SCWRF	O
Reptiles	Teiidae / Whiptail Lizards	*Aspidoscelis hyperythra beldingi* [=*Cnemidophorus hyperythrus*] / Belding's orange-throated whiptail	N	SCWRF	O

NOTE: Zoological nomenclature for invertebrates is in accordance with the NatureServe 2023 and Evans 2008; for fish with NatureServe 2023; for reptiles and amphibians with Crother et. al (2017); for birds with Chesser et al. 2022; for mammals with Bradley et al. (2014), American Society of Mammalogists 2023. Determination of the potential occurrence for listed, sensitive, or noteworthy species is based upon known ranges and habitat preferences for species follows Eriksen and Belk 1999, Nature Festivals of San Diego County 2002, Evans 2008, Page et al. 2013, Jennings and Hayes 1994, Unitt 2004, Tremor et. al. 2017, Western Bat Working Group 2023, and Harvey et. al 2011. Federal and state listing status is based on California Department of Fish and Wildlife, Natural Diversity Database (CDFW) 2023a.

ORIGIN

N= Native to locality.
I= Introduced species from outside locality.

HABITAT

DCSS= Diegan Coastal Sage Scrub
DDCSS= Disturbed Diegan Coastal Sage Scrub
SCWRF= Southern Cottonwood-Willow Riparian Forest
DSCWRF= Disturbed Cottonwood-Willow Riparian Forest
DH= Disturbed Habitat
UD= Urban/Developed

EVIDENCE OF OCCURRENCE

FO= Fly Over
H= Heard
O= Observed

Appendix F – Aquatic Resource Delineation Report for the Riverford Road Roundabouts Project

Aquatic Resource Delineation Report for the Riverford Road Roundabouts Project San Diego County, California

Prepared for
County of San Diego, Department of Public Works
Environmental Services Unit, MS O-332
5510 Overland Avenue, Suite 410
San Diego, CA 92123
Attn: Masha Landau

Prepared by
RECON Environmental, Inc.
3111 Camino del Rio North, Suite 600
San Diego, CA 92108
P 619.308.9333

RECON Number 9009-30A
December 15, 2023

Andrew Smisek, Associate Biologist

TABLE OF CONTENTS

TABLE OF CONTENTS (cont.)

ATTACHMENTS

Acronyms and Abbreviations

APT	Antecedent Precipitation Tool
CDFW	California Department of Fish and Wildlife
County	County of San Diego
DPW	Department of Public Works
FAC	Facultative
FACW	Facultative-Wetland
GPS	global positioning system
NI	No Indicator
NRCS	Natural Resource Conservation Service
NWI	National Wetland Inventory
OHWM	Ordinary High Water Mark
PIA	Project Impact Area
project	Riverford Road Roundabouts Project
RECON	RECON Environmental, Inc.
RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SR-67	State Route 67
TNW	Traditional Navigable Water
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey

1.0 Site Description and Landscape Setting

The County of San Diego (County), Department of Public Works (DPW) is proposing the Riverford Road Roundabouts Project (project), located within the unincorporated community of Lakeside in eastern San Diego County, at the State Route 67 (SR-67)/Riverford Road interchange, north of Interstate 8 (assessor's parcel numbers are included in Table 1; Figures 1, 2, and 3). All figures provided with this report are compiled as Attachment 1 and all tables are compiled as Attachment 2. The project area is located within the El Cajon Land Grant of the U.S. Geological Survey (USGS) 7.5-minute topographic map, El Cajon quadrangle (USGS 1994; see Figure 2). The project boundary (also referred to as Project Impact Area [PIA]) encompasses 17.64 acres and is comprised of two separate but closely-spaced intersections, one at the intersection of Woodside Avenue and Riverford Road, just south of SR-67, and one at the intersection of Riverford Road and the SR-67 southbound on- and off-ramps and North Woodside Avenue just north of SR-67 (see Figure 3). For the purposes of this report, the Review Area encompasses the proposed project boundary plus a buffer generally 100 feet in width, totaling 40.21 acres (see Figure 3). The Review Area includes portions of freeways, roadways, embankments, a Park & Ride lot, and other disturbed areas associated with developed areas surrounding the project boundary.

The County DPW staff would like to accompany the U.S. Army Corps of Engineers (USACE) on all site visits, and requests that the USACE must contact the County DPW staff prior to visiting the site. The contact information for the County is:

Property Owner:	County of San Diego
Applicant:	County of San Diego, Department of Public Works
Primary Contact:	Jeff Kashak
Telephone:	(858) 288-5740
E-mail:	Jeff.Kashak@sdcounty.ca.gov

2.0 Site Alterations, Current and Past Land Use

The Review Area has undergone significant modification over time as a result of increased development. It consists primarily of developed highways and roadways, associated intersections and medians, parking lots, and commercial developments (see Figure 3). More specifically, the Review Area encompasses portions of SR-67, portions of Riverford Road, Woodside Avenue, North Woodside Avenue, and Woodside Terrace. The alignment and extent of these roadways have remained relatively unchanged over the recent decades. Undeveloped land, disturbed land, and commercial development occur north and southwest of SR-67. Disturbed land with ornamental vegetation occurs on the southern edge of SR-67 along Riverford Road, while residential developments and single-family homes are located further to the southeast and southwest, respectively.

The San Diego River, whose downstream area nearer to the Pacific Ocean is a designated Traditional Navigable Water (TNW), occurs in the northern portion of the Review Area, approximately 0.10 mile north of SR-67 southbound. The San Diego River flows east-to-west and runs underneath the Riverford Road bridge outside of the project footprint. The river appears to occur along its natural

pathway; however, the slopes on either side of the active floodplain have been manufactured as part of adjacent development. A number of culverts, brow ditches, and other stormwater structures occur in association with the developed roadways within the Review Area. Runoff from the surrounding areas generally flows through these structures and eventually into the nearby San Diego River.

2.1 Soils

Information on the soil types sampled in the Review Area (Figure 4) is summarized from the Soil Survey for San Diego County (U.S. Department of Agriculture [USDA] 1973), the San Diego Association of Governments' (SANDAG) 1995 geographic information system data (SANDAG 1995), and the Hydric Soils of California list obtained from the USDA Natural Resource Conservation Service (NRCS; 2023).

Four soil series—Riverwash, Tujunga sand, Visalia sandy loam, and Vista coarse sandy loam—were mapped within the Review Area (USDA 1973; see Figure 4). Riverwash is considered a hydric soil and has been mapped beneath SR-67 in the center of the Review Area as shown in Figure 4. Tujunga sand (0 to 5 percent slopes) occurs in the northern and southern portions of the Review Area. Tujunga sand, 0 to 5 percent slopes, can be a hydric soil when occurring in drainageways and floodplains (NRCS 2023). Visalia sandy loam (0 to 2 percent slopes) occurs in the southwestern corner of the Review Area and Vista coarse sandy loam (30 to 65 percent slopes) occurs along the southern edge of the Review Area. Neither of these soil types are considered hydric (NRCS 2023).

2.2 Hydrology

As mentioned above, most of the hydrology within the Review Area has been altered to collect and convey a majority of runoff through stormwater structures and into the San Diego River. The entire review area occurs within the San Diego River watershed. For instance, runoff in the southern portion of the Review Area is directed generally northward through a series of existing culverts under Woodside Avenue and under SR-67, eventually draining into the San Diego River. A shallow ditch has been constructed at the outfall of a culvert in the northeastern portion of the Review Area where water appears to pond temporarily, supporting a small patch of disturbed southern cottonwood-willow riparian forest. Additionally, a ditch occurs parallel and southeast of the SR-67 northbound offramp. This ditch appears to collect runoff from the surrounding developed roadways and undeveloped slopes, conveying water southwest along a natural-bottom channel and eventually into a culvert outside the Review Area that extends north to empty into the San Diego River. The river appears to occur along its natural pathway and contains a natural bottom. However, there is a substantial amount of trash and the banks have been manufactured to confine flow within the active floodplain. From the Review Area, the San Diego River travels generally west and southwest for approximately 20 miles and empties into the Pacific Ocean.

2.3 Vegetation

Six vegetation communities/land cover types were mapped within the Review Area: southern cottonwood-willow riparian forest, disturbed southern cottonwood-willow riparian forest, Diegan coastal sage scrub, disturbed Diegan coastal sage scrub, disturbed land, and urban/developed land.

Figure 5 provides locations of each vegetation community/land cover type within the Review Area and Table 2 lists the vegetation communities/land cover types and their acreages within the Review Area.

Southern Cottonwood-Willow Riparian Forest

Southern cottonwood-willow riparian forest is characterized by tall, open, broad-leafed winter-deciduous riparian forests dominated by native cottonwoods and willows along rivers and streams (Oberbauer et al. 2008). This habitat occurs in the north and northwestern portions of the Review Area (Photograph 1). All photographs are comprised as Attachment 3. This vegetation community is dominated by Fremont cottonwood (*Populus fremontii* ssp. *fremontii*) and Goodding's black willow (*Salix gooddingii*), with an understory dominated by mule fat (*Baccharis salicifolia* ssp. *salicifolia*), desert wild grape (*Vitis girdiana*), and stickywilly (*Galium aparine*).

Disturbed Southern Cottonwood-Willow Riparian Forest

Disturbed southern cottonwood-willow riparian forest habitat occurs in the north and northeast portions of the Review Area (Photograph 2). This vegetation community is dominated by Fremont cottonwood and mule fat, but contains non-native saltcedar (*Tamarix ramosissima*), with an understory dominated by non-native grasses.

Diegan Coastal Sage Scrub

Diegan coastal sage scrub consists of low, soft-woody subshrubs that are most active in winter and early spring, typically on low moisture-availability sites (Oberbauer et al. 2008). This habitat occurs along the southern border of the Review Area, south of Woodside Avenue (Photograph 3) and along the northern border of the Review Area, north of North Woodside Avenue. This vegetation community is dominated by California sagebrush (*Artemisia californica*) and California buckwheat (*Eriogonum fasciculatum*), with intermixed non-native grasses present in the herb layer.

Disturbed Diegan Coastal Sage Scrub

Disturbed Diegan coastal sage scrub habitat occurs as small patches in the northern, northwestern, and southern portions of the Review Area, along Woodside Avenue and North Woodside Avenue (Photograph 4). This vegetation community is dominated by California sagebrush and California buckwheat, but these native shrubs occur at a lower density than that of the undisturbed form of Diegan coastal sage scrub described above. Additionally, this disturbed form supports a higher cover of non-native grasses, including rattail sixweeks grass (*Festuca myuros*).

Disturbed Habitat

Disturbed habitat consists of areas that have been physically disturbed and are no longer recognizable as a native or naturalized vegetation association but continue to retain a soil substrate (Oberbauer et al. 2008). This habitat occurs along developed roadways and in highway medians in the central and southern portions of the Review Area (Photograph 5). This vegetation community is dominated by non-native grasses, smooth cat's-ear (*Hypochaeris glabra*), and Italian thistle (*Carduus pycnocephalus*) occurring in the median south of SR-67.

Urban/Developed

Urban/developed consists of areas that have been constructed upon or otherwise physically altered to an extent that native vegetation is no longer supported (Oberbauer et al. 2008). Urban/developed occurs as the dominant land cover type within the Review Area (Photograph 6). Urban/developed includes paved roads and highways, such as SR-67, Riverford Road, Woodside Avenue, North Woodside Avenue, and Woodside Terrace, as well as residences, commercial developments, and associated ornamental vegetation (Figure 6 and Photograph 6).

3.0 Precipitation Data and Analysis

Climate data, including precipitation totals, was gathered from the NRCS National Water and Climate Center databases using the Antecedent Precipitation Tool (APT). This climate data, and the weather stations from which it was obtained, is presented in Attachment 4. Details regarding climate data for the project site are discussed below.

3.1 Climate and Growing Season

The project is located within an inland valley of southern California, in an area generally characterized by moderate temperature fluctuations throughout the year, with hot and dry summers and cooler and wetter winters. The majority of precipitation typically falls between December and March as somewhat frequent low- to moderate-intensity rainfall. The growing season typically lasts into early summer after winter and spring rainfall and ends in mid to late summer when little to no precipitation occurs and as temperatures increase. Rainfall amounts can vary substantially from year to year, with the potential for periods of extended drought.

3.2 Antecedent Precipitation Tool Summary

The APT was used to analyze the 30-day rolling total and the 30-year normal range of precipitation data for the nearest recording weather stations to the project. The data presented in the APT results graphics (Attachment 4) indicate that wetter than normal conditions occurred at the time of the September 12, 2023 survey.

3.3 Wetland Hydrology and Analysis

Hydrology within the Review Area consists of the San Diego River, which supports a perennial flow regime. Other hydrology features include the natural-bottom channel within the ditch that runs parallel and southeast of the SR-67 northbound offramp in the southwestern portion of the Review Area, as well as the ditch in the northeastern portion of the Review Area that supports temporary ponding and the various concrete brow ditch and stormwater culvert features associated with the developed roadways. The channel in the southwestern portion of the Review Area appears to support an ephemeral flow regime.

According to the results of the APT, one substantial rain event occurred within the 30-day period prior to the September 12, 2023, survey. The event was the result of landfall of tropical storm Hilary that produced approximately two inches of rain in the vicinity of the project about 3.5 weeks prior to the survey. As a result, conditions were considered "wetter than normal" for this time of year; however, the majority of the runoff from that event is expected to have ceased by the time the survey was conducted. These conditions were considered when analyzing the hydrology of the on-site features as discussed in Sections 4.0 and 5.0 below.

4.0 Investigation Methods

An aquatic resources delineation, following the guidelines set forth by USACE, including the *Corps of Engineers Wetlands Delineation Manual* (1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (2008), was performed by RECON Environmental, Inc. (RECON) biologists Andrew Smisek and Julia Gaudio on September 12, 2023, within the Review Area to gather field data at locations where aquatic resources occur. Once on-site, the potential federal and state jurisdictional areas were examined to determine the presence and extent of any aquatic resources. Figure 5 depicts the location of each sample point within the Review Area. The results of this investigation can be found in Section 5.0.

4.1 Wetland Parameters

4.1.1 Hydrophytic Vegetation

Vegetation communities comprising partially or entirely hydrophytic plant species were examined, and data for each vegetation stratum (i.e., tree, shrub, herb, and vine) were recorded on the datasheet provided in the 2008 Arid West Regional Supplement (USACE 2008). The percent absolute cover of each species present was visually estimated and recorded.

First, the wetland indicator status of each species recorded within a vegetation community was determined by using the National Wetland Plant List (USACE 2020). Dominant species considered to have an indicator status of NI (No Indicator) because they are not listed in the 2020 National Wetland Plant List were evaluated as either wetland or upland indicator species based on local professional knowledge of where the species are most often observed in habitats that are characteristic in southern California.

The dominance test was then used to determine which vegetation community qualified as hydrophytic vegetation at each sample point. In situations where a site failed the dominance test but contained positive indicators of hydric soils and/or wetland hydrology, the prevalence index was used. The presence or absence of morphological adaptations was noted; however, none of the sampled wetland areas required an analysis of morphological adaptations to determine if the vegetation was hydrophytic.

4.1.2 Hydric Soils

Sample points were selected within potential wetland areas and where the apparent boundary between wetland and upland was inferred based on changes in the composition of vegetation and topography (see Figure 5). A total of seven soil pits were dug to a depth of at least 18 inches (except where restrictive layers were encountered) to determine soil color, evidence of soil saturation, depth to groundwater, and indicators of a reduced soil environment (i.e., mottling, gleying, and hydrogen sulfide odor). A Munsell Soil-Color Book (2009) was used to determine soil colors, and the 2008 Arid West Regional Supplement (USACE 2008) and the Field Indicators of Hydric Soils in the United States guide (USDA 2017) was used to determine the presence of hydric soil indicators.

4.1.3 Wetland Hydrology

Hydrologic information for the site was obtained by reviewing USGS topographic maps and recent topographic survey data and by directly observing hydrology indicators in the field. All portions of any potentially occurring wetlands or non-wetland waters within the Review Area were inspected for signs of hydrology as defined in the 2008 Arid West Regional Supplement (USACE 2008). The results of this investigation can be found in Section 5.0.

4.2 Pre-Field Review

Prior to conducting the delineation, aerial photographs between 1994 and 2023 (Google 2023), USGS topographic maps of the site, including the 7.5-minute El Cajon quadrangle (USGS 1994; see Figure 2), USDA soil maps of the site, and the U.S. Fish and Wildlife Service National Wetland Inventory (NWI) (U.S. Fish and Wildlife Service 2023; see Figure 6) were examined to aid in the determination of potential aquatic resources on-site.

4.3 On-site Wetland Investigation

Once on-site, the Review Area was examined to determine the presence of any indicators of wetlands, including wetland vegetation, hydric soils, and hydrology. Field data, including hand drawn maps and recorded global positioning system (GPS) points and lines, were later digitized/downloaded into ArcGIS. Mapped potential jurisdictional waters created using these data were analyzed in ArcGIS to provide acreages or target potential jurisdictional and vegetation boundaries. USACE wetland determination data forms are included as Attachment 5 and photographs of the Review Areas are provided in Attachment 3. Descriptions of the potential wetland vegetation communities sampled are provided below.

The Review Area supports hydrophytic vegetation within the disturbed and undisturbed forms of southern cottonwood-willow riparian forest, which occur in the northern portion of the Review Area along the San Diego River and as a small patch south of the river in the northeastern portion of the Review Area (see Figure 5). Small patches of hydrophytic vegetation also occur in areas mapped as disturbed Diegan coastal sage scrub that support a predominance of the non-native Mexican palo verde (*Parkinsonia aculeata*; Facultative [FAC]), occurring in the central portion of the Review Area

(see WET 1 sample point on Figure 5). Southern cottonwood-willow riparian forest, dominated by Fremont cottonwood (NI, but assigned indicator of FAC based on local professional knowledge), Goodding's black willow (Facultative-wetland [FACW]), mule fat (FAC), and desert wild grape (FAC), is the most abundant vegetation community within the active floodplain of the San Diego River (see Photograph 1).

Within the northwestern portion of the Review Area, the floodplain of the San Diego River contains undulating topography that has resulted in a floodplain swale that was found to support standing water at the time of the survey. This long and narrow swale feature supports southern cottonwood-willow riparian forest like the surrounding areas that are slightly elevated above this swale. A small patch of the disturbed form of this habitat occurs approximately 120 feet south of the river, on the other side of an elevated and graded berm. This disturbed form supports one large Fremont cottonwood (FAC), scattered saltcedar (FAC), and a shrub layer dominated by mule fat (FAC; Photograph 7).

The remaining areas mapped as disturbed habitat, as well as areas of disturbed and undisturbed Diegan coastal sage scrub and urban/developed land, do not support a predominance of hydrophytic plant species. The areas are dominated by native upland shrubs and/or non-native upland grasses, with the urban/developed areas mostly lacking vegetation.

4.4 On-site Ordinary High Water Mark Investigation

The lateral extent of the ordinary high water mark (OHWM) was delineated along the on-site drainages, including the San Diego River and a small channel in the southwestern portion of the Review Area, using the observed hydrology indicators in accordance with *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Lichvar and McColley 2008). The OHWM sample locations are depicted on Figure 5 and the OHWM data forms are included as Attachment 6. Indicators observed and used to determine the extent of the OHWM include change in average sediment texture, change in vegetation species and cover, a break in bank slope, and ancillary indicators, such as wracking and water staining (Photograph 8). The distribution and abundance of observed indicators varied between those within the San Diego River active floodplain and those along the small channel in the southwestern portion of the Review Area. The river supports a diverse suite of OHWM indicators that were abundant and consistent throughout the active floodplain (see Attachment 6: OHWM sheet #2). The river contained flowing water within the observed low-flow channel at the time of the survey (Photograph 9). While the small channel contained fewer indicators, those observed were consistent throughout, including a break in slope, change in sediment texture, and wracking, resulting in a consistently observed OHWM (Photograph 10; see Attachment 6: OHWM sheet #1).

5.0 Description of Aquatic Resources

The aquatic resources delineated occur within the active floodplain of the San Diego River in the northern portion of the Review Area, which supports wetland areas mapped as southern cottonwood-willow riparian forest as well as a small portion of non-wetland waters that does not support hydrophytic vegetation but occurs within the extent of the OHWM. The wetland areas have

been mapped to the extent of hydrology and hydric soil indicators. Where portions of the hydrophytic vegetation canopy extend outside of those indicators, this habitat has been mapped as riparian, but not as wetlands. Additionally, a patch of disturbed southern cottonwood-willow riparian forest outside of the active floodplain of the river has been mapped as riparian. The small channel in the southwestern portion of the Review Area has been mapped as non-wetland waters at the lateral extent of the observed OHWM. These wetland, riparian, and non-wetland aquatic resources total 3.43 acres and 410 linear feet within the Review Area. A summary of the aquatic resources and their location within the Review Area are provided in Table 3 and on Figure 7, respectively.

5.1 Wetlands

The delineated wetlands include the areas mapped as southern cottonwood-willow riparian forest located within the active floodplain of the San Diego River in the northern portion of the Review Area, totaling 1.96 acres (see Figure 7 and Table 3). Wetlands here were mapped to the extent of the areas meeting all three wetland criteria, which mostly coincides with the extent of the OHWM in the vicinity of the Riverford Road bridge. However, as described below, a small area within the OHWM does not support hydrophytic vegetation and, therefore, has been mapped as non-wetland waters. In the northwestern portion of the Review Area, a swale occurs within the broader river floodplain and supports wetlands. This wetland swale occurs southeast of the active floodplain of the river, which is situated to the north outside of the Review Area. Aside from meeting the hydrophytic vegetation standard, as described in Section 4.3 above, the delineated wetlands also met the hydric soil and wetland hydrology standards (see Attachment 5: Datasheets 4 and 5). Specifically, the wetlands met the black histic and sandy redox hydric soil indicators (Photograph 11) and contained the following wetland hydrology indicators: surface water, saturation, non-riverine sediment deposits, non-riverine drift deposits, oxidized rhizospheres along living roots, drainage patterns, and the FAC-Neutral Test.

5.2 Non-wetland Waters

As described above, non-wetland waters were delineated within the unvegetated portions of the active floodplain of the San Diego River in the north-central portion of the Review Area (see Figure 7). The area of non-wetland waters within the river includes a small portion mapped as disturbed habitat but occurring within the OHWM. As mentioned above, the river appears to occur along its natural path. Most of the active floodplain of the San Diego River, mapped at the OHWM, contains hydrophytic vegetation and meets the three wetland criteria. Therefore, these areas have been mapped as wetlands rather than non-wetland waters. The San Diego River appears to support a perennial flow regime.

Non-wetland waters were delineated along the extent of the small channel in the southwestern portion of the Review Area (see Figure 7). This feature also occurs in an area mapped as disturbed habitat and occurs along the bottom of a manufactured ditch between a slope leading up to the SR-67 northbound offramp and a developed asphalt lot (see Figure 7). The small southwestern channel does not support any hydrophytic vegetation and, therefore, does not support any wetlands. The extent of the mapped non-wetland waters was delineated at the OHWM, which coincides with a break in slope, a change in vegetation and sediment composition, and other OHWM indicators

mentioned in Section 4.4 above. The small southwestern channel feature appears to support an ephemeral flow regime. Together, the non-wetland waters within the San Diego River and within the small channel total 0.16 acre and 410 linear feet within the Review Area (see Figure 7 and Table 3).

5.3 Riparian

Areas mapped as riparian total 1.31 acres and include all portions of the Review Area mapped as southern cottonwood-willow riparian forest and a patch of disturbed southern cottonwood-willow riparian forest outside the extent of the wetland and non-wetland waters mentioned above (see Figure 7). As discussed in Section 4.3, these areas are characterized by Fremont cottonwood, Goodding's black willow, and saltcedar, with an understory dominated by mule fat, desert wild grape, and stickywilly. Because these areas occur adjacent to the active floodplain of the San Diego River, they likely have ecological connections to this feature. However, the riparian areas lack the hydrology and hydric soil indicators required to meet the USACE definition of a wetland.

6.0 Deviation from National Wetland Inventory

The results of this analysis vary from those classified in the NWI (see Figure 6). The NWI mapping does not include the small channel in the southwestern portion of the Review Area or the small patch of riparian mapped as disturbed southern cottonwood-willow riparian forest in the northeastern portion of the Review Area. Along the San Diego River corridor, the NWI includes mapping of mostly freshwater forested/shrub wetland, as well as freshwater emergent wetland mapped within the northern portion of the Review Area. The mapping of freshwater forested/shrub wetland is consistent with what was observed onsite, aside from the NWI showing a narrower wetland corridor compared to the observed onsite conditions.

7.0 Mapping Method

The maps of the delineated aquatic resources within the Review Area are based on the above analysis (see Figure 7). The boundary of most of the aquatic resources was obtained from a combination of GPS data collected in the field, aerial photography, and recent topographic survey data. Geographic information system mapping software (ArcMap) was used to produce the graphical maps contained in this report.

8.0 Results and Conclusions

Wetlands, non-wetland waters, and riparian aquatic resources were delineated within the Review Area and include all areas mapped as southern cottonwood-willow riparian forest and disturbed southern cottonwood-willow riparian forest, as well as a small channel occurring within an area mapped as disturbed habitat. These features total 3.43 acres.

9.0 Disclaimer Statement

This report describes the results of an aquatic resource delineation conducted within the approximately 40.21-acre Review Area. It was prepared in accordance with the Minimum Standards for Acceptance of Aquatic Resources Delineation Reports (USACE 2017). The aquatic resource delineation is used to identify and map the potential extent of the federal jurisdictional waters of the U.S. The purpose of this study was to identify and map the limits of any aquatic resources on the property to provide necessary background information for analysis by USACE, Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) in making a jurisdictional determination. Those agencies will review the content of this report and ultimately make a determination of their jurisdiction for any waters of the U.S. and/or waters of the state that may be present in the Review Area. References used in the preparation of this report are included below in Attachment 7. A discussion about the potential jurisdictional limits of the USACE, RWQCB, and CDFW is included in Section 10 below.

10.0 Potential Jurisdictional Resources

This section provides a discussion of the potential for on-site aquatic resources to be considered waters under the jurisdiction of three agencies: USACE, RWQCB, and CDFW.

10.1 Potential USACE Waters of the U.S.

Under the Clean Water Act Section 404, the USACE is authorized to regulate waters of the U.S. The currently accepted regulations defining waters of the U.S. follow the September 8, 2023, publishing of the final U.S. Environmental Protection Agency (U.S. EPA) rule: *Revised Definition of "Waters of the U.S.", Conforming*. Notably, this new rule provides a new interpretation of the term "adjacent" whereas wetlands must contain a surface hydrologic connection to other waters of the U.S. to be considered adjacent waters of the U.S. Additionally, this new rule eliminates the applicability of the significant nexus standard for "non-relatively permanent waters", so any ephemeral features are no longer likely to be considered waters of the U.S.; however, waters with at least intermittent flow regimes may still be considered Waters of the U.S.

Within the Review Area, under the revised U.S. EPA rule, the areas of potential waters of the U.S include the wetlands shown in Figure 7, as well as the small portion of the active floodplain of the San Diego River mapped as non-wetland waters. As described in Section 5.0 above, the wetlands and non-wetland waters within the San Diego River occur within the active floodplain, delineated at the extent of the OHWM. The areas mapped as wetlands contain sufficient cover of hydrophytic vegetation, being mapped as southern cottonwood-willow riparian forest dominated by Fremont cottonwood and Goodding's black willow. These areas meet the three wetland parameters for hydrophytic vegetation, hydric soils, and hydrology and, as discussed below, would likely be considered wetland waters of the U.S. The small portion of non-wetland waters within the San Diego River includes those areas within the OHWM that are primarily unvegetated. These areas do not meet the wetland criteria and are mapped as disturbed habitat in Figure 5. As discussed below, they would likely be considered non-wetland waters of the U.S.

The portion of the San Diego River within the Review Area supports a perennial flow regime and, as such, would be considered a "relatively permanent water" under the revised definition of Waters of the U.S. Additionally, this portion of the river has downstream connectivity to portions of the San Diego River that are considered a TNW (USACE 2023). Therefore, the wetland and non-wetland waters within the San Diego River corridor in the northern portion of the Review Area meet the definition of waters of the U.S. and would likely be under the jurisdiction of the USACE, totaling 2.08 acres and 110 linear feet (Figure 8 and Table 4). As discussed in Section 11 below, these potentially jurisdictional resources are limited to underneath and adjacent to the bridge outside of any works areas and thus would not be impacted by the project.

The small channel in the southwestern portion of the Review Area occurs outside the of the PIA, appears to support an ephemeral flow regime, and would be considered a "non-relatively permanent water." Although it has connectivity to the San Diego River, the lack of at least intermittent flow would likely preclude it from being considered waters of the U.S. As mentioned above, the areas mapped as riparian lack hydric soil and wetland hydrology indicators to be considered a wetland and, therefore, riparian areas would not be considered waters of the U.S.

10.2 Potential RWQCB Waters of the State

The RWQCB is the regional agency responsible for protecting water quality in California. The jurisdiction of this agency includes all waters of the state and all waters of the U.S. as mandated by Section 401 in the Clean Water Act and the California Porter-Cologne Water Quality Control Act. The California Water Code defines "waters of the state" broadly to include "any surface water or groundwater, including saline waters, within the boundaries of the state." Under the new State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State, revised on April 6, 2021 by the State Water Resources Control Board, state wetlands are defined as, "under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation." This new procedure and wetland definition also clarifies that waters of the state include any historic definition of waters of the U.S., which may include those features newly excluded from the new waters of the U.S. definition.

All waters of the U.S. described above, within the Review Area, fall within the Clean Waters Act Section 401 authority of the RWQCB and would likely be considered waters of the state. Additionally, the small channel in the southwestern portion of the Review Area, which occurs outside of the PIA, may have been historically considered waters of the U.S. prior to the new rule. As such, it would likely be considered non-wetland waters of the state under RWQCB jurisdiction. The areas of potential RWQCB waters of the state total 2.12 acres and 410 linear feet (see Figure 8 and Table 4). The areas of riparian are unlikely to be considered jurisdictional under the RWQCB because they do not meet the definition of "wetland" per the new *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (State Water Resources Control Board 2021).

10.3 Potential CDFW Jurisdictional Resources

Under Sections 1600–1607 of the California Fish and Game Code, the CDFW regulates activities that would divert or obstruct the natural flow or would substantially change the bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. The CDFW has jurisdiction over riparian habitats associated with watercourses. Jurisdictional areas are delineated by the outer edge of riparian vegetation or at the top of the bank of streams or lakes, whichever is wider. Within the Review Area, areas likely under the jurisdiction of CDFW include those RWQCB wetland and non-wetland waters of the state described above. These areas would likely be considered CDFW Riparian and CDFW Streambed, respectively.

In addition, the extent of riparian areas depicted in Figure 7 would likely be considered CDFW Riparian. These areas are comprised of southern cottonwood-willow riparian forest adjacent to the active floodplain of the San Diego River and disturbed southern cottonwood-willow riparian forest occurring approximately 120 feet south of the river corridor. Although this small patch of riparian is not directly adjacent to the river, it occurs in the natural valley bottom of the broader historic floodplain of the San Diego River and likely shares subsurface connectivity. Therefore, it can be considered as riparian habitat associated with the San Diego River watercourse. The extent of riparian habitats associated with watercourses that would likely be considered CDFW Riparian and Streambed within the Review Area totals 3.43 acres and 410 linear feet (see Figure 8 and Table 4).

11.0 Impacts to Potential Jurisdictional Resources

This section provides a summary of the project's impacts to on-site aquatic resources with potential to be considered waters under the jurisdiction of three agencies: USACE, RWQCB, and CDFW. As described above, the Review Area includes the 17.64-acre PIA plus a 100-foot buffer. This section discusses the aquatic resources that occur within the PIA only and whether they will be impacted by the proposed project. The project would construct roundabouts at two intersections, which would be widened to accommodate these improvements. The project would also construct crosswalks and shared-use pathways, as well as relocate necessary public utilities. Permanent impacts would occur as a result of the construction of these permanent structures and temporary impacts would result from project-related temporary vegetation removal or trampling, access, and staging of equipment.

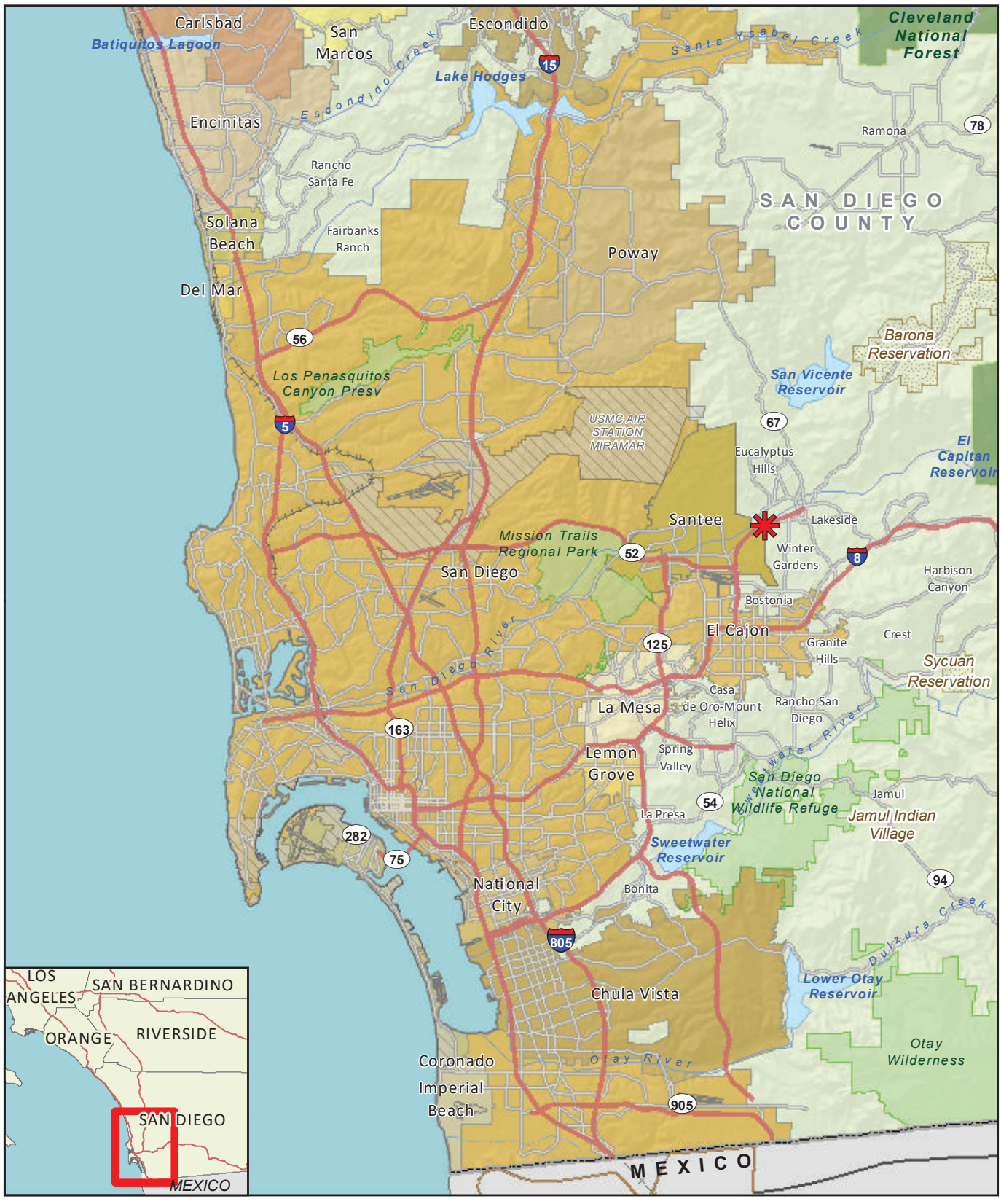
Figure 9 depicts the project's permanent and temporary impact boundaries based on the currently proposed project plans and Table 5 summarizes the areas where temporary and permanent impact areas overlap with the mapped aquatic resources. It should be noted that the area of temporary impacts along the Riverford Road bridge would only include construction activities along the surface of the bridge and no impacts would occur to the aquatic resources occurring below the bridge.

The proposed project would result in permanent impacts to 0.04 acre of potential CDFW Riparian and temporary impacts to 0.04 acre of potential CDFW Riparian (see Figure 9 and Table 5). No direct impacts would occur to potential USACE/RWQCB Wetland or Non-wetland Waters of the U.S./State as the work along the Riverford Road bridge would not result in direct impacts to the aquatic resources within the San Diego River below and the project would avoid direct impacts to all other onsite aquatic resource areas.

ATTACHMENTS

ATTACHMENT 1

Maps



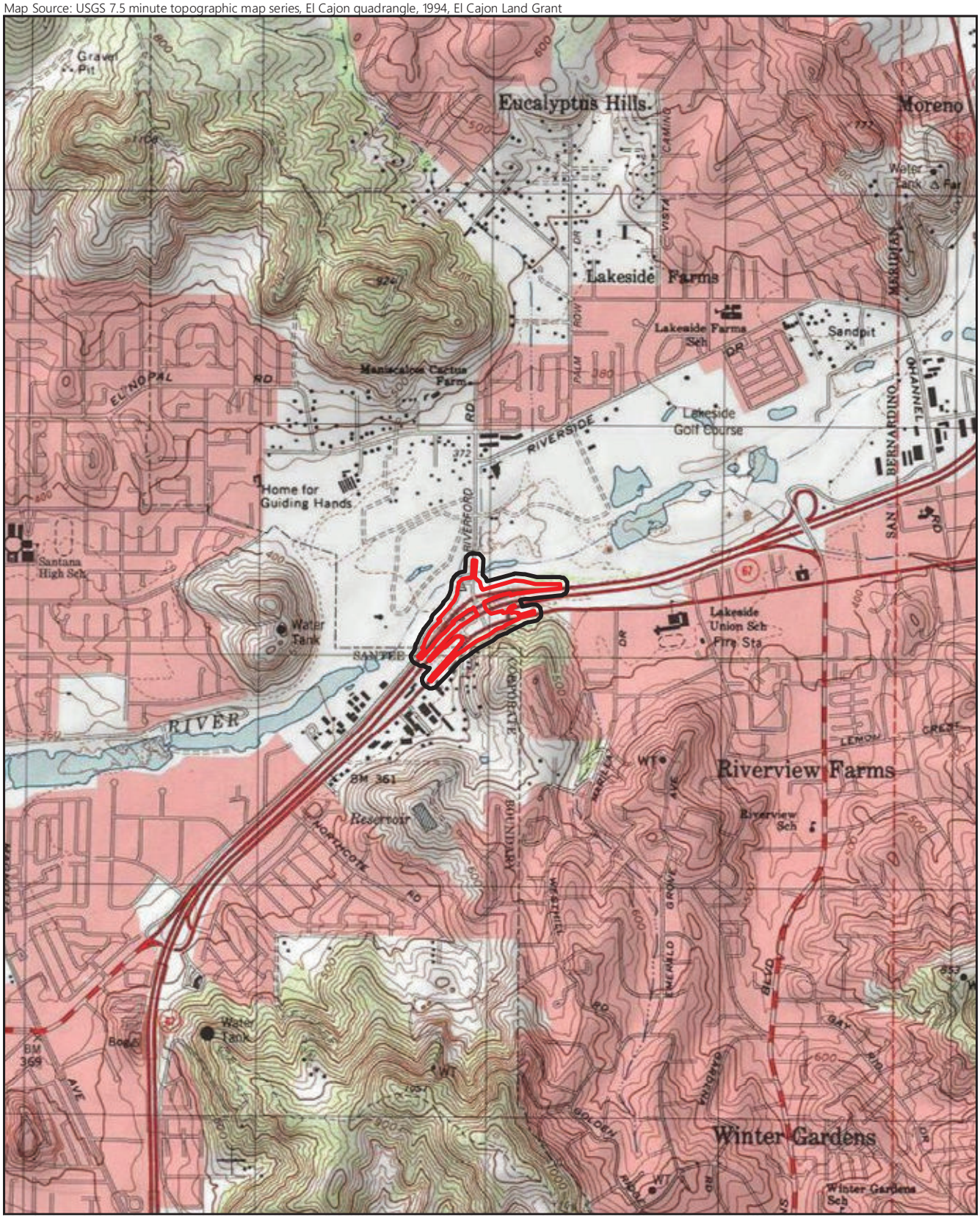
Project Location

RECON

\\serverfs02.recon-us.com\GIS\JOBS5\9009\9009.30A\common_gis\MXD\ARDR\fig1.mxd 10/6/2023 fmm

FIGURE 1
Regional Location

Map Source: USGS 7.5 minute topographic map series, El Cajon quadrangle, 1994, El Cajon Land Grant



Project Boundary

Review Area

RECON

M:\JOBS5\9009\9009.30A\common_gis\MXD\ARDR\fig2_USGS.mxd 10/13/2023 fmm

FIGURE 2
Project Location on USGS Topo

Image Source: NearMap (flown June 2023)

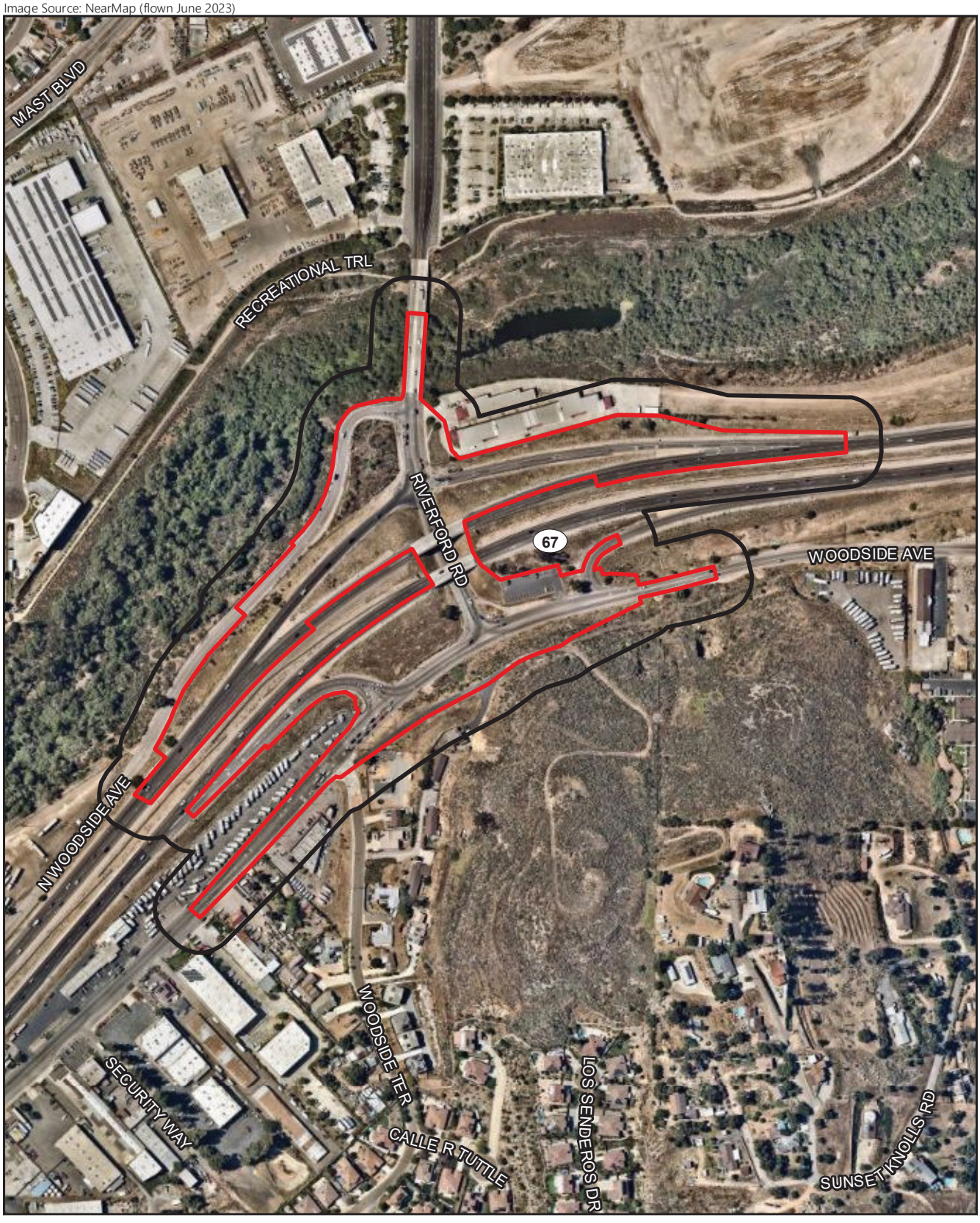


FIGURE 3

Project Location on Aerial Photograph

RECON

\\serverfs02.recon-us.com\GIS\JOBS5\9009\9009.30A\common_gis\MXD\ARDR\fig3_aerial.mxd 10/6/2023 fmm

Image Source: NearMap (flown June 2023)

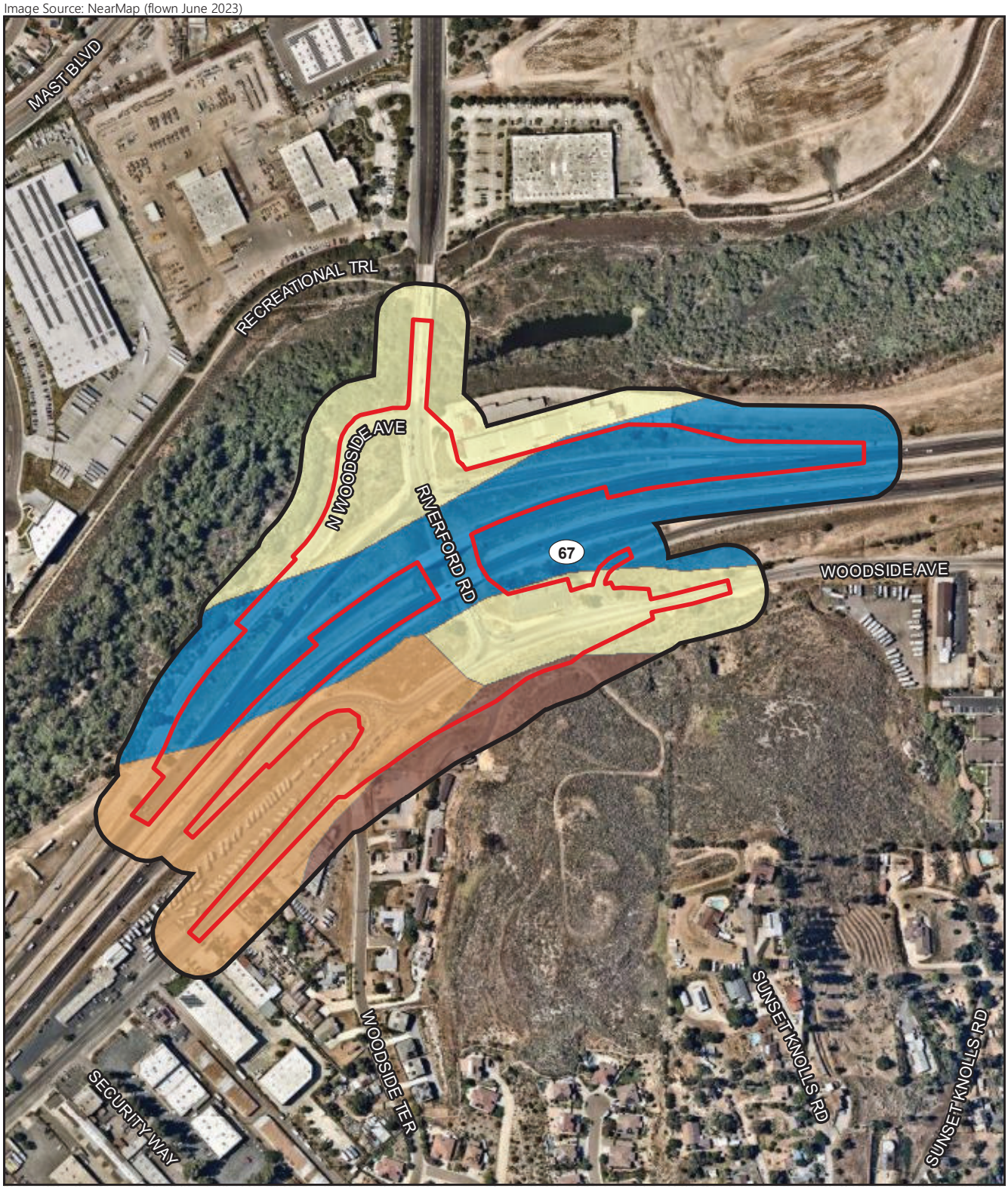


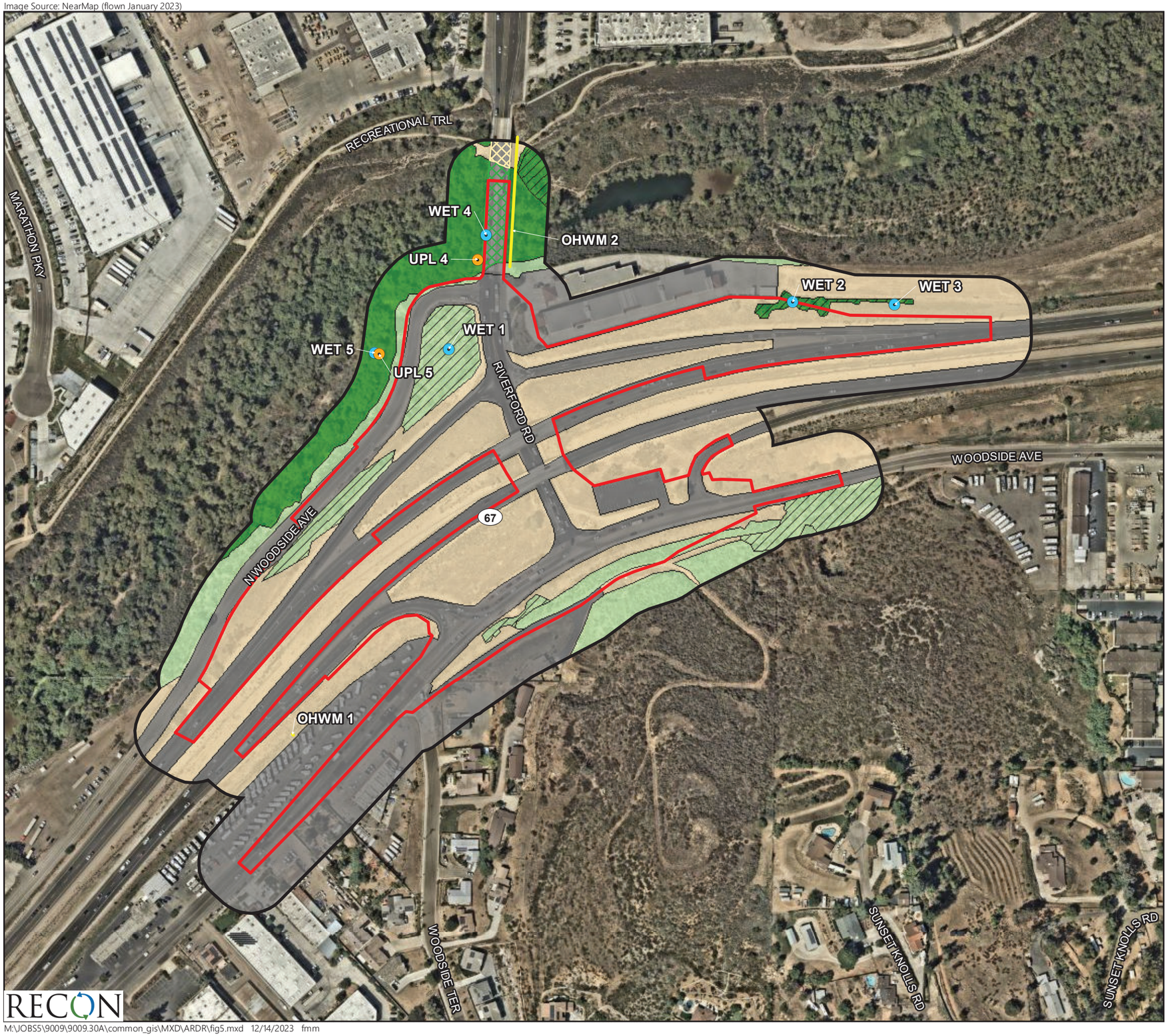
FIGURE 4

Soils Within the Biological Study Area

RECON

\\serverfs02.recon-us.com\GIS\JOBS5\9009\9009.30A\common_gis\MXD\ARDR\fig4.mxd 10/6/2023 fmm

Image Source: NearMap (flown January 2023)



Project Boundary
Review Area
Wetland SamplePoint
Upland Paired Point
OHWM Sample Transect

Vegetation Community

Diegan Coastal Sage Scrub
Disturbed Diegan Coastal Sage Scrub
Southern Cottonwood-Willow Riparian Forest
Disturbed Southern Cottonwood-Willow Riparian Forest
Disturbed Land
Urban/Developed
Disturbed Land (Under Existing Bridge)
Southern Cottonwood-Willow Riparian Forest (Under Existing Bridge)

0 Feet 250

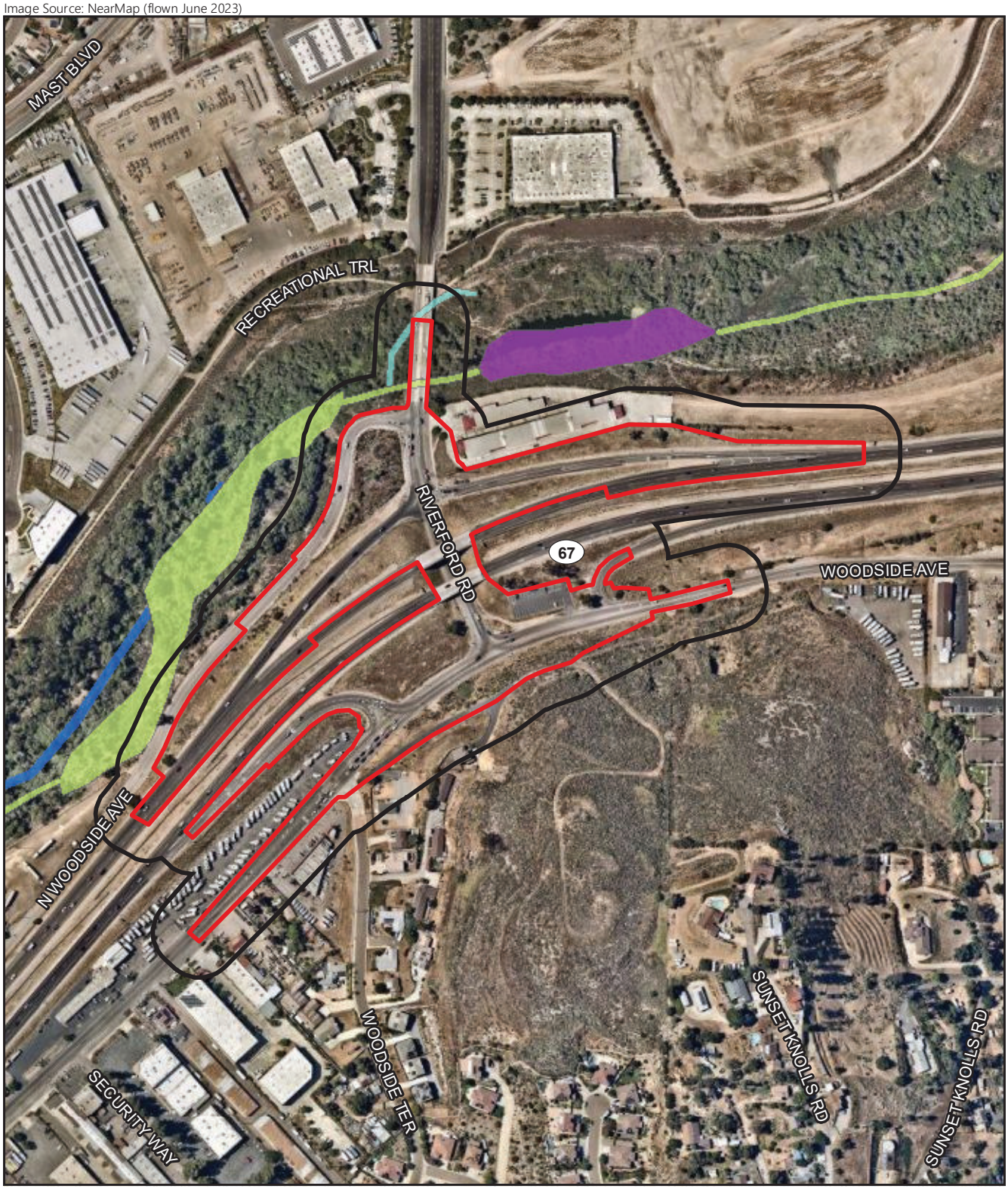
RECON

M:\JOBS5\9009\9009.30A\common_gis\MXD\ARDR\fig5.mxd 12/14/2023 fmm

FIGURE 5

Vegetation Communities within the Review Area

Image Source: NearMap (flown June 2023)



0 Feet 400

Project Boundary

Review Area

National Wetland Inventory

Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Freshwater Pond

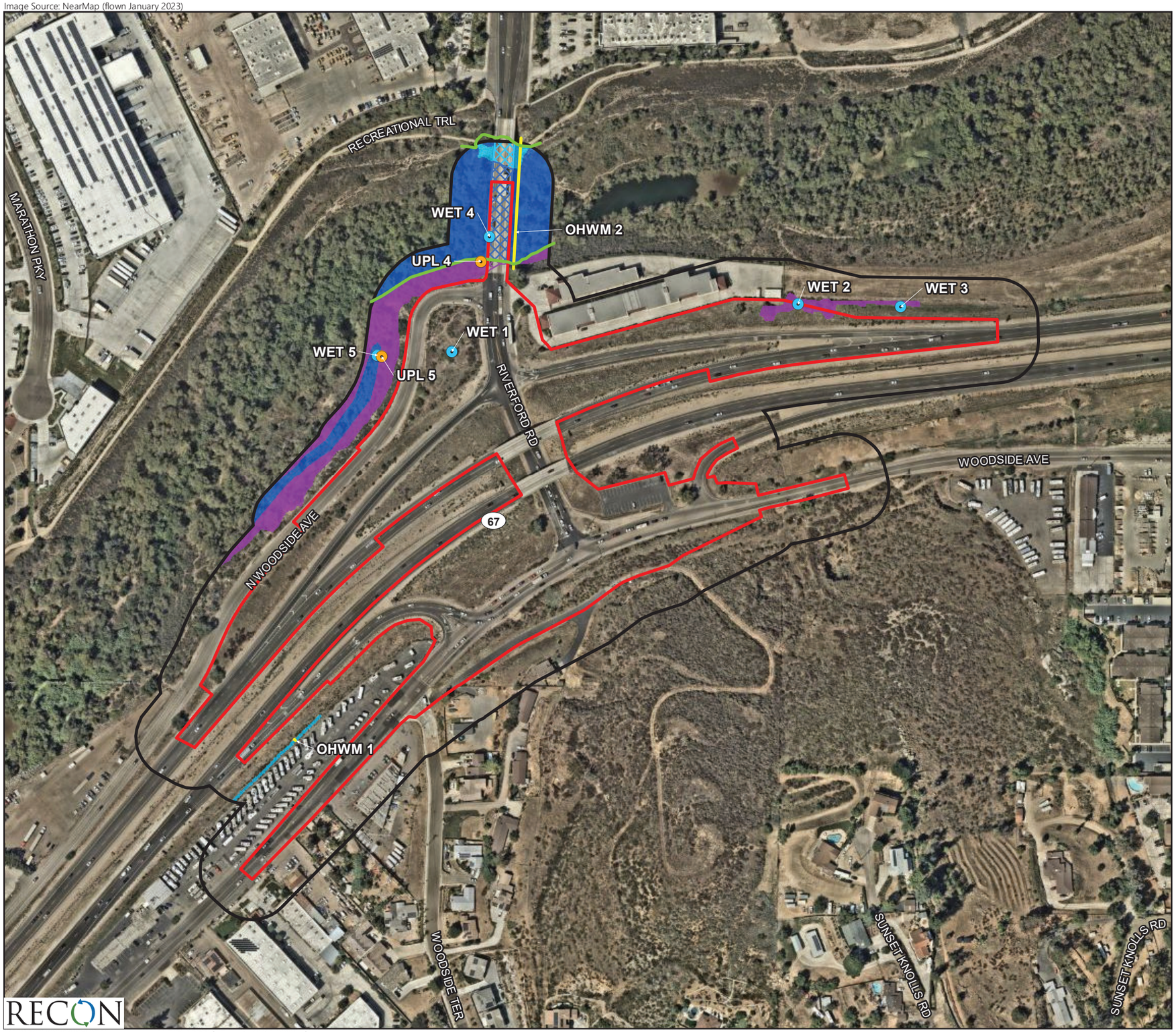
Riverine

RECON

\\serverfs02.recon-us.com\GIS\JOBS5\9009\9009.30A\common_gis\MXD\ARDR\fig6.mxd 10/6/2023 fmm

FIGURE 6
National Wetland Inventory

Image Source: NearMap (flown January 2023)



Project Boundary
Review Area
Wetland SamplePoint
Upland Paired Point
OHWM Sample Transect
OHWM

Aquatic Resources

Non-wetland Waters
Non-wetland Waters (Under Existing Bridge)
Wetlands
Wetlands (Under Existing Bridge)
Riparian
Riparian (Under Existing Bridge)

0 Feet 250

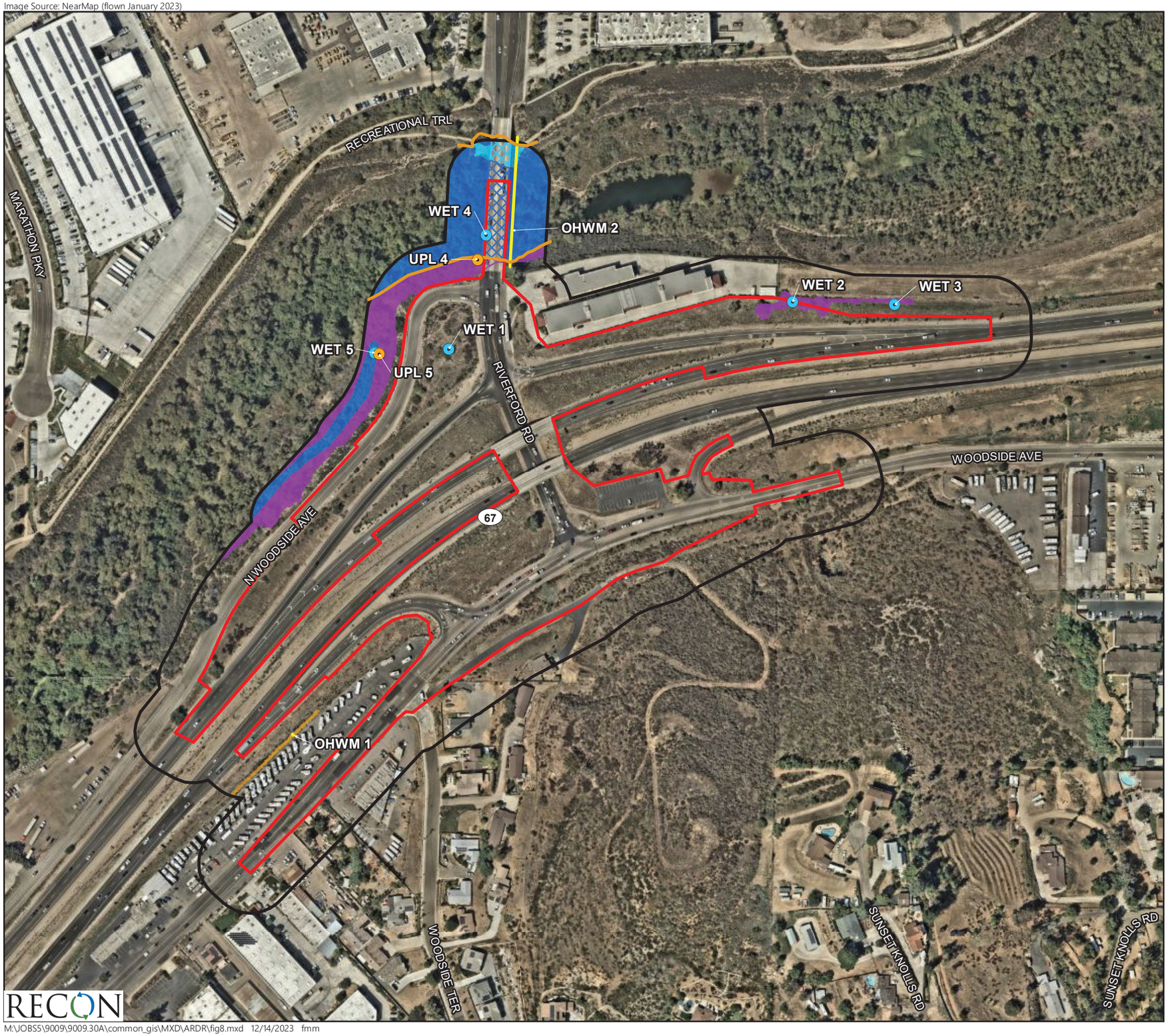
RECON

M:\JOBS5\9009\9009.30A\common_gis\MXD\ARDR\fig7.mxd 12/14/2023 fmm

FIGURE 7

Aquatic Resources Delineated within the Review Area

Image Source: NearMap (flown January 2023)



Project Boundary
Review Area
Wetland SamplePoint
Upland Paired Point
OHWM Sample Transect
OHWM

Aquatic Resources

USACE Wetland Waters of the U.S., RWQCB Wetland Waters of the State, and CDFW Riparian

USACE Wetland Waters of the U.S., RWQCB Wetland Waters of the State, and CDFW Riparian (Under Existing Bridge)

USACE Non-wetland Waters or the U.S., RWQCB Non-wetland Waters of the State, and CDFW Streambed

USACE Non-wetland Waters or the U.S., RWQCB Non-wetland Waters of the State, and CDFW Streambed (Under Existing Bridge)

RWQCB Non-wetland Waters of the State, and CDFW Streambed

CDFW Riparian

CDFW Riparian (Under Existing Bridge)

0 Feet 250

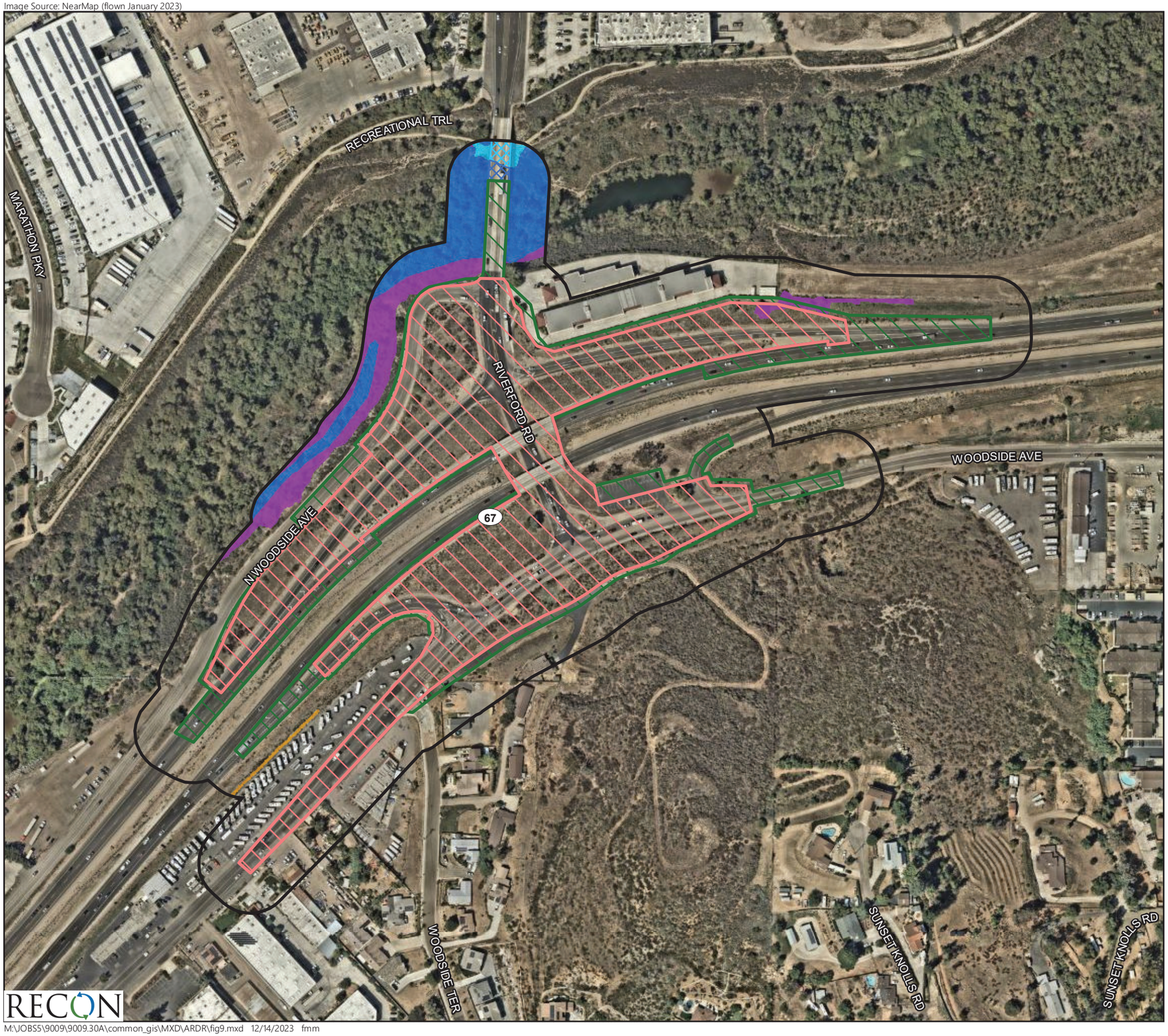
RECON

M:\JOBS5\9009\9009.30A\common_gis\MXD\ARDR\fig8.mxd 12/14/2023 fmm

FIGURE 8

Potential USACE Waters of the U.S., RWQCB Waters of the State, and CDFW Riparian/Streambed within the Review Area

Image Source: NearMap (flown January 2023)



Review Area
Permanent Impacts
Temporary Impacts

Aquatic Resources

USACE Wetland Waters of the U.S., RWQCB Wetland Waters of the State, and CDFW Riparian

USACE Wetland Waters of the U.S., RWQCB Wetland Waters of the State, and CDFW Riparian (Under Existing Bridge)

USACE Non-wetland Waters or the U.S., RWQCB Non-wetland Waters of the State, and CDFW Streambed

USACE Non-wetland Waters or the U.S., RWQCB Non-wetland Waters of the State, and CDFW Streambed (Under Existing Bridge)

RWQCB Non-wetland Waters of the State, and CDFW Streambed

CDFW Riparian

0 Feet 250

RECON

M:\JOBS5\9009\9009.30A\common_gis\MXD\ARDR\fig9.mxd 12/14/2023 fmm

FIGURE 9
Impacts to Potentially Jurisdictional Resources

ATTACHMENT 2

Tables

Table 1 Assessor's Parcel Numbers within the Review Area		
3823103100*	3822104300	3823101200*
3822100100*	3822601400*	3823103200*
7601417500*	3822601100*	3823100300*
3811705700*	3820112500*	3823102400*
3790103200	3811706400*	3790104600
3823100200*	3811710700*	3823105300
3790103000	3822104400*	3823104300*
3822601000*	3822102700	3823104400*
3822102600	3820112600	3823105400
*Parcel includes portions of the Review Area only and does not include the project impact area.		

Table 2 Vegetation Communities/Land Cover Types	
Community or Type (Holland [1986] Code as modified by Oberbauer [2008])	Area within Review Areas (acres)
Southern Cottonwood-Willow Riparian Forest (61330)	2.93[1]
Disturbed Southern Cottonwood-Willow Riparian Forest (61330)	0.33
Diegan Coastal Sage Scrub (32500)	2.47
Disturbed Diegan Coastal Sage Scrub (32500)	1.85
Disturbed Land (11000)	14.21[1]
Urban/Developed (12000)	18.42
TOTAL	**40.21**
[1]0.30 acre of southern cottonwood-willow riparian forest and 0.07 acre of disturbed land is located below the urban/developed Riverford Road bridge. These acreages are included in the southern cottonwood-willow riparian forest and disturbed land totals, respectively.	

Table 3 List of Aquatic Resources									
Waters ID	Cowardin Code	HGM Code	Area (acre)	Linear Feet	Waters Type	Latitude (dd NAD83)	Longitude (dd NAD83)	Local Waterway	Dominant Vegetation
Wetland – San Diego River Channel	PFO	Riverine	1.64	N/A	RPW	32.8565152	-116.9475731	Riverine	*Salix gooddingii, Populus fremontii* ssp. *fremontii, Baccharis salicifolia* ssp. *salicifolia, Vitis girdiana*
Wetland – San Diego River Swale	PFO	Riverine	0.31	N/A	RPWWD	32.8546225	-116.9492042	Riverine	*Salix gooddingii, Populus fremontii* ssp. *fremontii*
Non-wetland Waters – San Diego River Channel	R2	Riverine	0.13	110	RPW	32.8569039	-116.9472317	Riverine	unvegetated
Non-wetland Waters – Southwestern Channel	R6	Riverine	0.04	300	NRPW	32.8530505	-116.9489242	Riverine	unvegetated
Riparian – San Diego River Channel	RP1FO	Riverine	1.14	N/A	Riparian	32.8558407	-116.9483028	Riverine	*Salix gooddingii, Populus fremontii* ssp. *fremontii, Baccharis salicifolia* ssp. *salicifolia, Vitis girdian*
Riparian – Northeastern Patch	RP1	Riverine	0.17	N/A	Riparian	32.8559618	-116.9447638	Riverine	*Baccharis salicifolia* ssp. *salicifolia, Tamarix ramosissima*
PFO = Forested, Palustrine; R2 = Lower Perennial, Riverine; R6 = Ephemeral, Riverine; RP1FO = Forested, Lotic, Riparian; RP1 = Lotic, Riparian; HGM = hydrogeomorphic; RPW = Relatively Permanent Waters (RPWs) that flow directly or indirectly into TNWs; RPWWD = Wetlands directly abutting RPWs that flow directly or indirectly into TNWs; NRPW = Non-relatively Permanent Waters that flow directly or indirectly into Traditional Navigable Waters									

Table 4 Potential Jurisdictional Resources within Review Area	
Jurisdictional Resource	Acreage in Review Area (linear feet)
USACE Waters of the U.S.	**2.08[1] (110)**
Wetland Waters of the U.S.	1.96
Non-wetland Waters of the U.S.	0.13 (110)
RWQCB Waters of the State	**2.12 (410)**
Wetland Waters of the State	1.96
Non-wetland Waters of the State	0.16 (410)
CDFW Jurisdictional Resources	**3.43 (410)**
Riparian	3.27
Streambed	0.16 (410)
[1]Any discrepancies in totals are due to rounding.	

Table 5 Project Impacts to Potential Jurisdictional Resources			
Jurisdictional Resource	Acreage in Review Area (linear feet)	Acreage of Temporary Impacts	Acreage of Permanent Impacts
USACE Waters of the U.S.	**2.08[1] (110)**	**0.00**	**0.00**
Wetland Waters of the U.S.	1.96	0.00	0.00
Non-wetland Waters of the U.S.	0.13 (110)	0.00	0.00
RWQCB Waters of the State	**2.12 (410)**	**0.00**	**0.00**
Wetland Waters of the State	1.96	0.00	0.00
Non-wetland Waters of the State	0.16 (410)	0.00	0.00
CDFW Jurisdictional Resources	**3.43 (410)**	**0.04**	**0.04**
Riparian	3.27	0.04	0.04
Streambed	0.16 (410)	0.00	0.00
[1]Any discrepancies in totals are due to rounding.			

ATTACHMENT 3

Ground Level Color Photographs

PHOTOGRAPH 1
View of Southern Cottonwood-willow Riparian Forest in the Northern Portion of the Review Area along the San Diego River, Facing North

PHOTOGRAPH 2
View of Patch of Disturbed Southern Cottonwood-willow Riparian Forest in the Northeastern Portion of the Review Area, Facing East

PHOTOGRAPH 3
View of Diegan Coastal Sage Scrub in the Western Portion of the Review Area on Sloped banks of the San Diego River, Facing West

PHOTOGRAPH 4
View of Disturbed Diegan Coastal Sage Scrub in the North-central Portion of the Review Area, Facing Northwest

PHOTOGRAPH 5
View of Disturbed Habitat in the South-central Portion of the Review Area, Facing East

PHOTOGRAPH 6
View of Urban/Developed Land in the Southwestern Portion of the Review Area, Facing Southwest

PHOTOGRAPH 7
View of Patch of Disturbed Southern Cottonwood-willow Riparian Forest in the Northeastern Portion of the Review Area, Facing East

PHOTOGRAPH 8
View of Wracking and Change in Sediment Texture OHWM Indicators within Northern Portion of the Review Area in the San Diego River Active Floodplain, Facing West

PHOTOGRAPH 9
View of Surface Water within Low-flow Channel of San Diego River in Northern Portion of the Review Area, Facing West

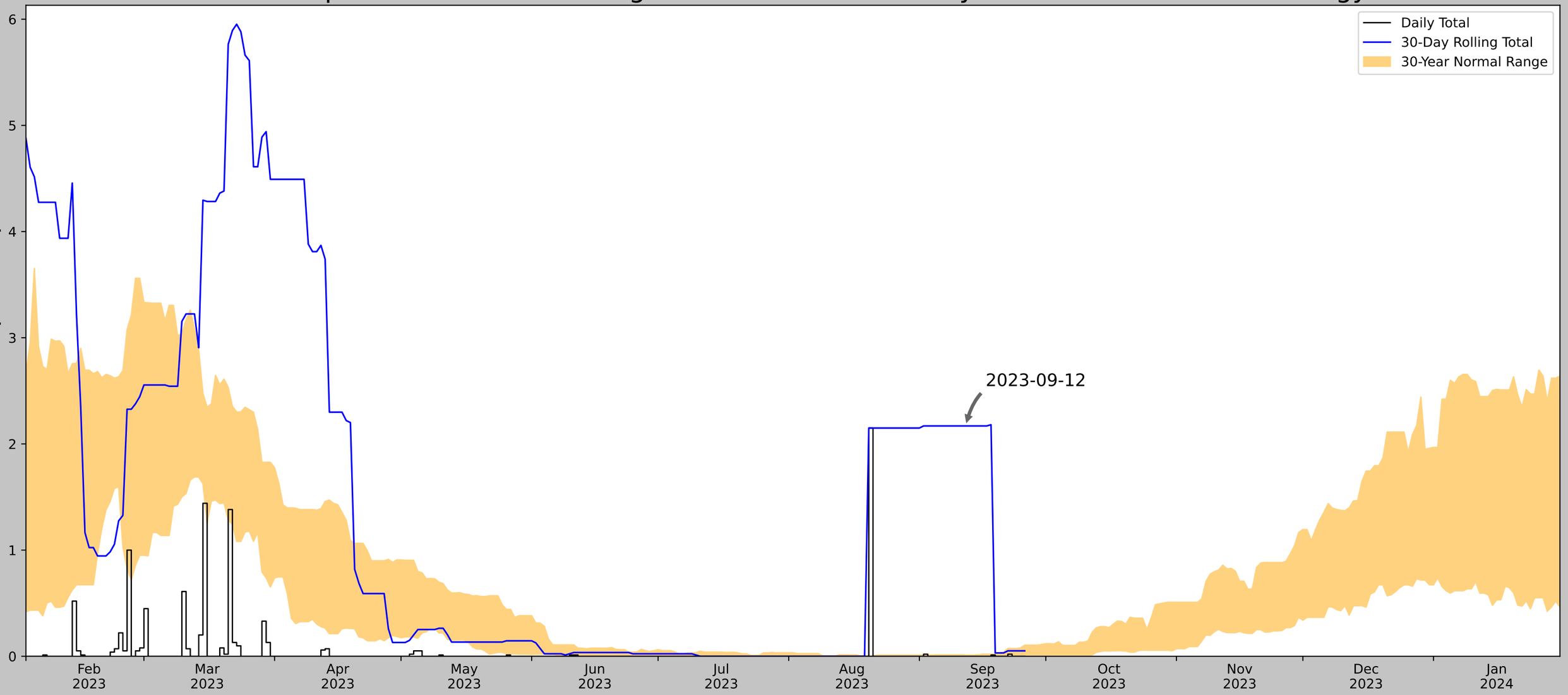
PHOTOGRAPH 10
View of Break in Slope, Change in Sediment Texture, and Wracking OHWM Indicators in Small Channel in Southwestern Portion of the Review Area, Facing Southwest

PHOTOGRAPH 11
Downward-facing View of Sandy Redox Hydric Soil at
Wetland Sample Point 4

ATTACHMENT 4

Antecedent Precipitation Tool Results

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	32.855238715, -116.947186292
Observation Date	2023-09-12
Elevation (ft)	370.758
Drought Index (PDSI)	Severe wetness (2023-08)
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-09-12	0.0	0.011811	2.169291	Wet	3	3	9
2023-08-13	0.0	0.014173	0.0	Normal	2	2	4
2023-07-14	0.0	0.039764	0.0	Normal	2	1	2
Result							Wetter than Normal - 15

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
SAN DIEGO MONTGOMERY FLD	32.8144, -117.1375	417.979	11.403	47.221	5.67	8936	90
SAN DIEGO 1.5 WNW - KFMB	32.8266, -117.1569	425.853	1.407	7.874	0.644	1	0
SAN DIEGO 1.9 W	32.8139, -117.1693	366.142	1.847	51.837	0.927	4	0
SAN DIEGO 3.2 WNW	32.8353, -117.1859	374.016	3.159	43.963	1.56	4	0
SAN DIEGO MIRAMAR NAS	32.8667, -117.1333	477.034	3.622	59.055	1.844	2404	0
SAN DIEGO 7.9NE	32.8057, -117.0732	242.126	3.782	175.853	2.367	1	0
LA MESA	32.7675, -117.0233	529.856	7.382	111.877	4.148	3	0

ATTACHMENT 5

Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: 9009.30A City/County: San Diego County Sampling Date: 09/12/2023
Applicant/Owner: County of San Diego State: CA Sampling Point: WET 1
Investigator(s): Andrew Smisek, Julia Gaudio Section, Township, Range: El Cajon Quadrangle, El Cajon Land Grant
Landform (hillslope, terrace, etc): Upland area Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR): C Lat: 32.85563698 Long: -116.9477339 Datum: WGS84
Soil Map Unit Name: Tujunga sand, 0 to 5 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X
Hydric Soil Present? Yes ____ No X
Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:
Patch of Parkinsonia vegetation occurs between developed roadways.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30-ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Parkinsonia aculeata* / Jerusalem thorn, Mexican palo verde	50	Yes	FAC
2.			
3.			
4.			
	50	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30-ft)			
1. *Baccharis sarothroides* / Broom baccharis	2	No	FACU
2.			
3.			
4.			
5.			
	2	= Total Cover	
Herb Stratum (Plot size: 30-ft)			
1. *Glebionis coronarium* / Crowndaisy	60	Yes	UPL
2. *Amsinckia* / Fiddleneck	5	No	UPL
3. *Bromus rubens* / Red brome	2	No	UPL
4. *Hirschfeldia incana* / Mustard	1	No	UPL
5.			
6.			
7.			
8.			
	68	= Total Cover	
Woody Vine Stratum (Plot size: 30-ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 1 % Cover of Biotic Crust 0

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	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	50	x 3 =	150
FACU species	2	x 4 =	8
UPL species	68	x 5 =	340
Column Totals:	120 (A)		498 (B)

Prevalence Index = B/A = 4.15

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:
Vegetation does not meet hydrophytic standard

SOIL

Sampling Point: WET 1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/2	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

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) (except MLRA 1)
- ___ 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[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No hydric soil indicator observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ 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 Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ 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)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No hydrology indicators observed.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: 9009.30A City/County: San Diego County Sampling Date: 09/12/2023
Applicant/Owner: County of San Diego State: CA Sampling Point: WET 2
Investigator(s): Andrew Smisek, Julia Gaudio Section, Township, Range: El Cajon Quadrangle, El Cajon Land Grant
Landform (hillslope, terrace, etc): Upland area Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR): C Lat: 32.85601946 Long: -116.94500216 Datum: WGS84
Soil Map Unit Name: Riverwash NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X
Hydric Soil Present? Yes ____ No X
Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:
Sample point occurs within lowest point of ditch, where hydrology indicators are obvious. This area may become inundated temporarily but lacks hydrophytic vegetation and hydric soils.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 15-ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Morus alba* / Mulberry, White mulberry	5	Yes	FACU
2. *Tamarix ramosissima* / Tamarisk, Saltcedar	5	Yes	FAC
3.			
4.			
	10	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15-ft)			
1. *Baccharis sarothroides* / Broom baccharis	5	Yes	FACU
2.			
3.			
4.			
5.			
	5	= Total Cover	
Herb Stratum (Plot size: 15-ft)			
1. *Amaranthus albus* / Tumbleweed	3	Yes	FACU
2. *Hirschfeldia incana* / Mustard	3	Yes	UPL
3. *Cucurbita foetidissima* / Missouri gourd, Buffalo gourd, Calab	2	Yes	FACU
4. *Festuca perennis* / Italian rye grass	1	No	FAC
5. *Euphorbia maculata* / Spotted spurge	1	No	UPL
6. *Glebionis coronarium* / Crowndaisy	1	No	UPL
7. *Sonchus oleraceus* / Sow thistle, Common sow thistle	1	No	UPL
8. *Cyperus eragrostis* / Tall cyperus	1	No	FACW
	13	= Total Cover	
Woody Vine Stratum (Plot size: 15-ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 1 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 6 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 16.7 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	1	x 2 =	2
FAC species	6	x 3 =	18
FACU species	15	x 4 =	60
UPL species	6	x 5 =	30
Column Totals:	28 (A)		110 (B)

Prevalence Index = B/A = 3.93

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:
Vegetation does not meet hydrophytic standard.

SOIL

Sampling Point: WET 2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/2	90					Loam	10% inclusions of 10YR3/3 lower layer
5-18	10YR 3/3	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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) (except MLRA 1)
- ___ 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[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No X

Remarks:

No hydric soil indicator observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- X Sediment Deposits (B2) **(Nonriverine)**
- X 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 Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ 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)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No ___

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

Remarks:

This area appears to become temporarily inundated, perhaps only in response to significant rain events.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: 9009.30A City/County: San Diego County Sampling Date: 09/12/2023
Applicant/Owner: County of San Diego State: CA Sampling Point: WET 3
Investigator(s): Andrew Smisek, Julia Gaudio Section, Township, Range: El Cajon quadrangle, El Cajon land grant
Landform (hillslope, terrace, etc): None Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR): C Lat: 32.85600755 Long: -116.94415107 Datum: WGS84
Soil Map Unit Name: Riverwash NWI classification: none
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X
Hydric Soil Present? Yes ____ No X
Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:
Sample point occurs at bottom of roadside ditch where hydrology indicators are obvious. Although this area may become inundated, it does not support hydrophytic vegetation or hydric soils. It may only pond briefly without developing prolonged anaerobic conditions.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 15-ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15-ft)			
1. *Baccharis salicifolia* / Mule fat	5	Yes	FAC
2.			
3.			
4.			
5.			
	5	= Total Cover	
Herb Stratum (Plot size: 15-ft)			
1. *Phalaris minor* / Mediterranean canarygrass, Little-seeded ca	65	Yes	FACU
2. *Rumex crispus* / Curly dock	1	No	FAC
3. *Hirschfeldia incana* / Mustard	1	No	UPL
4. *Ricinus communis* / Castor bean	1	No	FACU
5. *Sonchus oleraceus* / Sow thistle, Common sow thistle	1	No	UPL
6.			
7.			
8.			
	69	= Total Cover	
Woody Vine Stratum (Plot size: 15-ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 1 % Cover of Biotic Crust 0

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	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	6	x 3 =	18
FACU species	66	x 4 =	264
UPL species	2	x 5 =	10
Column Totals:	74 (A)		292 (B)

Prevalence Index = B/A = 3.95

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:
Vegetation does not meet hydrophytic standard

SOIL

Sampling Point: WET 3

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/2	90					Loam	10% inclusions of 10YR3/3 lower layer
12-18	10YR 3/3	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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) (except MLRA 1)
- ___ 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[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No X

Remarks:

No hydric soil indicators observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- X Sediment Deposits (B2) **(Nonriverine)**
- X 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 Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ 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)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): _____

Water Table Present? Yes ___ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): _____

Wetland Hydrology Present? Yes X No ___

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

Remarks:

Hydrology indicators observed. This area appears to become inundated temporarily and possibly only in response to major rain events.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: 9009.30A City/County: San Diego County Sampling Date: 09/12/2023
Applicant/Owner: County of San Diego State: CA Sampling Point: WET 4
Investigator(s): Andrew Smisek, Julia Gaudio Section, Township, Range: El Cajon Quadrangle, El Cajon Land Grant
Landform (hillslope, terrace, etc): Active river floodplain Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR): C Lat: 32.85645756 Long: -116.94746397 Datum: WGS84
Soil Map Unit Name: Tujunga sand, 0 to 5 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____
Hydric Soil Present? Yes X No ____
Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland? Yes X No ____

Remarks:
Sample point within active floodplain of San Diego river.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30-ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix laevigata* / Polished willow, Red willow	25	Yes	FACW
2. *Salix gooddingii* / Gooding's willow, Goodding's black willow	25	Yes	FACW
3. *Populus fremontii* / Fremont cottonwood	10	No	FAC
4.			
	60	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30-ft)			
1. *Baccharis salicifolia* / Mule fat	5	Yes	FAC
2. *Baccharis sarothroides* / Broom baccharis	3	Yes	FACU
3.			
4.			
5.			
	8	= Total Cover	
Herb Stratum (Plot size: 5-ft)			
1. *Cyperus eragrostis* / Tall cyperus	2	Yes	FACW
2. *Piptatherum miliaceum* / Smilograss	1	Yes	FACU
3. *Plantago major* / Common plantain	1	Yes	FAC
4. *Apium graveolens* / Celery or smallage	1	Yes	FACW
5.			
6.			
7.			
8.			
	5	= Total Cover	
Woody Vine Stratum (Plot size: 30-ft)			
1. *Vitis girdiana* / Southern california grape, Desert wild grape	5	Yes	FAC
2.			
	5	= Total Cover	

% Bare Ground in Herb Stratum 1 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)
Total Number of Dominant Species Across All Strata: 9 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 77.8 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	53	x 2 =	106
FAC species	21	x 3 =	63
FACU species	4	x 4 =	16
UPL species	0	x 5 =	0
Column Totals:	78 (A)		185 (B)

Prevalence Index = B/A = 2.37

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:
Hydrophytic vegetation observed

SOIL

Sampling Point: WET 4

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 4/3	98	7.5YR 4/4	2	C		Sand	Redox in root channels
2-8	10YR 2/1	98	7.5YR 4/4	2	C		Sand	Redox in root channels

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

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)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRA 1)
- ___ 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[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ground water

Depth (inches): 8

Hydric Soil Present? Yes X No ___

Remarks:

Redox features observed

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- X 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)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 8

Water Table Present? Yes X No ___ Depth (inches): 8

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 3

Wetland Hydrology Present? Yes X No ___

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

Remarks:

Many obvious hydrology indicators observed.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: 9009.30A City/County: San Diego County Sampling Date: 09/13/2023
Applicant/Owner: County of San Diego State: CA Sampling Point: UPL 4
Investigator(s): Andrew Smisek, Julia Gaudio Section, Township, Range: El Cajon Quadrangle, El Cajon Land Grant
Landform (hillslope, terrace, etc): upslope from OHWM of river Local relief (concave, convex, none): none Slope (%): 15
Subregion (LRR): C Lat: 32.8562576 Long: -116.9475177 Datum:
Soil Map Unit Name: Tujunga sand, 0-5% slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X

Is the Sampled Area within a Wetland? Yes No X

Remarks:
Paired sample point to WET 4, just upslope of OHWM along southern river bank.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30-ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix laevigata* / Polished willow, Red willow	10	Yes	FACW
2.			
3.			
4.			
	10	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15-ft)			
1. *Artemisia californica* / Coastal sage brush, California sagebru	15	Yes	UPL
2. *Baccharis sarothroides* / Broom baccharis	3	No	FACU
3. *Baccharis salicifolia* / Mule fat	1	No	FAC
4.			
5.			
	19	= Total Cover	
Herb Stratum (Plot size: 5-ft)			
1. *Helminthotheca echioides* / Bristly ox-tongue	5	Yes	FAC
2. *Hirschfeldia incana* / Mustard	5	Yes	UPL
3. *Phalaris minor* / Mediterranean canarygrass, Little-seeded ca	5	Yes	FACU
4. *Piptatherum miliaceum* / Smilograss	1	No	FACU
5.			
6.			
7.			
8.			
	16	= Total Cover	
Woody Vine Stratum (Plot size: 30-ft)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 25 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 40.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	6	x 3 =	18
FACU species	9	x 4 =	36
UPL species	20	x 5 =	100
Column Totals:	45 (A)		174 (B)

Prevalence Index = B/A = 3.87

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No X

Remarks:
Vegetation does not meet hydrophytic standard

SOIL

Sampling Point: UPL 4

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/3	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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) (except MLRA 1)
- ___ 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[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks:

no redox features observed

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ 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 Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ 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)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): 5in

Water Table Present? Yes ___ No X Depth (inches): 5

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): 3

Wetland Hydrology Present? Yes ___ No X

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

Remarks:

no hydrology indicators observed

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: 9009.30A City/County: San Diego County Sampling Date: 09/12/2023
Applicant/Owner: County of San Diego State: CA Sampling Point: WET 5
Investigator(s): Andrew Smisek and Julia Gaudio Section, Township, Range: El Cajon Quadrangle, El Cajon Land Grant
Landform (hillslope, terrace, etc): None Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR): C Lat: 32.85562059 Long: -116.94832199 Datum: WGS84
Soil Map Unit Name: Tujunga sand, 0 to 5 percent slopes NWI classification: none
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No ____
Hydric Soil Present? Yes X No ____
Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland? Yes X No ____

Remarks:
Wetland along historic secondary channel within active floodplain of river.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 15-ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus fremontii* / Fremont cottonwood	50	Yes	FAC
2. *Salix gooddingii* / Gooding's willow, Goodding's black willow	50	Yes	FACW
3.			
4.			
	100	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15-ft)			
1. *Baccharis salicifolia* / Mule fat	10	Yes	FAC
2.			
3.			
4.			
5.			
	10	= Total Cover	

Herb Stratum (Plot size: 15-ft)			
1. *Apium graveolens* / Celery or smallage	15	Yes	FACW
2. *Artemisia douglasiana* / California mugwort	5	No	FAC
3. *Schoenoplectus californicus* / California bulrush, Southern bu	5	No	OBL
4. *Typha latifolia* / Broadleaf cattail, Broad-leaved cattail	2	No	OBL
5.			
6.			
7.			
8.			
	27	= Total Cover	

Woody Vine Stratum (Plot size: 15-ft)			
1. *Vitis girdiana* / Southern california grape, Desert wild grape	2	No	FAC
2.			
	2	= Total Cover	

% Bare Ground in Herb Stratum 1 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)
Total Number of Dominant Species Across All Strata: 4 (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	7	x 1 =	7
FACW species	65	x 2 =	130
FAC species	67	x 3 =	201
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	139 (A)		338 (B)

Prevalence Index = B/A = 2.43

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index ≤3.0¹
___ Morphological Adaptations¹ (Provide supporting
___ Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks:
Vegetation meets the hydrophytic standard

SOIL

Sampling Point: WET 5

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/1	99	2.5YR 3/3	1	C	M	Sandy Loam	
10-12	10YR 3/1	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- X 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) (except MLRA 1)
- ___ 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[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

Black histic indicator observed. First 10 inches of soil contains sufficient muck and peat material.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- X 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)
- X Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ 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)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 3

Water Table Present? Yes X No ___ Depth (inches): 6

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? Yes X No ___

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

Remarks:

Many and obvious hydrology indicators observed.

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: 9009.30A City/County: San Diego County Sampling Date: 09/12/2023
Applicant/Owner: County of San Diego State: CA Sampling Point: UPL 5
Investigator(s): Andrew Smisek and Julia Gaudio Section, Township, Range: El Cajon quadrangle, El Cajon Land Grant
Landform (hillslope, terrace, etc): None Local relief (concave, convex, none): concave Slope (%): 0
Subregion (LRR): C Lat: 32.85560005 Long: -116.948296 Datum: WGS84
Soil Map Unit Name: Tujunga sand, 0 to 5 percent slopes NWI classification: none
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X 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 X No
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X

Is the Sampled Area within a Wetland? Yes No X

Remarks:
Paired upland point to WET 5

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30-ft)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus fremontii* / Fremont cottonwood	25	Yes	FAC
2.			
3.			
4.			
	25	= Total Cover	

Sapling/Shrub Stratum (Plot size: 30-ft)			
1. *Pluchea sericea* / Arrow weed, Arrow-weed	20	Yes	FACW
2. *Salvia mellifera* / Black sage	15	Yes	UPL
3. *Baccharis salicifolia* / Mule fat	10	Yes	FAC
4. *Artemisia californica* / Coastal sage brush, California sagebru	3	No	UPL
5.			
	48	= Total Cover	

Herb Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	

Woody Vine Stratum (Plot size:)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 1 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	35	x 3 =	105
FACU species	0	x 4 =	0
UPL species	18	x 5 =	90
Column Totals:	73 (A)		235 (B)

Prevalence Index = B/A = 3.22

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
___ Prevalence Index ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:
Vegetation meets the hydrophytic standard

SOIL

Sampling Point: UPL 5

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/2	100					Loam	No redox

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

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) (except MLRA 1)
- ___ 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[3]:

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

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

No hydric soil indicators observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required: check all that apply)

- ___ 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 Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ 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)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

No hydrology indicators observed

ATTACHMENT 6

Ordinary High Water Mark Data Sheets

U.S. Army Corps of Engineers (USACE)

RAPID ORDINARY HIGH WATER MARK (OHWM) FIELD IDENTIFICATION DATA SHEET

The proponent agency is Headquarters USACE CECW-CO-R.

OMB Control No. 0710-

Approval Expires:

Project ID #: OHWM 1	Site Name: 9009.30A Riverford Road Roundabouts	Date and Time: 09/12/23, 10 am
Location (lat/long): 32.85298139, -116.94895015	Investigator(s): Andrew Smisek and Julia Gaudio	

Step 1 Site overview from remote and online resources

Check boxes for online resources used to evaluate site:

- ☐ gage data
- ☐ LiDAR
- ☐ geologic maps
- ☒ climatic data
- ☒ satellite imagery
- ☒ land use maps
- ☒ aerial photos
- ☒ topographic maps
- ☐ Other:

Describe land use and flow conditions from online resources. Were there any recent extreme events (floods or drought)?

Channel along base of manufactured slope, between freeway and parking lot.

Step 2 Site conditions during field assessment

First look for changes in channel shape, depositional and erosional features, and changes in vegetation and sediment type, size, density, and distribution. Make note of natural or man-made disturbances that would affect flow and channel form, such as bridges, riprap, landslides, rockfalls etc.

Channel flows in man made ditch. Starts at culvert outfall.

Step 3 **Check the boxes next to the indicators used to identify the location of the OHWM.**

OHWM is at a transition point, therefore some indicators that are used to determine location may be just below and above the OHWM. From the drop-down menu next to each indicator, select the appropriate location of the indicator by selecting either just below `b', at `x', or just above `a' the OHWM.

OHWM. Go to page 2 to describe overall rationale for location of OHWM, write any additional observations, and to attach a photo log.

Geomorphic Indicators

- ☒ **Break in slope:** b
  - ☒ *on the bank:* x
  - ☐ *undercut bank:*
  - ☐ *valley bottom:*
  - ☐ *Other:* _____
- ☒ **Shelving:** b
  - ☐ *shelf at top of bank:*
  - ☐ *natural levee:*
  - ☐ *man-made berms or levees:*
  - ☐ *other bems:* _____
- ☐ **Channel bar:**
  - ☐ *shelving (berms) on bar:*
  - ☐ *unvegetated:*
  - ☐ *vegetation transition (go to veg. indicators):*
  - ☐ *sediment transition (go to sed. Indicators)*
  - ☐ *upper limit of deposition on bar:*
- ☐ **Instream bedforms and other bedload transport evidence:**
  - ☐ *deposition bedload indicators (e.g., imbricated clasts, gravel sheets, etc.)*
  - ☐ *bedforms (e.g., poofs, riffles, steps, etc.):*
  - ☐ *erosional bedload indicators (e.g., obstacle marks, scour, smoothing, etc.)*
- ☐ **Secondary channels:**

Sediment Indicators

- ☒ **Soil development:** a
- ☒ **Changes in character of soil:** b
- ☒ **Mudcracks:** b
- ☐ **Changes in particle-sized distribution:**
  - ☐ *transition from* _____ to _____
  - ☐ *upper limit of sand-sized particles*
  - ☐ *silt deposits*

Vegetation Indicators

- ☒ **Change in vegetation type and/or density:** x

Check the appropriate boxes and select the general vegetation change (e.g., graminoids to woody shrubs). ***Describe the vegetation transition looking from the middle of the channel, up the banks, and into the floodplain.***

- ☒ *vegetation absent to:* woody shrubs
- ☐ *moss to:*
- ☐ *forbs to:*
- ☐ *graminoids to:*
- ☐ *woody shrubs to:*
- ☐ *deciduous trees to:*
- ☐ *coniferous trees to:*

- ☒ **Vegetation matted down and/or bent:** x
- ☐ **Exposed roots below intact soil layer:**

Ancillary indicators

- ☒ **Wracking/presence of organic litter:** x
- ☐ **Presence of large wood:**
- ☒ **Leaf litter disturbed or washed away:** x
- ☐ **Water staining:**
- ☐ **Weathered clasts or bedrock**

Other observed indicators?

Describe:

N/A

Step 4 Is additional information needed to support this determination?

☐ Yes ☒ No

If yes, describe and attach information to datasheet:

Project ID # OHWM 1

Step 5 Describe rationale for location of OHWM

The OHWM occurs at the line impressed on the bank where leaf litter has been washed away, sediment has been deposited, and wracking occurs. Channel has a consistent bed and bank structure and change in vegetation.

Additional observations or notes

Attach a photo log of the site. Use the table below, or attach separately.

Photo log attached? ☒ Yes ☐ No If no, explain why not: _____

List photographs and include descriptions in the table below.

Number photographs in the order that they are taken. Attach photographs and include annotations of features.

Photo Number	Photograph Description
1	Upstream View of Break in Slope, Change in Sediment Texture, and Wracking OHWM Indicators in Small Channel in Southwestern Portion of the Review Area, Facing Northeast
2	Downstream View of Break in Slope, Change in Sediment Texture, and Mudcracks OHWM Indicators in Small Channel in Southwestern Portion of the Review Area, Facing Southwest

PHOTOGRAPH 1

Upstream View of Break in Slope, Change in Sediment Texture, and Wracking OHWM Indicators in Small Channel in Southwestern Portion of the Review Area, Facing Northeast

PHOTOGRAPH 2

Downsteam View of Break in Slope, Change in Sediment Texture, and Mudcracks OHWM Indicators in Small Channel in Southwestern Portion of the Review Area, Facing Southwest

U.S. Army Corps of Engineers (USACE)

RAPID ORDINARY HIGH WATER MARK (OHWM) FIELD IDENTIFICATION DATA SHEET

The proponent agency is Headquarters USACE CECW-CO-R.

OMB Control No. 0710-

Approval Expires:

Project ID #: OHWM 2	Site Name: 9009.30A Riverford Road Roundabouts	Date and Time: 09/12/23, 2:30pm
Location (lat/long): 32.8566428, -116.94727807	Investigator(s): Andrew Smisek and Julia Gaudio	

Step 1 Site overview from remote and online resources

Check boxes for online resources used to evaluate site:

- ☐ gage data
- ☐ LiDAR
- ☐ geologic maps
- ☒ climatic data
- ☒ satellite imagery
- ☒ land use maps
- ☒ aerial photos
- ☒ topographic maps
- ☐ Other:

Describe land use and flow conditions from online resources.

Were there any recent extreme events (floods or drought)?

San Diego river floodplain

Step 2 Site conditions during field assessment

First look for changes in channel shape, depositional and erosional features, and changes in vegetation and sediment type, size, density, and distribution. Make note of natural or man-made disturbances that would affect flow and channel form, such as bridges, riprap, landslides, rockfalls etc.

Water in low flow channel, hydrology indicators abundant throughout floodplain

Step 3 **Check the boxes next to the indicators used to identify the location of the OHWM.**

OHWM is at a transition point, therefore some indicators that are used to determine location may be just below and above the OHWM. From the drop-down menu next to each indicator, select the appropriate location of the indicator by selecting either just below `b', at `x', or just above `a' the OHWM.

OHWM. Go to page 2 to describe overall rationale for location of OHWM, write any additional observations, and to attach a photo log.

Geomorphic Indicators

- ☒ **Break in slope:** a
  - ☒ *on the bank:* x
  - ☐ *undercut bank:*
  - ☒ *valley bottom:* x
  - ☐ *Other:*
- ☒ **Shelving:** b
  - ☐ *shelf at top of bank:*
  - ☐ *natural levee:*
  - ☒ *man-made berms or levees:* x
  - ☐ *other bems:*
- ☒ **Channel bar:** b
  - ☒ *shelving (berms) on bar:* b
  - ☒ *unvegetated:* b
  - ☒ *vegetation transition (go to veg. indicators):* x
  - ☒ *sediment transition (go to sed. Indicators)* x
  - ☐ *upper limit of deposition on bar:*
- ☐ **Instream bedforms and other bedload transport evidence:**
  - ☐ *deposition bedload indicators (e.g., imbricated clasts, gravel sheets, etc.)*
  - ☐ *bedforms (e.g., poofs, riffles, steps, etc.):*
  - ☐ *erosional bedload indicators (e.g., obstacle marks, scour, smoothing, etc.)*
- ☐ **Secondary channels:**

Sediment Indicators

- ☒ **Soil development:** x
- ☒ **Changes in character of soil:** b
- ☐ **Mudcracks:**
- ☒ **Changes in particle-sized distribution:** b
  - ☒ *transition from* gravel and sand to loamy soil
  - ☒ *upper limit of sand-sized particles*
  - ☒ *silt deposits*

Vegetation Indicators

- ☒ **Change in vegetation type and/or density:** x

Check the appropriate boxes and select the general vegetation change (e.g., graminoids to woody shrubs). ***Describe the vegetation transition looking from the middle of the channel, up the banks, and into the floodplain.***

- ☐ *vegetation absent to:*
- ☐ *moss to:*
- ☐ *forbs to:*
- ☐ *graminoids to:*
- ☐ *woody shrubs to:*
- ☒ *deciduous trees to:* woody shrubs
- ☐ *coniferous trees to:*

- ☒ **Vegetation matted down and/or bent:** b
- ☒ **Exposed roots below intact soil layer:** b

Ancillary indicators

- ☒ **Wracking/presence of organic litter:** x
- ☒ **Presence of large wood:** b
- ☒ **Leaf litter disturbed or washed away:** x
- ☒ **Water staining:** b
- ☐ **Weathered clasts or bedrock**

Other observed indicators?

Describe:

N/A

Step 4 Is additional information needed to support this determination?

☐ Yes ☒ No

If yes, describe and attach information to datasheet:

Project ID # OHWM 2

Step 5 Describe rationale for location of OHWM

The OHWM occurs along bank where vegetation changes, wracking occurs, and there is sediment deposited. Abundant hydrology indicators below the OHWM.

Additional observations or notes

Attach a photo log of the site. Use the table below, or attach separately.

Photo log attached? ☒ Yes ☐ No If no, explain why not: _____

List photographs and include descriptions in the table below.

Number photographs in the order that they are taken. Attach photographs and include annotations of features.

Photo Number	Photograph Description
1	Upstream View of Vegetated Channel Bar and Ancillary Indicators within San Diego River, Facing East
2	Downstream View of Surface Water within Low-flow Channel of San Diego River, Facing West
3	North-facing View across San Diego River Floodplain with Wetland Vegetation and Wracking
4	South-facing View of Southern Bank of San Diego River with Break in Slope, Change in Sediment, Wracking, and Leaf Litter Washed Away

PHOTOGRAPH 1
Upstream View of Vegetated Channel Bar and Ancillary Indicators within San Diego River, Facing East

PHOTOGRAPH 2
Downstream View of Surface Water within Low-flow Channel of San Diego River, Facing West

PHOTOGRAPH 3
North-facing View across San Diego River Floodplain with Wetland Vegetation and Wracking

PHOTOGRAPH 4
South-facing View of Southern Bank of San Diego River with Break in Slope, Change in Sediment, Wracking, and Leaf Litter Washed Away

ATTACHMENT 7

References Cited

References Cited

Google, Inc.
2023 Google Earth. Site imagery between 1994 and 2023. Accessed September 11, 2023 earth.google.com.

Holland, R. F.
1986 Preliminary Descriptions of the Terrestrial Natural Communities of California. Nongame-Heritage Program, California Department of Fish and Game. October.

Lichvar, R. W., and S. M. McColley
2008 A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual. ERDC/CRREL TR-08-12. August.

Munsell Color (Firm)
2009 Munsell Soil Color Charts: with Genuine Munsell Color Chips. Grand Rapids, MI.

Natural Resource Conservation Service (NRCS)
2023 Hydric Soils of California. Accessed September 19. https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/.

Oberbauer, Thomas, Meghan Kelly, and Jeremy Buegge
2008 Draft Vegetation Communities of San Diego County. Based on "Preliminary Descriptions of the Terrestrial Natural Communities of California," Robert F. Holland, Ph.D., October 1986. March.

San Diego Association of Governments (SANDAG)
1995 Soil Series GIS Data. Data digitized from USDA–1973. Soil Survey, San Diego area. Obtained from http://www.sandag.org/resources/maps_and_gis/gis_downloads/senlu.asp.

State Water Resources Control Board (SWRCB)
2021 *State Policy for Water Quality Control: State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*. Revised April 6.

U.S. Army Corps of Engineers (USACE)
1987 *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1, Department of the Army. January.

2008 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0). Prepared by U.S. Army Engineer Research and Development Center. December.

2017 Minimum Standards for Acceptance of Aquatic Resources Delineation Reports. March 16.

2020 National Wetland Plant List (Version 3.5). Accessed September 19, 2023. https://wetland-plants.sec.usace.army.mil/nwpl_static/v34/home/home.html.

2023 TNWs & Navigable Waters in Los Angeles District. Accessed October 5. https://www.spl.usace.army.mil/Missions/Regulatory/Jurisdictional-Determination/Navigable-Waterways/.

U.S. Department of Agriculture (USDA)

1973 Soil Survey, San Diego Area, California. Edited by Roy H. Bowman. Soil Conservation Service and Forest Service.

2017 Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils, Version 8.1.

U.S. Fish and Wildlife Service (USFWS)

2023 National Wetlands Inventory. Available at https://www.fws.gov/wetlands/.

U.S. Geological Survey (USGS)

1994 El Cajon Land Grant

1997 El Cajon quadrangle, 7.5-minute series topographic map.

Appendix G – Least Bell's Vireo Survey Report

RECON

An Employee-Owned Company

September 7, 2023

Ms. Stacey Love
U.S. Fish and Wildlife Service
Carlsbad Field Office
2177 Salk Avenue, Suite 250
Carlsbad, CA 92008

Reference: Post-survey Notification of Focused Survey Results for the 2023 Least Bell's Vireo Surveys for the Riverford Road Roundabouts Project (DPW Project Number 1026299; RECON 9009-30)

Dear Ms. Love:

This letter is to notify the U.S. Fish and Wildlife Service (USFWS) of the results of our focused surveys for the federally listed endangered least Bell's vireo (*Vireo bellii pusillus*) (hereinafter "vireo") conducted for the Riverford Road Roundabouts Project (project). The project area occurs at the interchanges of State Route 67 (SR-67) and Riverford Road and SR-67 and Woodside Avenue, in the unincorporated community of Lakeside in eastern San Diego County (Figures 1 and 2). The project involves the construction of two roundabouts at the existing SR-67/Riverford Road interchange, at two but closely spaced intersections, to relieve traffic congestion. The project also includes construction of pedestrian crosswalks, sidewalks, and bicycle lanes. The project boundary is situated within the El Cajon land grant of the U.S. Geological Survey (USGS) 7.5-minute topographic map, El Cajon quadrangle (USGS 1994; see Figure 2).

Methods

RECON Environmental, Inc. (RECON) biologist Chris Thomson conducted eight focused surveys for vireo between May and July 2023, in accordance with the USFWS survey guidelines/protocol (USFWS 2001), under the USFWS 10(a)(1)(A) USFWS Endangered/Threatened Species Permit TE-797665. A notification letter, dated May 3, 2023, was submitted via e-mail to the USFWS, stating the intent to conduct vireo surveys at this project site. The surveys were focused within 14.4 acres of suitable riparian habitat[1], within the project boundary and a 300-foot buffer (survey area; Figure 3). Adjacent wetland and scrub areas along the edge of the riparian habitats were also surveyed to encompass potentially suitable foraging habitat. The vireo surveys were conducted at least 10 days apart, in accordance with the current USFWS survey guidelines/protocol (USFWS 2001). The survey visit dates, personnel, times, and weather conditions are provided in Table 1. All bird species observed during the surveys were noted. Surveys were not conducted in high heat, wind, rain, fog, or other inclement weather.

[1] Please note that the project boundary and thus the survey area was revised slightly after the surveys were completed. An approximate 0.3 acre in the southwestern most portion of the survey area was not covered by the survey; however, given the presence of several observed least Bell's vireo use areas just northeast of this area, we consider this additional area to be occupied.

Table 1
Survey Dates, Personnel, Times, Conditions, and Results

Date	Survey Number	Surveyor	Beginning Conditions	Ending Conditions	Acres Surveyed/ Hour	Results
5/9/2023	1	Chris Thomson	6:05 a.m.; 55°F; winds 0–1 mph; 100% cc	9:50 a.m.; 64°F; winds 0–2 mph; 10% cc	3.9	4 total: 1 individual observed, all others vocals only (northwest, northern, and northeast portions)
5/19/2023	2	Chris Thomson	5:55 a.m.; 58°F; winds 0–1 mph; 100% cc	9:10 a.m.; 61°F; winds 0–1 mph; 100% cc	4.5	4 total: 3 individuals observed, all others vocals only (northwest, northern, and northeast portions)
5/30/2023	3	Chris Thomson	6:10 a.m.; 56°F; winds 0–1 mph; 100% cc	9:20 a.m.; 63°F; winds 1–3 mph; 100% cc	4.6	4 total: 1 individual observed, all others vocals only (northwest, northern, and northeast portions)
6/9/2023	4	Chris Thomson	6:25 a.m.; 60°F; winds 0–1 mph; 100% cc	9:30 a.m.; 63°F; winds 1–2 mph; 100% cc	4.8	3 total: 1 individual observed, all others vocals only (northwest and northern portions)
6/20/2023	5	Chris Thomson	6:35 a.m.; 57°F; winds 0–1 mph; 100% cc	9:10 a.m.; 65°F; winds 1–3 mph; 10% cc	5.7	4 total: 1 individual observed, all others vocals only (northwest, northern, and northeast portions)
6/30/2023	6	Chris Thomson	6:20 a.m.; 61°F; winds 0–1 mph; 100% cc	9:25 a.m.; 67°F; winds 1–2 mph; 5% cc	4.8	3 individuals observed (northwest and northern portions)
7/10/2023	7	Chris Thomson	6:40 a.m.; 62°F; winds 0–1 mph; 100% cc	9:05 a.m.; 67°F; winds 1–2 mph; 0% cc	6.1	4 total: 3 individuals observed, all others vocals only (northwest, northern, and northeast portions)
7/24/2023	8	Chris Thomson	7:05 a.m.; 70°F; winds 1–2 mph; 60% cc	9:45 a.m.; 75°F; winds 1–3 mph; 0% cc	5.5	4 total: 2 individuals observed, all others vocals only (northwest, northern, and northeast portions)

°F = degrees Fahrenheit; mph = miles per hour; % = percent; cc = cloud cover

Existing Conditions

A total of 14.4 acres were identified within the survey area as supporting suitable habitat for vireo and, thus, survey efforts were focused on these areas (see Figure 3). Suitable nesting habitat found within the survey area includes southern cottonwood-willow riparian forest. Vegetation communities and land cover types that were not considered suitable for nesting were primarily excluded from the survey area. These areas included Diegan coastal sage scrub, disturbed habitat, and urban/developed land, due to a lack of suitable cover of willows or other riparian tree or shrub species to support vireo.

Suitable, high-quality nesting habitat occurs as a contiguous habitat in the northwest, northeast, and northern portions of the survey area along the San Diego River. One other potentially suitable habitat exists within a small patch of disturbed southern cottonwood-willow riparian forest that is isolated from the San Diego River, found north of the SR-67 southbound off-ramp and south of the existing commercial development. This patch of disturbed southern cottonwood-willow riparian forest is considered moderate quality habitat due to its isolated nature.

Dominant trees throughout the survey area are tree willows (*Salix gooddingii* and *S. lasiolepis*) and Fremont cottonwoods (*Populus fremontii*). The riparian habitat varies from sparsely to densely vegetated with varying amounts of native and non-native trees, shrubs, and other herbaceous vegetation. The survey area does not contain any areas mapped as Critical Habitat for vireo.

Results

Numerous vireo were detected within the survey area during the 2023 focused surveys. A total of 30 vireo detections were made during the 2023 focused surveys. Vireo were detected both visually and vocally during the focused surveys, with a total of 15 visual observations of vireo from May 9, 2023 to July 24, 2023. A single observation point is defined as a momentary observation where a bird was observed outside of any previously or subsequently identified use areas during other surveys. Two of the vireo visual observations occurred with no vocalization, suggesting that the individual vireos were potentially female; all remaining detections were audible males singing. No vireo breeding pairs, nesting behavior, or nests were observed.

Four vireo use areas were identified within or adjacent to the survey area (see Figure 3). Vireo use areas were extrapolated from the sum of the field observations made by the surveyors and represent the total area observed to be used by vireo during the current 2023 focused survey. Field data used to determine vireo use areas included breaks in vegetation and simultaneous detection of multiple counter-singing males.

In addition, several special-status species were detected during the focused surveys, including California Department of Fish and Wildlife (CDFW) species of special concern Vaux's swift (*Chaetura vauxi*), CDFW species of special concern and County sensitive Group 1 list yellow-breasted chat (*Icteria virens*), CDFW species of special concern and County sensitive Group 2 list yellow warbler (*Setophaga petechia*), CDFW watch list and County sensitive Group 1 list Cooper's hawk (*Accipiter cooperii*), CDFW watch list and County sensitive Group 2 list double-crested cormorant (*Nannopterum auritum*), CDFW watch list and County sensitive Group 2 list Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi*), County sensitive Group 1 list red-shouldered hawk (*Buteo lineatus*), and County sensitive Group 2 list green heron (*Butorides virescens*) (see Figure 3). Multiple brown-headed cowbirds (*Molothrus ater*), a brood parasite of least Bell's vireo, were detected during the 2023 focused surveys throughout the riparian corridor in the northwest, northern, and northeastern portions of the survey area. Vireo nest surveys were not conducted and brood parasitism by brown-headed cowbirds was not observed during focused surveys.

If you have any questions concerning the contents of this letter, please contact me at (619) 308-9333 extension 115 or cthomson@reconenvironmental.com.

Sincerely,

Chris Thomson
Biologist

CNT:sh

References Cited

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

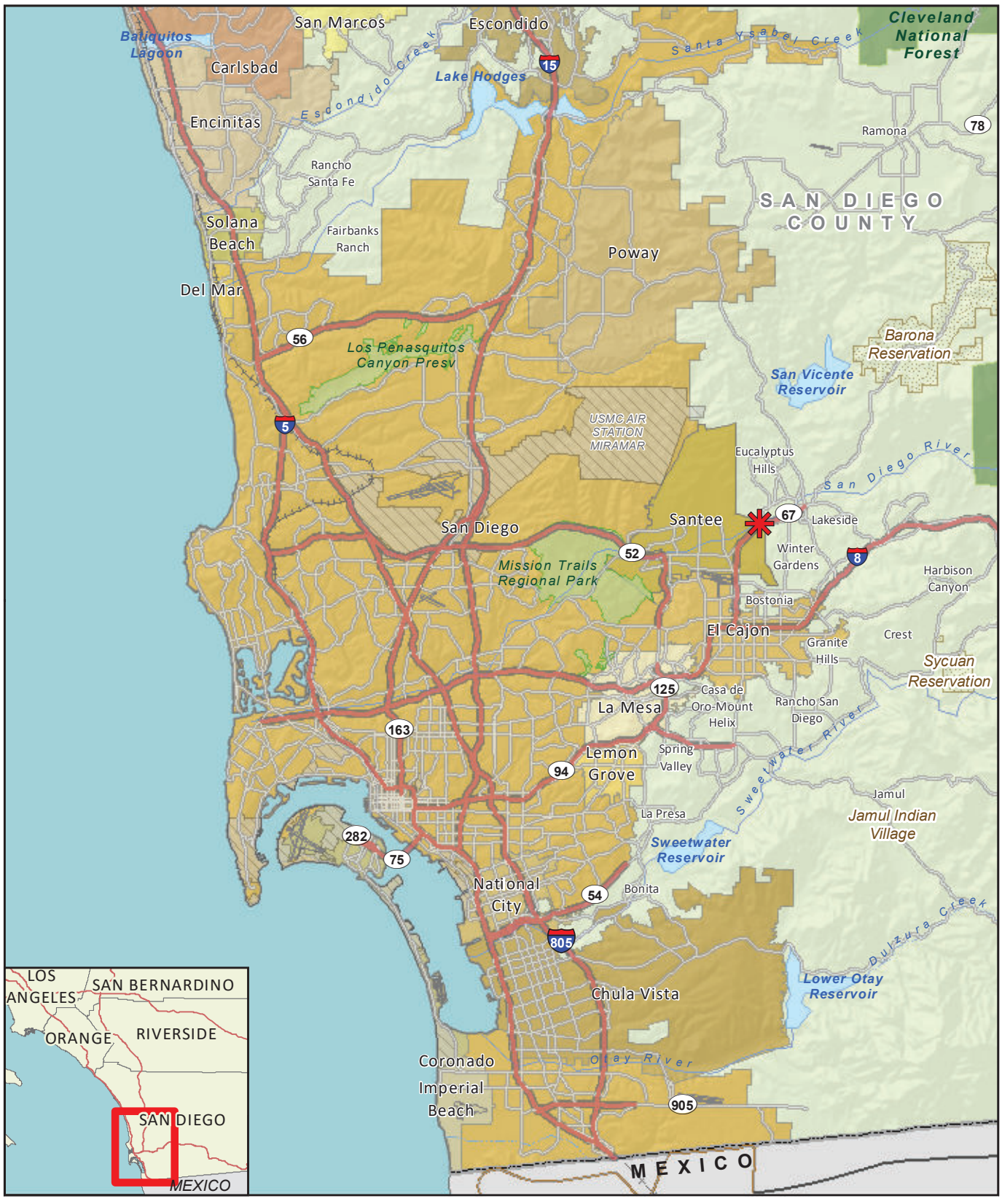
U.S. Geological Survey (USGS)
1994 El Cajon quadrangle, California 7.5-minute topographic map.

Certification

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

Chris Thomson
Permit Number TE-797665

September 7, 2023
Date



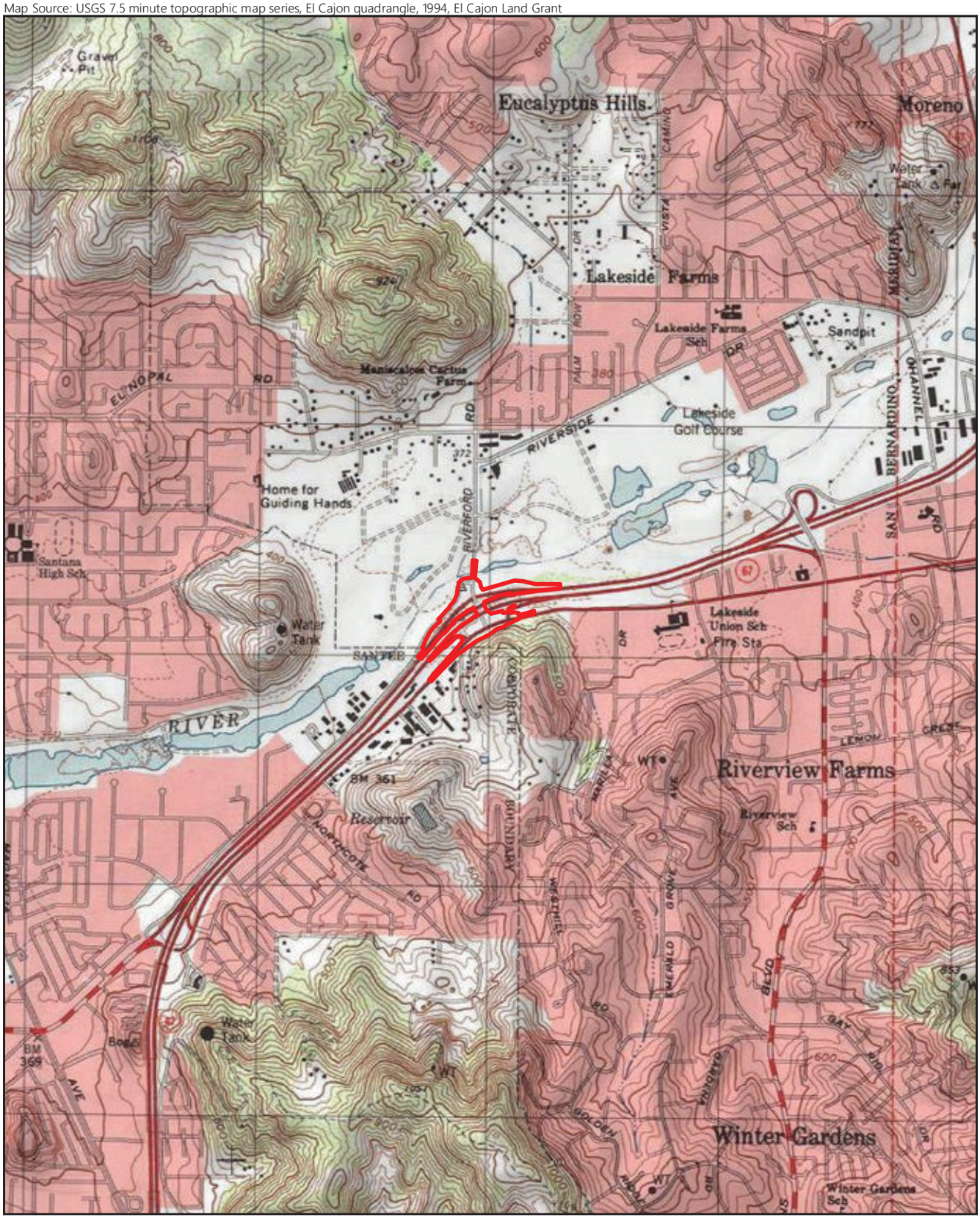
Project Location

RECON

M:\JOBS5\9009\9009.30\common_gis\fig1.mxd 5/2/2023 fmm

FIGURE 1
Regional Location

Map Source: USGS 7.5 minute topographic map series, El Cajon quadrangle, 1994, El Cajon Land Grant



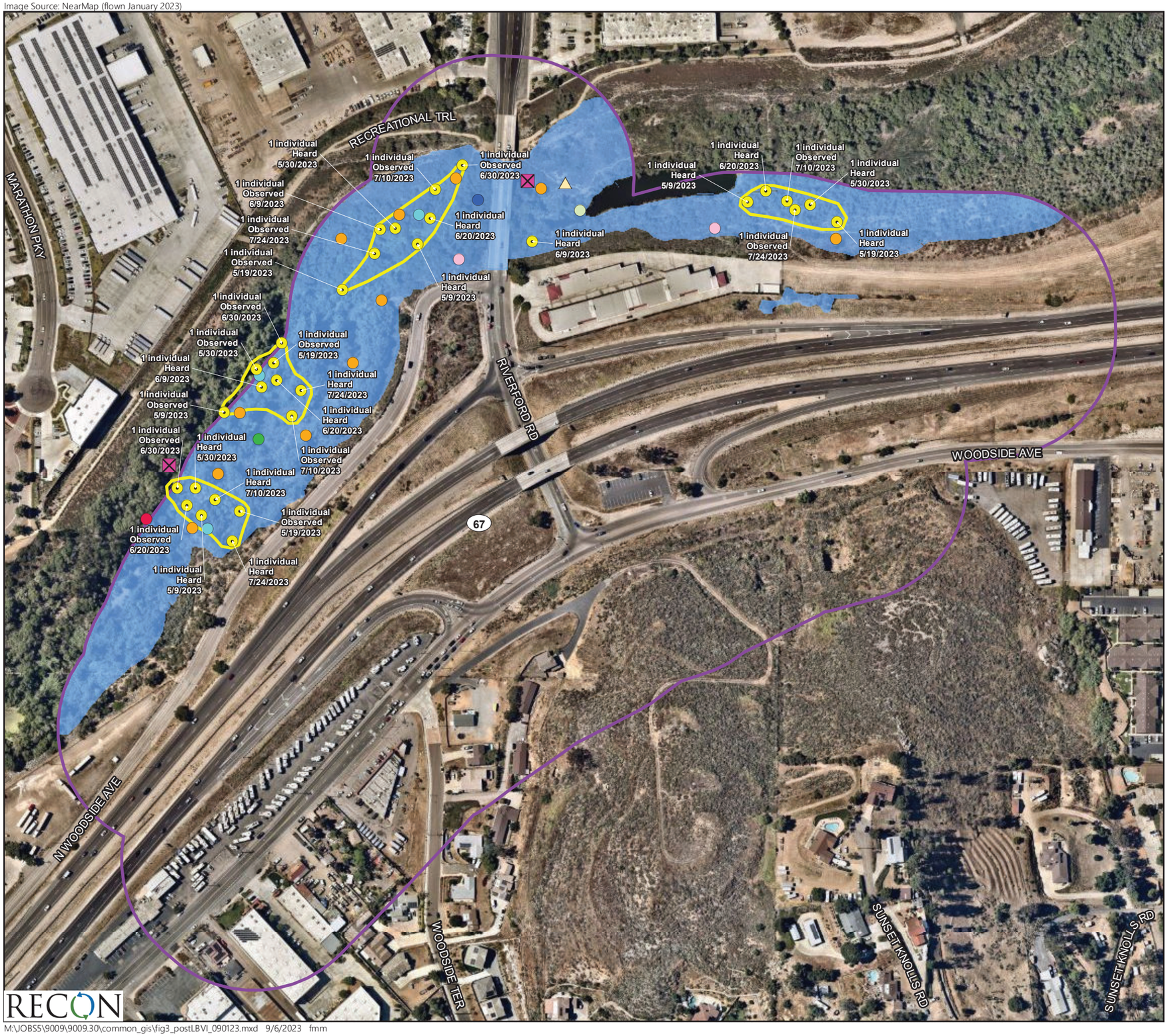
Project Boundary

RECON

M:\JOBS5\9009\9009.30\common_gis\fig2_USGS.mxd 9/1/2023 fmm

FIGURE 2
Project Location on USGS Map

Image Source: NearMap (flown January 2023)



RECON

M:\JOBS5\9009\9009.30\common_gis\fig3_postLBVI_090123.mxd 9/6/2023 fmm

- Wildlife Survey Area (300 feet)
- Least Bell's Vireo Survey Area (Southern Cotton-Willow Riparian Forest and Disturbed Southern Cotton-Willow Riparian Forest)
- Least Bell's Vireo Use Areas

Sensitive Wildlife Observations

- Double-crested Cormorant (*Phalacrocorax auritus*)
- Cooper's Hawk (*Accipiter cooperii*)
- Green Heron (*Butorides virescens*)
- Least Bell's Vireo (*Vireo bellii pusillus*)
- Red-shouldered Hawk (*Buteo lineatus*)
- Vaux's Swift (*Chaetura vauxi*)
- Yellow Warbler (*Setophaga petechia*)
- Yellow-breasted Chat (*Icteria virens*)
- Orange-throated Whiptail (*Aspidoscelis hyperythra*)

Parasitic Species Observations

- Brown-headed Cowbird (*Molothrus ater*)

0 Feet 250

FIGURE 3
Least Bell's Vireo 2023 Survey Area and Results

Appendix H – Construction Noise Analysis for Biological Resources for the Riverford Road Roundabouts Project (11-SD-67-R3.7/R4.2)

RECON

An Employee-Owned Company

September 25, 2024

Ms. Masha Landau
County of San Diego
Department of Public Works
Environmental Services Unit, MS O-332
5510 Overland Avenue, Suite 410
San Diego, CA 92123

Reference: Construction Noise Analysis for Biological Resources for the Riverford Road Roundabouts Project (11-SD-67-R3.7/R4.2) (RECON Number 9009-30A)

Dear Ms. Landau:

This letter details the results of the construction noise analysis prepared for the Riverford Road Roundabouts Project (project). The purpose of this study is to address potential construction noise impacts at the adjacent sensitive biological habitat.

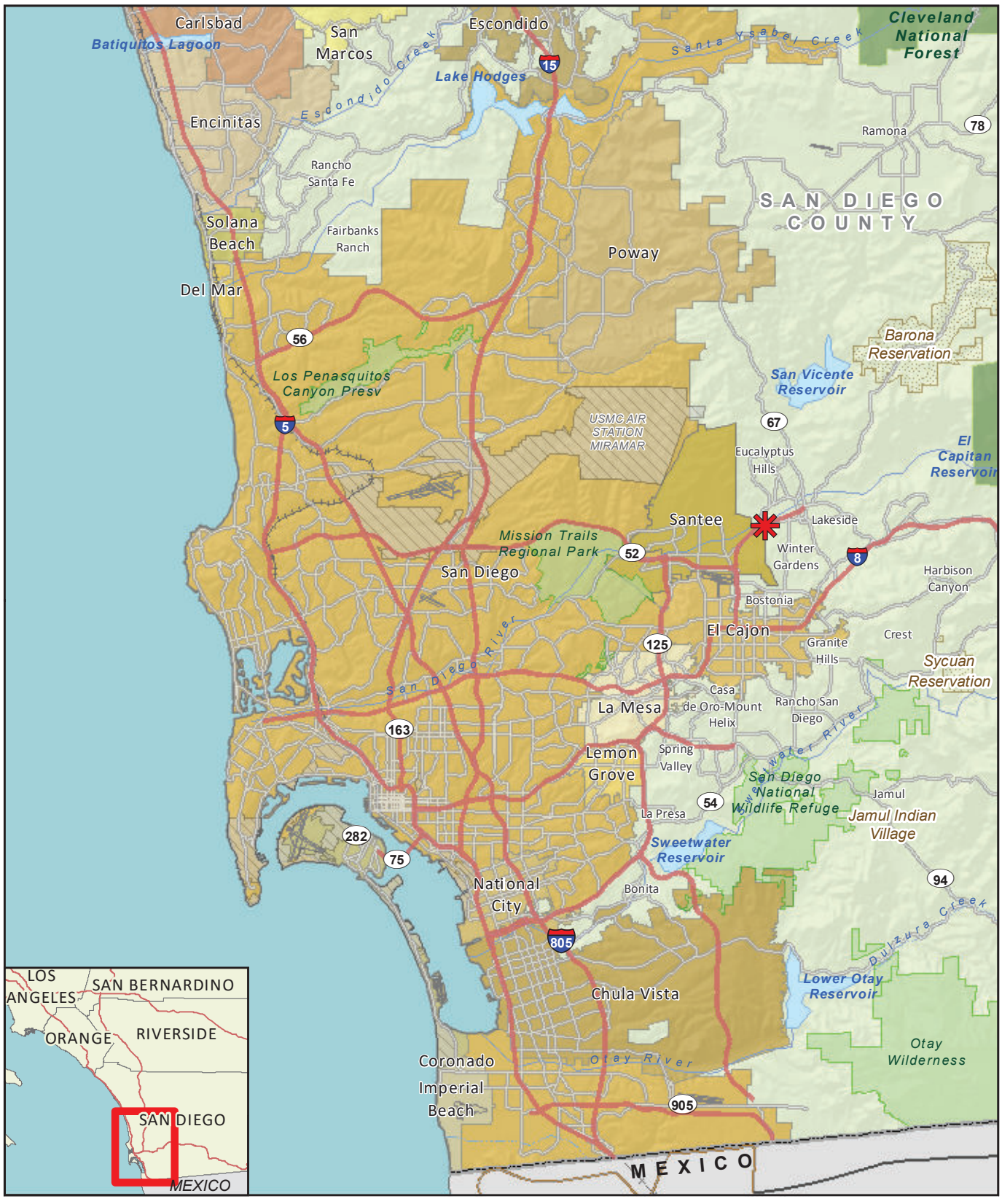
1.0 Project Purpose and Need

The County of San Diego (County) Department of Public Works (DPW) proposes the Riverford Road Roundabouts Project (proposed project), to construct roundabouts at two intersections ("two intersections"), in Lakeside, San Diego County (Figure 1 and 2). The northern intersection is located at the on- and off-ramps of State Route 67 (SR-67) and Riverford Road and the southern is at the Riverford Road and Woodside Avenue intersection. Both intersections currently experience traffic congestion with vehicle queues at the SR-67 ramps. The roundabouts would improve the overall traffic efficiency, circulation, and ease congestion. The California Department of Transportation (Caltrans) is considered a California Environmental Quality Act (CEQA) Responsible Agency because they are a public agency who also has responsibility for carrying out or approving the project (i.e., the project located within the Caltrans' right-of-way of this SR-67 interchange).

The northern roundabout would replace a two-way stop-controlled intersection at the on-/off-ramps of SR-67 southbound and Riverford Road (northern roundabout). To accommodate the roundabout, the intersection would be widened. The on-/off-ramps to/from SR-67 southbound would be realigned and widened. The existing North Woodside Avenue connection to Riverford Road would be relocated via construction of a new leg that will connect and convey existing traffic flow in and out of the northern roundabout.

The southern roundabout would replace the existing three-way signal-controlled intersection at Woodside Avenue and Riverford Road. To accommodate the roundabout, the intersection would be widened, and its elevation lowered to meet existing elevation of Riverford Road. Existing northbound SR-67 off-ramp connection to Woodside Avenue would be relocated via construction of a new leg, conveying exiting traffic flow into the southern roundabout.

The project would also construct Class II bicycle lanes, sidewalks, crosswalks, and shared-use pathways (for pedestrians and bicyclists) to create a "complete street." Rapid flashing beacons would be installed at multiple crosswalks (southbound SR-67 off-ramp at northern roundabout and northbound SR-67 off-ramp at southern roundabout). The proposed improvements are shown on Figure 3.



Project Location

RECON

M:\JOBS5\9009\9009.30A\common_gis\MXD\Airtec\fig1.mxd 10/9/2023 fmm

FIGURE 1
Regional Location

Image Source: NearMap (flown June 2023)

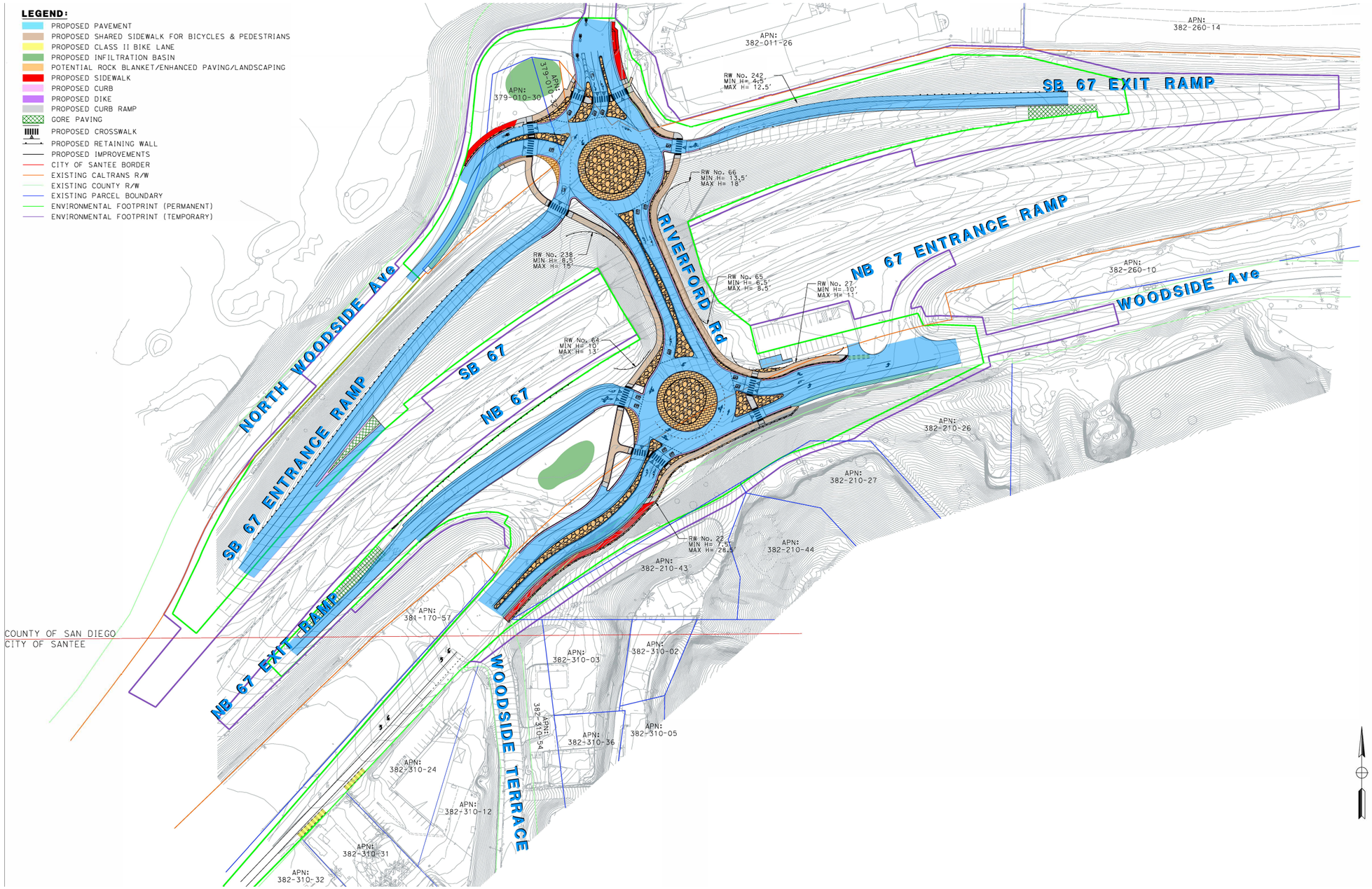
Project Boundary

FIGURE 2
Project Location on Aerial Photograph

RECON

M:\JOBS5\9009\9009.30A\common_gis\MXD\Airtec\fig2.mxd 10/9/2023 fmm

Map Source: Parsons



RECON

M:\JOBS5\9009\9009.30a\air\graphics\fig3.ai 09/24/24 fmm

FIGURE 3
Proposed Improvements

Stormwater drainage facilities (e.g., vegetated and/or concrete swales) and water quality treatment features (e.g., biofiltration basins) would be constructed to capture and treat roadway stormwater. Drainage facilities and water quality improvement features would vary in size and may include vegetation/plantings and permeable landscape. New curb cuts, gutters, storm drain inlets, headwalls, channels, and sidewalk underdrains would be added and convey stormwater to the proposed water quality treatment features. Additionally, dirt slopes underneath bridge overpasses would be stabilized, and the project would add multiple streetlights to help illuminate both roundabouts for drivers' safety. Riverford Road between both intersections would be widened to accommodate the shared-use pathways and stormwater drainage facilities. Retaining walls would be constructed where grading cannot be achieved and range in height from 3.5 feet to 25 feet, depending on location.

Construction of the proposed improvements would be phased over approximately one to two years, with the potential for temporary full closure of both project intersections. Traffic detours would be in place as-needed and would utilize the adjacent Winter Gardens SR-67 Interchange, Channel Road, and Riverside Drive.

Rock removal via blasting and/or other rock fracturing methods are likely; however, access to adjacent residences and businesses in the vicinity of the project, as well as for emergency vehicles, would be maintained at all times.

The project would be constructed largely within the existing County's and Caltrans' right-of-way, with slight encroachment onto the City of Santee's right-of-way. In addition, temporary and permanent property acquisitions are proposed to facilitate project design and construction needs.

2.0 Fundamentals of Noise

The following is a brief discussion of fundamental noise concepts. For a detailed discussion, refer to Caltrans' Technical Noise Supplement (Caltrans 2013), a technical supplement to the Traffic Noise Analysis Protocol, which is available on the Caltrans website (https://dot.ca.gov/programs/environmental-analysis/noise-vibration).

2.1 Sound, Noise, and Acoustics

Sound is defined as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a hearing organ, such as a human ear. Noise is defined as a loud, unexpected, or annoying sound.

In the science of acoustics, the fundamental model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and obstructions or atmospheric factors affecting the propagation path to the receiver determine the sound level and characteristics of the noise perceived by the receiver. The field of acoustics deals primarily with the propagation and control of sound.

2.2 Frequency

Continuous sound can be described by frequency (pitch) and amplitude (loudness). A low-frequency sound in pitch is perceived as low. Frequency is expressed in terms of cycles per second, or hertz (Hz; e.g., a frequency of 250 cycles per second is referred to as 250 Hz). High frequencies are sometimes more conveniently expressed in kilohertz, or thousands of Hz. The audible frequency range for humans is generally between 20 and 20,000 Hz.

2.3 Sound Pressure Levels and Decibels

The amplitude of pressure waves generated by a sound source determines the loudness of that source. Sound pressure amplitude is measured in micro-Pascals (mPa). One mPa is approximately one hundred

billionth (0.00000000001) of normal atmospheric pressure. Sound pressure amplitudes for different kinds of noise environments can range from less than 100 to 100,000,000 mPa. Because of this huge range of values, sound is rarely expressed in terms of mPa. Instead, a logarithmic scale is used to describe sound pressure level (SPL) in terms of decibels (dB). The threshold of hearing for young people is about 0 dB, which corresponds to 20 mPa.

2.4 Addition of Decibels

Because decibels are logarithmic units, SPL cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3-dB increase. In other words, when two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be 3 dB higher than the sound level produced by one source under the same conditions. For example, if one noise source produces an SPL of 70 dB, two noise sources operating simultaneously would not produce 140 dB; rather, they would combine to produce 73 dB.

2.5 A-Weighted Decibels

The decibel scale alone does not adequately characterize how noise is perceived. Because animals do not hear equally well at all frequencies, frequency weighting is a method to quantitatively account for these differing sensitivities, particularly when considering whether a sound might affect an animal's hearing.

Human hearing is limited in the range of audible frequencies as well as in the way it perceives the SPL in that range. In general, people are most sensitive to the frequency range of 1,000 to 8,000 Hz and perceive sounds within that range better than sounds of the same amplitude in higher or lower frequencies. In comparison, birds generally hear best at frequencies between about 1,000 and 5,000 Hz. To approximate the response of the human ear, sound levels of individual frequency bands are weighted, depending on the human sensitivity to those frequencies. Then, an "A-weighted" sound level–expressed in units of dB(A)–can be computed based on this information. The A-weighted scale is used for assessing the effects of noise on birds. The use of the A-weighted overestimates the effects of traffic noise on bird hearing because traffic and construction noises are predominantly low frequency.

The A-weighting network approximates the frequency response of the average young ear when listening to most ordinary sounds. When people make judgments about the relative loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Other weighting networks have been devised to address high noise levels or other special problems (e.g., B-, C-, and D-scales), but these scales are rarely used in conjunction with highway traffic noise. Noise levels for traffic noise reports are typically reported in terms of A-weighted decibels or dB(A). Table 1 describes typical A-weighted noise levels for various noise sources as a frame of reference.

Table 1 Typical A-Weighted Noise Levels		
Common Outdoor Activities	Noise Level [dB(A)]	Common Indoor Activities
	— 110 —	Rock band
Jet fly-over at 1,000 feet		
	— 100 —	
Gas lawn mower at 3 feet		
	— 90 —	
Diesel truck at 50 feet at 50 miles per hour		Food blender at 3 feet
	— 80 —	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet	— 70 —	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	— 60 —	
		Large business office
Quiet urban daytime	— 50 —	Dishwasher next room
Quiet urban nighttime	— 40 —	Theater, large conference room (background)
Quiet suburban nighttime		
	— 30 —	Library
Quiet rural nighttime		Bedroom at night
	— 20 —	
		Broadcast/recording studio
	— 10 —	
Lowest threshold of human hearing	— 0 —	Lowest threshold of human hearing
SOURCE: Caltrans 2013.		

2.6 Noise Descriptors

Noise in our daily environment fluctuates over time. Some fluctuations are minor, but some are substantial. Some noise levels occur in regular patterns, but others are random. Some noise levels fluctuate rapidly, but others slowly. Some noise levels vary widely, but others are relatively constant. Various noise descriptors have been developed to describe time-varying noise levels. The following are the noise descriptors most commonly used in noise analysis.

Equivalent Sound Level (L_{eq}): L_{eq} represents an average of the sound energy occurring over a specified period. In effect, L_{eq} is the steady-state sound level containing the same acoustical energy as the time-varying sound that actually occurs during the same period. The 1-hour A-weighted equivalent sound level (L_{eq}[h]) is the energy average of A-weighted sound levels occurring during a 1-hour period and is the basis for noise abatement criteria used by Caltrans and the Federal Highway Administration (FHWA).

Percentile-Exceeded Sound Level (L_{xx}): L_{xx} represents the sound level exceeded for a given percentage of a specified period (e.g., L_{10} is the sound level exceeded 10 percent of the time, and L_{90} is the sound level exceeded 90 percent of the time).

Maximum Sound Level (L_{max}): L_{max} is the highest instantaneous sound level measured during a specified period.

Sound Power Level (L_{pw}): L_{pw} is the energy converted into sound by the source. It is used to estimate how far a noise will travel and to predict the sound levels at various distances from the source.

Day-Night Level (L_{dn}): L_{dn} is the energy average of A-weighted sound levels occurring over a 24-hour period, with a 10 dB penalty applied to A-weighted sound levels occurring during nighttime hours between 10 p.m. and 7 a.m.

Community Noise Equivalent Level (CNEL): Similar to L_{dn}, CNEL is the energy average of the A-weighted sound levels occurring over a 24-hour period, with a 10 dB penalty applied to A-weighted sound levels occurring during the nighttime hours between 10 p.m. and 7 a.m., and a 5 dB penalty applied to the A-weighted sound levels occurring during evening hours between 7 p.m. and 10 p.m.

2.7 Sound Propagation

When sound propagates over a distance, it changes in level and frequency content. The manner in which noise reduces with distance depends on the following factors.

2.7.1 Geometric Spreading

Sound from a localized source (i.e., a point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path and, therefore, can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source.

2.7.2 Ground Absorption

The propagation path of noise from a source to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective-wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation is also expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 feet. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver, such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance.

2.7.3 Atmospheric Effects

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) from a noise source due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects.

2.7.4 Shielding by Natural or Human-Made Features

A large object or barrier, including topography and dense woods, in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Natural terrain features (e.g., hills and dense woods) and human-made features (e.g., buildings and walls) can substantially reduce noise levels. A barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dB of noise reduction. Taller

barriers provide increased noise reduction. Vegetation between the noise source and receiver is rarely effective in reducing noise because it does not create a solid barrier.

2.8 Noise Effects on Wildlife

Increased levels of noise have the potential to affect behavioral and physiological responses in wildlife receivers. Adverse responses to increased noise may include hearing loss, the temporary masking of vocalizations used in communication during the breeding season, nest abandonment, and/or decreased predator awareness, thereby resulting in a decrease in the reproductive and overall fitness of certain animal species (Fletcher 1980, 1990). Increased noise has the potential to create a situation of long-term hearing loss in wildlife species. Almost all avian species rely heavily on acoustic communication for species and individual recognition, mate selection, territorial defense, and other social activities. There are three general overlapping categories of noise effects on birds: hearing damage and temporary threshold shift, masking, and other physiological and behavioral responses. In the case of direct auditory effects, the specific category depends primarily on the level of noise exposure, which is highly correlated with the proximity of the bird(s) to the noise source.

Birds (as well as humans and other animals) show a shift in hearing sensitivity in response to sounds that are sufficiently long and/or intense. Data show that birds can tolerate continuous (e.g., up to 72 hours) exposure to noises up to 110 dB(A) without experiencing hearing damage. Permanent hearing loss occurs if the intensity and duration of the noise is sufficient to damage the delicate inner ear sensory hair cells. At continuous noise levels below 110 dB(A) down to about 93 dB(A), birds can experience a temporary hearing loss that can last from seconds to days depending on the intensity and duration of the noise to which the animal was exposed.

Masking is the interference with the detection of one biologically relevant sound by another and refers to the increase in thresholds for detection or discrimination of sounds in the presence of another sound. Continuous noise of sufficient intensity in the frequency range of bird hearing can have a detrimental effect on a bird's ability to detect and discriminate between the vocal signals of other birds.

Within the terrestrial ecosystem, bird species potentially use sound more frequently and for longer durations than any other group of wildlife, and therefore are the focus of the potential effects analysis of this report. More specifically, bird species associated with the Biological Study Area (BSA) used for this project (refer to the use areas identified in Figure 4 in Section 3.1) have a federal or state regulatory status of threatened or endangered and are analyzed in this report. These special status bird species include coastal California gnatcatcher (*Polioptila californica californica*) and least Bell's vireo (*Vireo bellii pusillus*).

3.0 Existing Conditions

3.1 Noise Sensitive Species

The BSA for the project includes all areas that could potentially be impacted during construction, as well as a 300-foot buffer. Focused presence/absence surveys for coastal California gnatcatcher and least Bell's vireo were conducted as a part of the Natural Environment Study (NES) prepared for the project (RECON 2023).

No sensitive wildlife species were observed within the project impact area; however, two species were observed outside the project impact area within the BSA. Specifically the Diegan coastal sage scrub within the southern portion of the BSA, south of Woodside Avenue, is currently occupied by coastal California gnatcatcher outside of the project impact area. Two coastal California gnatcatcher use areas were identified within the BSA (but outside of the project site footprint), both occurring in the southern portion of the survey area and extending beyond the survey area.

The riparian habitat within the northwestern portion of the BSA is occupied by least Bell's vireo outside of the project impact area. The least Bell's vireo is dependent upon riparian habitat during the breeding season and prefers willow-dominated woodland or scrub that typically exists along streams and rivers. Four least Bell's vireo use areas were identified within or adjacent to the survey area but outside of the project site footprint.

Construction duration has the potential to overlap up with up to two breeding seasons for coastal California gnatcatcher (March 1 to August 15) and least Bell's vireo (March 15 to September 15). The coastal California gnatcatcher and least Bell's vireo use areas identified within the BSA are shown in Figure 4.

3.2 Existing Noise Levels

Existing noise levels within the BSA were measured on December 4, 2023 adjacent to two least Bell's vireo use areas and one coastal California gnatcatcher use area, to capture ambient noise levels during the peak morning commute. Noise levels were measured using three Larson-Davis Model LxT, Type 1 Integrating Sound Level Meters, serial numbers 3895, 3896, and 3897. The following parameters were used:

Filter:	A-weighted
Response:	Slow
Interval Period	1 minute
Time History Period:	5 seconds
Time/Duration:	7:31 a.m. to 9:41 a.m./2 hours, 10 minutes

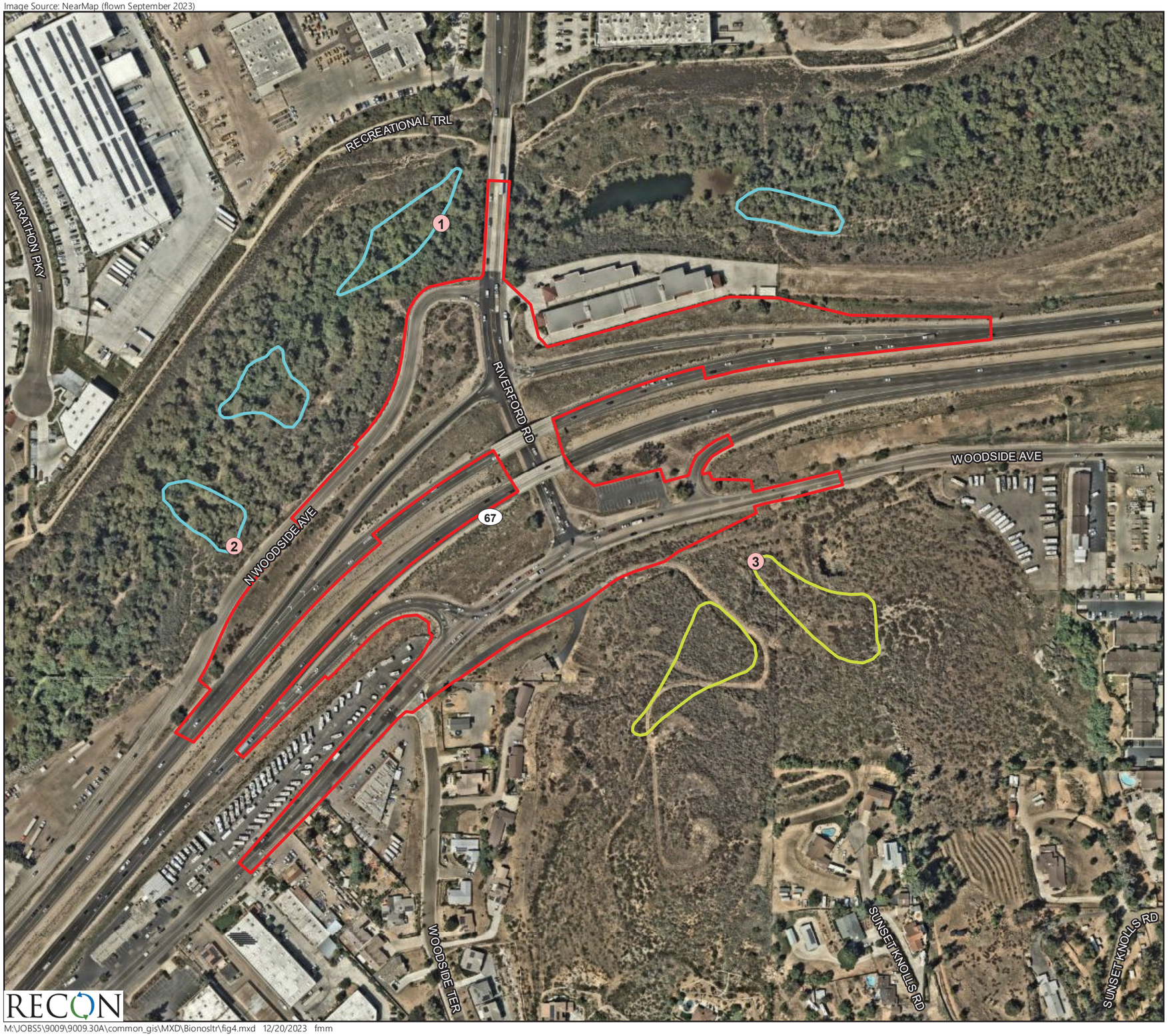
The meters were calibrated before measurements. The meters were set five feet above the ground level for each measurement. The weather was cool and overcast with minimal breeze under one mile per hour. Measurement 1 was located at the western least Bell's vireo use area north of SR-67, Measurement 2 was located at the least Bell's vireo use area west of Riverford Road, and Measurement 3 was located at the coastal California gnatcatcher use area south of SR-67. The least Bell's vireo measurement locations are below the elevation of SR-67 and other roadways, and the coastal California gnatcatcher measurement location is on a slope above the elevation of SR-67 and other roadways. The dominant noise source was vehicle traffic on SR-67, Riverford Road, North Woodside Avenue, and Woodside Avenue. Noise measurement results are summarized in Table 2. The measurement locations are shown on Figure 4, and noise measurement data is provided in Attachment 1.

Table 2
Noise Measurement Summary

Measurement	Location	Time	Average Noise Level [dB(A) L_{eq}]	Maximum Noise Level [dB(A) L_{max}]	Main Noise Source
1	Central least Bell's vireo use area west of Riverford Road	7:37 a.m. – 9:37 a.m.	54.6	69.2	Vehicle traffic on Riverford Road, North Woodside Avenue, and SR-67
2	Western least Bell's vireo use area north of North Woodside Avenue	7:41 a.m. – 9:41 a.m.	54.8	70.2	Vehicle traffic on SR-67, North Woodside Avenue, and Riverford Road
3	Coastal California gnatcatcher use area south of SR-67/ Woodside Avenue	7:31 a.m. – 9:31 a.m.	67.0	83.5	Vehicle traffic on SR-67, Woodside Avenue, Riverford Road

dB(A) L_{eq} = A-weighted decibels one-hour equivalent noise level; SR-67 = State Route 67

Image Source: NearMap (flown September 2023)



Project Boundary
Coastal California Gnatcatcher Use Areas
Least Bell's Vireo Use Areas
Noise Measurement Locations

0 Feet 200

FIGURE 4

Noise Measurement Locations

RECON

M:\JOBS5\9009\9009.30A\common_gis\MXD\Bionosltr\fig4.mxd 12/20/2023 fmm

4.0 Applicable Standards

Based on the Caltrans 2016 Technical Guidance for Assessment and Mitigation of the Effects of Highway and Road Construction Noise on Birds (2016 Caltrans Avian Noise Guidance), in 1987, a biologist developed a criterion for a California highway project by measuring noise levels at the nests of birds along a highway. On average, these levels approximated 60 dB(A) L_{eq} (Caltrans 2016). The assessment assumed that if birds were successfully breeding, then this noise level is, by definition, not detrimental to the birds.

However, during the same time period, a study prepared by the California Department of Fish and Wildlife identified 60 dB(A) L_{eq} as a traffic noise that would begin to raise concerns about potential masking of communication sounds between birds by traffic noise (Caltrans 2016). In this case, the 60 dB(A) L_{eq} came from an auditory model that calculated whether noise levels from traffic rose above ambient noise levels enough to affect acoustic communication between two birds (Caltrans 2016).

According to the 2016 Caltrans Avian Noise Guidance, neither case was intended to set a precedent or become a standard for noise-impact mitigation. The 60 dB(A) L_{eq} limit for traffic noise only applies, at best, under a narrow range of specific conditions having to do with the sound-affecting aspects of the habitat, the species lifestyle, and dependence on acoustic communication, the level of existing ambient noise, as well as whether the species' predators use acoustic signals to locate their prey (Caltrans 2016). Therefore, Caltrans indicates the use of 60 dB(A) L_{eq} provides only an approximation and probably conservative estimate of impacts to avian species, particularly for birds nesting near freeways.

There are several reasons Caltrans has come to this conclusion:

1. Birds do not hear as well as humans at low frequencies which contain the bulk of energy in traffic noise;

2. Bird vocalizations are at higher frequencies than traffic noise;

3. The use of the A scale on the sound level meter which mirrors human hearing, as opposed to bird hearing, overestimates the effects of traffic noise on bird hearing because traffic and construction noises are predominantly low frequency; and

4. Birds, like humans, can and do employ a number of short-term behavioral strategies for processing noise such as turning their heads, changing height or location, raising their voice, and timing their communication to coincide with periods of low noise.

Furthermore, based on guidance provided by the U.S. Fish and Wildlife Service and as communicated by Caltrans to the County of San Diego on November 13, 2023, for this project, the greater of either the existing ambient conditions or a 65 dB(A) L_{eq} threshold should be used, whichever is higher. Therefore, construction noise levels above the existing conditions or 65 dB(A) L_{eq}, whichever is higher, may potentially result in bird call masking or startling in the adjacent use areas (email communication between Rush Abrams of Caltrans, and Sally Brown of USFWS).

Existing ambient conditions in the vicinity of the project are dominated by vehicle traffic on SR-67 and other area roadways. As shown in Table 2, existing ambient noise conditions at the coastal California gnatcatcher use areas are 67 dB(A) L_{eq}. Existing ambient noise at both least Bell's vireo use areas are approximately 55 dB(A) L_{eq}. Noise levels are less at the least Bell's vireo use areas because they are at a lower elevation compared to SR-67 and North Woodside Avenue, and are therefore partially shielded from vehicle traffic noise. Therefore, for the purposes of this analysis, construction noise levels greater than 65 dB(A) L_{eq} at the least Bell's vireo use area or 67 dB(A) L_{eq} at the coastal California gnatcatcher use area would result in a potential impact.

5.0 Methodology

Noise level predictions and contour mapping were developed using noise modeling software, SoundPLAN Essential, version 4.1 (Navcon Engineering, Inc. 2018). SoundPLAN calculates noise propagation based on the International Organization for Standardization method (ISO 9613-2 – Acoustics, Attenuation of Sound during Propagation Outdoors). The model calculates noise levels at selected avian receiver locations using input parameter estimates such as total noise generated by each construction noise source; distances between sources, barriers, and receivers; and shielding provided by intervening terrain, barriers, and structures. The model outputs can be developed as noise level contour maps or noise levels at specific receivers.

5.1 General Construction

Project construction noise would be generated by diesel engine-driven construction equipment. Construction equipment with a diesel engine typically generates maximum noise levels between 70 to 95 dB(A) L_{eq} at a distance of 50 feet from the source of noise (FHWA 2006 and 2008, Federal Transit Authority 2006). During construction, equipment moves between locations and goes through varying load cycles, with breaks for the operators and non-equipment tasks. The duty cycle represents the amount of time that equipment is operating at maximum noise levels. Table 3 shows typical construction equipment that would be required for general project construction, and summarizes noise levels and duty cycles.

Table 3
Typical Construction Equipment Noise Levels

Equipment	Maximum Noise Level at 50 Feet [dB(A) L_{eq}]	Typical Duty Cycle	Average Noise Level at 50 Feet [dB(A) L_{eq}]
Backhoe	80	40%	76
Blasting	94	1%	74
Compactor (ground)	80	20%	73
Compressor (air)	80	40%	76
Crane (mobile or stationary)	85	20%	73
Dump Truck	84	40%	74
Excavator	85	40%	81
Front End Loader	80	40%	76
Generator (25 kilovolt amps or less)	70	50%	67
Generator (more than 25 kilovolt amps)	82	50%	79
Grader	85	40%	81
Jackhammer	85	20%	78
Mounted Impact Hammer	90	20%	83
Paver	85	50%	82
Pneumatic Tools	85	50%	82
Pumps	77	50%	74
Rock Drill	85	20%	78
Roller	74	40%	70
Scraper	85	40%	81
Tractor	84	40%	80
Wood Chipper[1]	85	20%	78

SOURCE: Federal Highway Administration 2006 and 2008; Federal Transit Authority 2006.
dB(A) L_{eq} = A-weighted decibels average noise level.
[1]Noise levels generated by a wood chipper assumed to be similar to noise levels generated by a chain saw.

The project would be constructed in stages, with potentially six stages anticipated, but the exact numbering/sequence may be subject to change once final design is completed. Table 4 summarizes tasks that would be a part of each stage of construction. Stages 1 through 6 are shown in Figures 5.1 through 5.6, respectively.

Table 4
Anticipated Estimate of Construction Stages

Stage	Task/Activity
Stage 1	Construct northern SR-67 Exit ramp to Riverford Road
	Construct portion of southern roundabout
	Construct outside widening of Riverford Road
	Construct portion of southbound SR-67 exit ramp to Riverford Road
	Construct portion of southbound SR-67 entrance ramp from Riverford Road
	Install temporary pavement
	Install northbound SR-67 guardrail
Stage 2	Construct portion of southern roundabout
	Construct portion of northern roundabout
	Construct outside widening of Riverford Road
	Construct portion of southbound SR-67 exit ramp to Riverford Road
	Construct northbound North Woodside ramp entrance to northern roundabout
	Construct portion of southbound SR-67 entrance ramp from Riverford*
	Reconstruct portion of existing parking lot
Stage 3	Construct portion of northern roundabout
	Construct outside widening of Woodside Avenue
	Construct portion of southbound SR-67 entrance ramp from Riverford Road
	Install bioretention basin
	Install temporary pavement
	Construct southbound SR-67 entrance ramp gore
Stage 4	Construct pavement to Woodside Avenue and Riverford Road
Stage 5	Construct remaining portion of northern roundabout*
	Construct remaining portion of southern roundabout
	Construct remaining portion of southbound SR-67 entrance ramp from Riverford Road
	Remove temporary pavement and construct remaining portion of southbound SR-67 exit ramp to Riverford Road
	Construct northbound SR-67 exit ramp to Woodside Avenue*
	Construct remaining widening of Riverford Road*
	Construct improvements to Woodside Avenue*
Stage 6	Remove temporary pavement and construct remaining improvements on Woodside Avenue

*Nighttime construction is anticipated for these activities, and it may also occur in either additional stages or tasks or potentially in less stages/tasks.

Construction equipment required for each stage would include a mix of equipment summarized in Table 3. For the purposes of this analysis, construction noise levels were analyzed with the simultaneous use of an excavator and a front-end loader which together generate the loudest average hourly noise levels and represent a worst-case scenario. Although more equipment would be present on site, not all equipment would operate at the same time. It is unknown at this time if the tasks within each stage would be conducted at the same time. The analysis conservatively assumes that both an excavator and loader would operate simultaneously in each activity area for any given stage. For example, there are seven tasks associated with Stage 1, i.e., seven excavators and seven loaders were assumed to operate simultaneously in Stage 1 throughout the project area. Therefore, the results are conservative and overestimate anticipated construction noise levels.

Map Source: Caltrans

NOTE:

1. ALL CONFLICTING SIGNING, STRIPING AND PAVEMENT MARKINGS SHALL BE REMOVED PRIOR TO BEGINNING WORK ON EACH STAGE.

STAGE 1 CONSTRUCTION WORK TO BE PERFORMED:

① CONSTRUCT NORTHBOUND 67 EXIT RAMP TO RIVERFORD ROAD

② CONSTRUCT PORTION OF SOUTHERN ROUNDABOUT

③ CONSTRUCT OUTSIDE WIDENING OF RIVERFORD ROAD

④ CONSTRUCT PORTION OF SOUTHBOUND 67 EXIT RAMP TO RIVERFORD ROAD

⑤ CONSTRUCT PORTION OF SOUTHBOUND 67 ENTRANCE RAMP FROM RIVERFORD ROAD

⑥ INSTALL TEMPORARY PAVEMENT

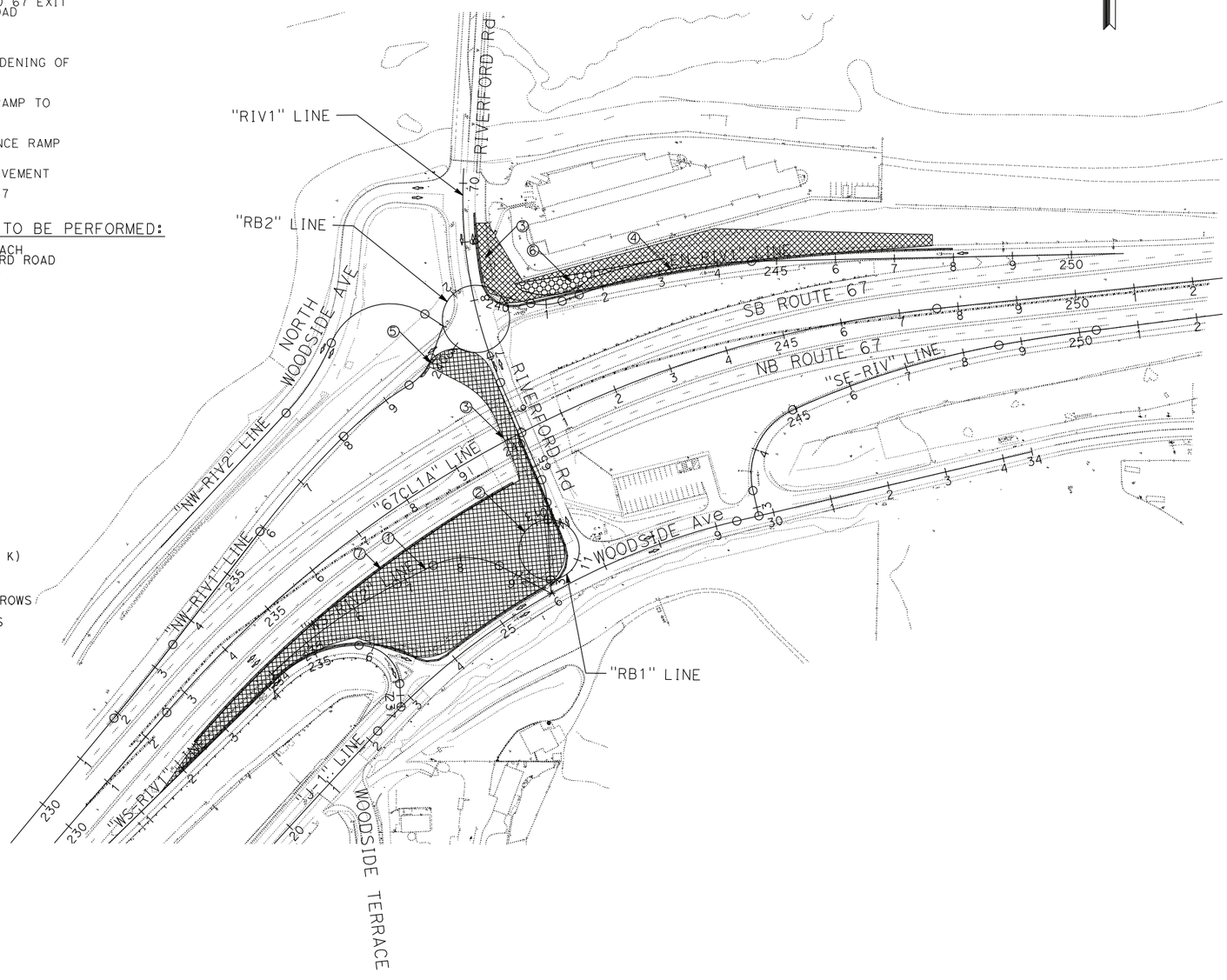
⑦ INSTALL NORTHBOUND 67 GUARDRAIL

STAGE 1 TRAFFIC HANDLING TO BE PERFORMED:

1. MAINTAIN 1 LANE IN EACH DIRECTION ON RIVERFORD ROAD AND WOODSIDE AVENUE.

LEGEND:

- CONSTRUCTION THIS STAGE
- WEEKEND CLOSURE CONSTRUCTION
- TEMPORARY PAVEMENT
- NIGHT TIME WORK
- TEMPORARY RAILING (TYPE K)
- ROAD CLOSURE
- DIRECTION OF TRAFFIC ARROWS
- TEMPORARY PLASTIC DRUMS



RECON

M:\JOBS5\9009.30A\nos\graphics\fig5.1.ai 12/18/23 fmm

FIGURE 5.1
Construction Stage 1

Map Source: Caltrans

NOTE:

1. ALL CONFLICTING SIGNING, STRIPING AND PAVEMENT MARKINGS SHALL BE REMOVED PRIOR TO BEGINNING WORK ON EACH STAGE.

STAGE 2 CONSTRUCTION WORK TO BE PERFORMED:

① CONSTRUCT PORTION OF SOUTHERN ROUNDABOUT

② CONSTRUCT PORTION OF NORTHERN ROUNDABOUT

③ CONSTRUCT OUTSIDE WIDENING OF RIVERFORD ROAD

④ CONSTRUCT PORTION OF SOUTHBOUND 67 EXIT RAMP TO RIVERFORD ROAD

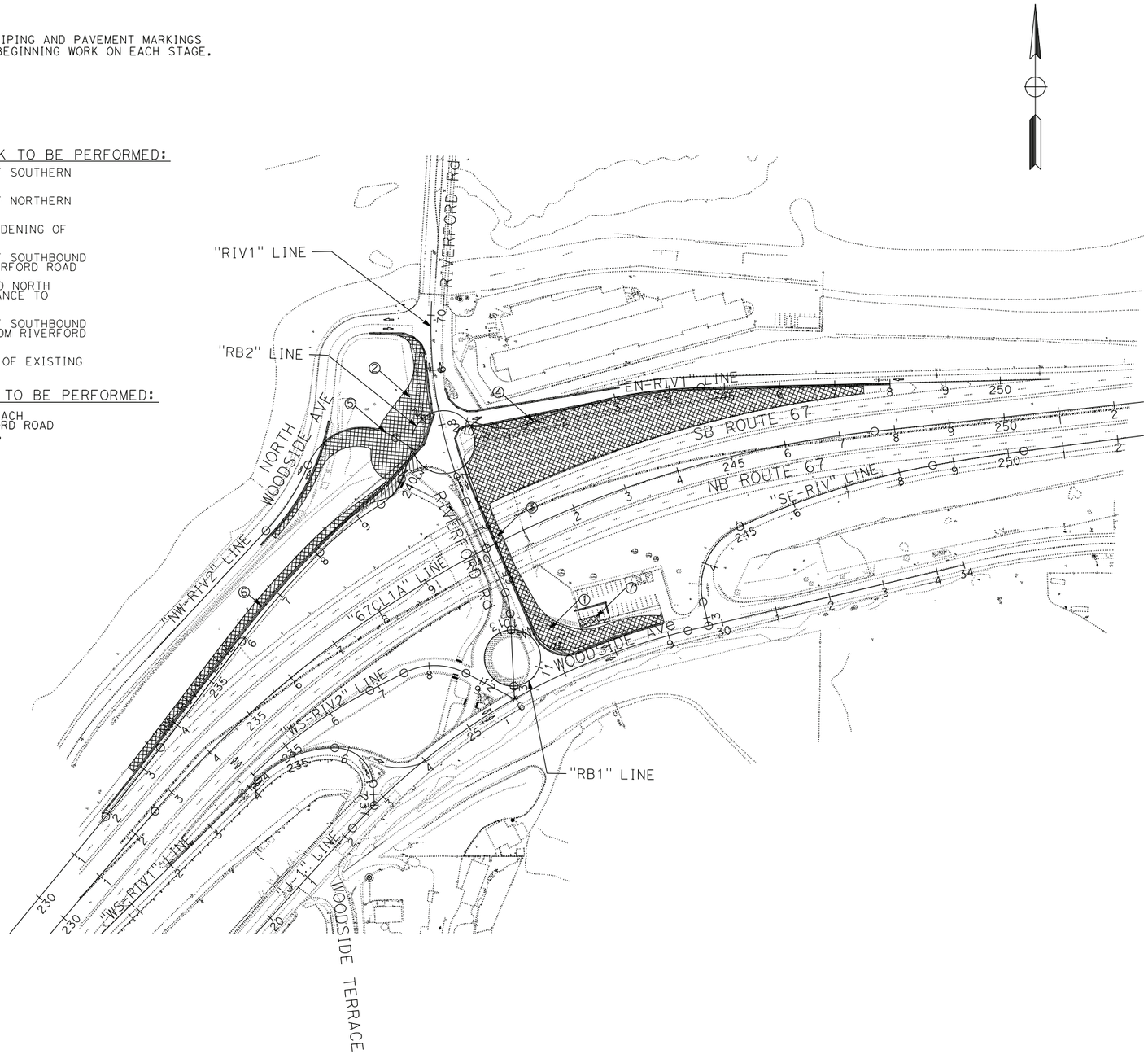
⑤ CONSTRUCT NORTHBOUND NORTH WOODSIDE RAMP ENTRANCE TO NORTHERN ROUNDABOUT

⑥ CONSTRUCT PORTION OF SOUTHBOUND 67 ENTRANCE RAMP FROM RIVERFORD ROAD

⑦ RECONSTRUCT PORTION OF EXISTING PARKING LOT

STAGE 2 TRAFFIC HANDLING TO BE PERFORMED:

1. MAINTAIN 1 LANE IN EACH DIRECTION ON RIVERFORD ROAD AND WOODSIDE AVENUE.



RECON

M:\JOBS5\9009.30A\nos\graphics\fig5.2.ai 12/18/23 fmm

FIGURE 5.2
Construction Stage 2

Map Source: Caltrans

NOTE:

1. ALL CONFLICTING SIGNING, STRIPING AND PAVEMENT MARKINGS SHALL BE REMOVED PRIOR TO BEGINNING WORK ON EACH STAGE.

STAGE 3 CONSTRUCTION WORK TO BE PERFORMED:

① CONSTRUCT PORTION OF NORTHERN ROUNDABOUT

② CONSTRUCT OUTSIDE WIDENING OF WOODSIDE AVENUE

③ CONSTRUCT PORTION OF SOUTHBOUND 67 ENTRANCE RAMP FROM RIVERFORD ROAD

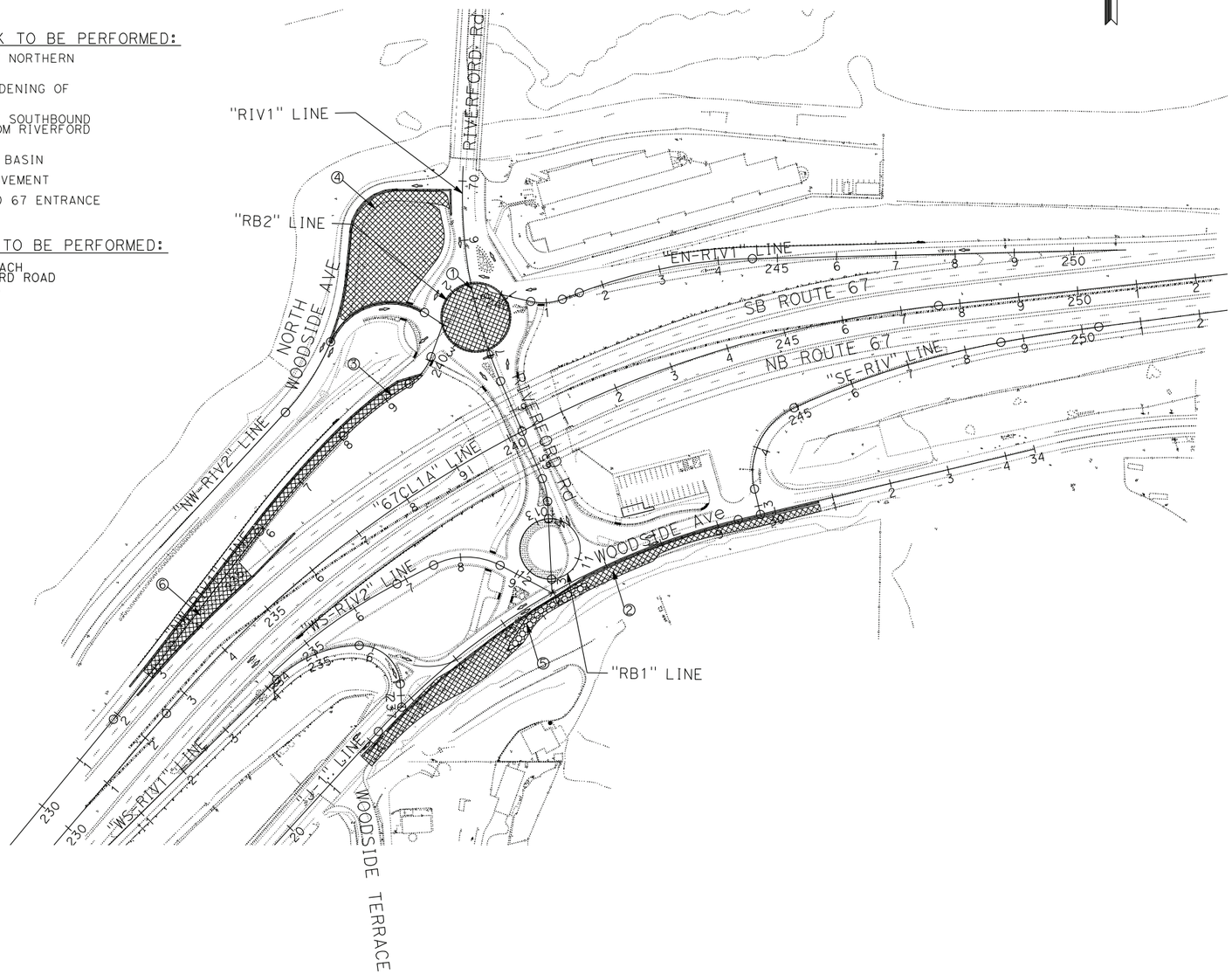
④ INSTALL BIORETENTION BASIN

⑤ INSTALL TEMPORARY PAVEMENT

⑥ CONSTRUCT SOUTHBOUND 67 ENTRANCE RAMP GORE

STAGE 3 TRAFFIC HANDLING TO BE PERFORMED:

1. MAINTAIN 1 LANE IN EACH DIRECTION ON RIVERFORD ROAD AND WOODSIDE AVENUE.



RECON

M:\JOBS5\9009.30A\nos\graphics\fig5.3.ai 12/18/23 fmm

FIGURE 5.3
Construction Stage 3

Map Source: Caltrans

NOTE:

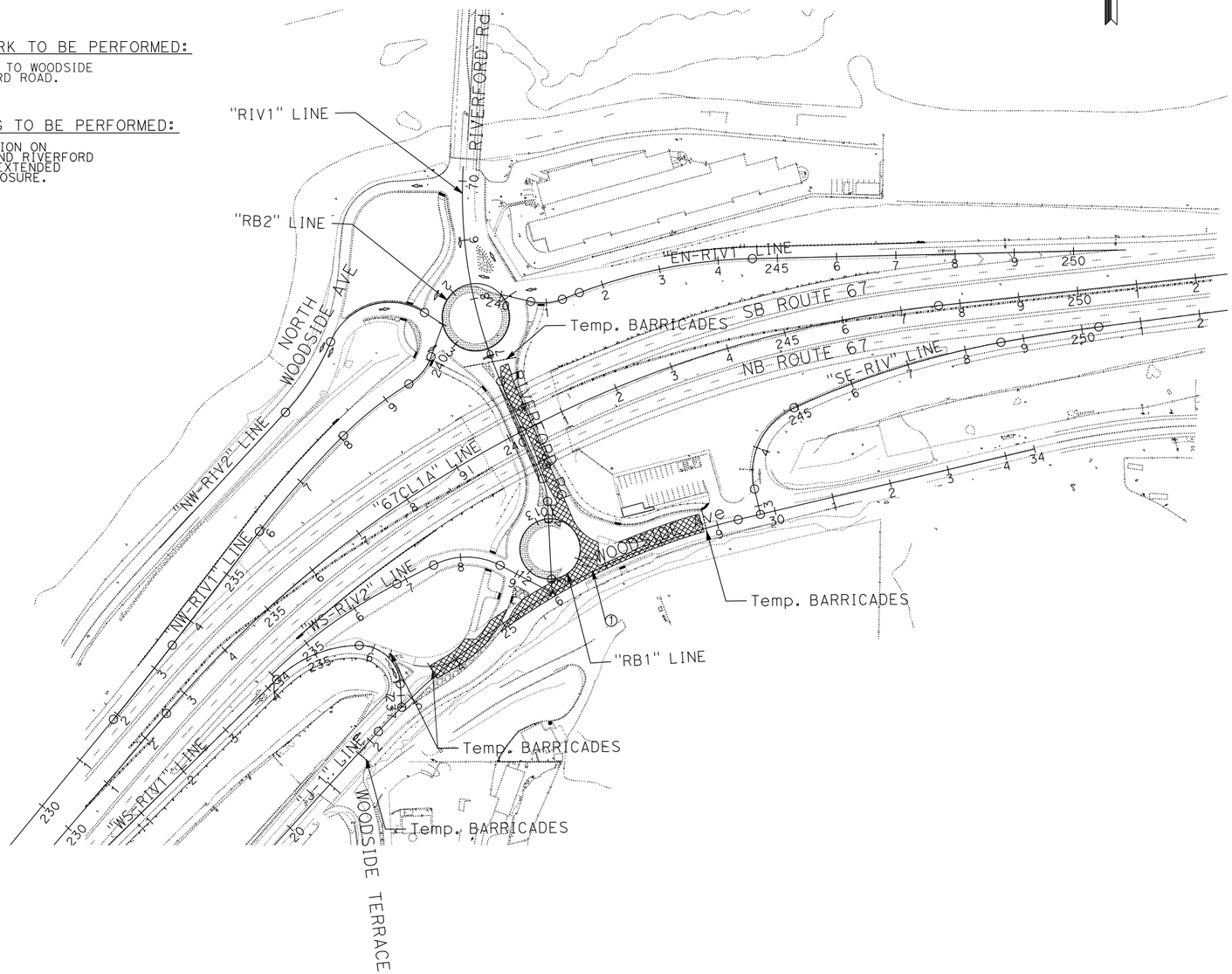
1. ALL CONFLICTING SIGNING, STRIPING AND PAVEMENT MARKINGS SHALL BE REMOVED PRIOR TO BEGINNING WORK ON EACH STAGE.

STAGE 4 CONSTRUCTION WORK TO BE PERFORMED:

① CONSTRUCT PAVEMENT TO WOODSIDE AVENUE AND RIVERFORD ROAD.

STAGE 4 TRAFFIC HANDLING TO BE PERFORMED:

1. PAVEMENT CONSTRUCTION ON WOODSIDE AVENUE AND RIVERFORD ROAD WILL REQUIRE EXTENDED 55-HOUR WEEKEND CLOSURE.



RECON

M:\JOBS5\9009.30A\nos\graphics\fig5.4.ai 12/18/23 fmm

FIGURE 5.4
Construction Stage 4

Map Source: Caltrans

NOTE:

1. ALL CONFLICTING SIGNING, STRIPING AND PAVEMENT MARKINGS SHALL BE REMOVED PRIOR TO BEGINNING WORK ON EACH STAGE.

STAGE 5 CONSTRUCTION WORK TO BE PERFORMED:

① CONSTRUCT REMAINING PORTION OF NORTHERN ROUNDABOUT.

② CONSTRUCT REMAINING PORTION OF SOUTHERN ROUNDABOUT

③ CONSTRUCT REMAINING PORTION OF SOUTHBOUND 67 ENTRANCE RAMP FROM RIVERFORD ROAD

④ REMOVE TEMPORARY PAVEMENT AND CONSTRUCT REMAINING PORTION OF SOUTHBOUND 67 EXIT RAMP TO RIVERFORD ROAD

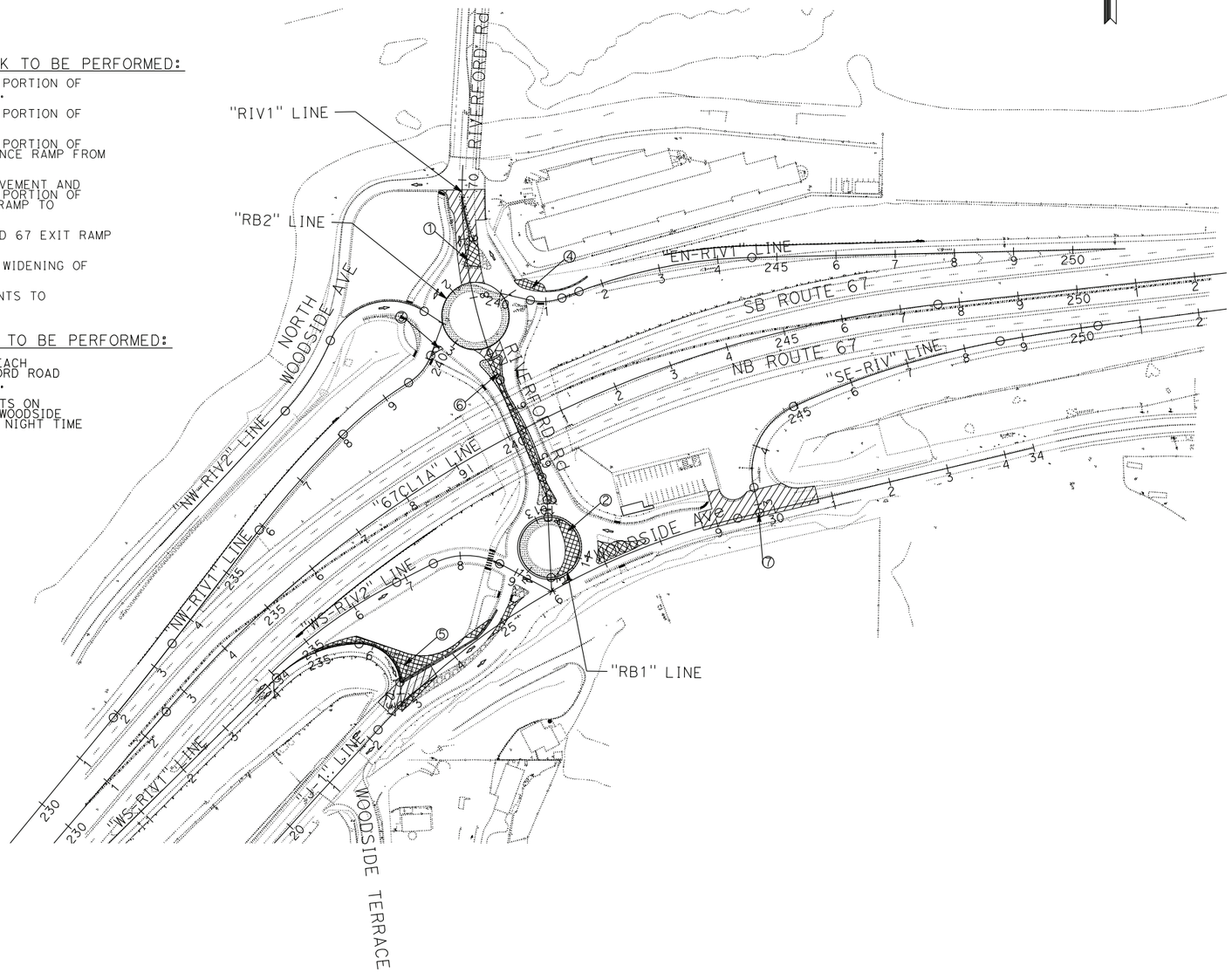
⑤ CONSTRUCT NORTHBOUND 67 EXIT RAMP TO WOODSIDE AVENUE

⑥ CONSTRUCT REMAINING WIDENING OF RIVERFORD ROAD

⑦ CONSTRUCT IMPROVEMENTS TO WOODSIDE AVENUE

STAGE 5 TRAFFIC HANDLING TO BE PERFORMED:

1. MAINTAIN 1 LANE IN EACH DIRECTION ON RIVERFORD ROAD AND WOODSIDE AVENUE.
2. PAVEMENT IMPROVEMENTS ON RIVERFORD ROAD AND WOODSIDE AVENUE WILL REQUIRE NIGHT TIME CLOSURES.



RECON

M:\JOBS5\9009.30A\nos\graphics\fig5.5.ai 12/18/23 fmm

FIGURE 5.5
Construction Stage 5

Map Source: Caltrans

NOTE:

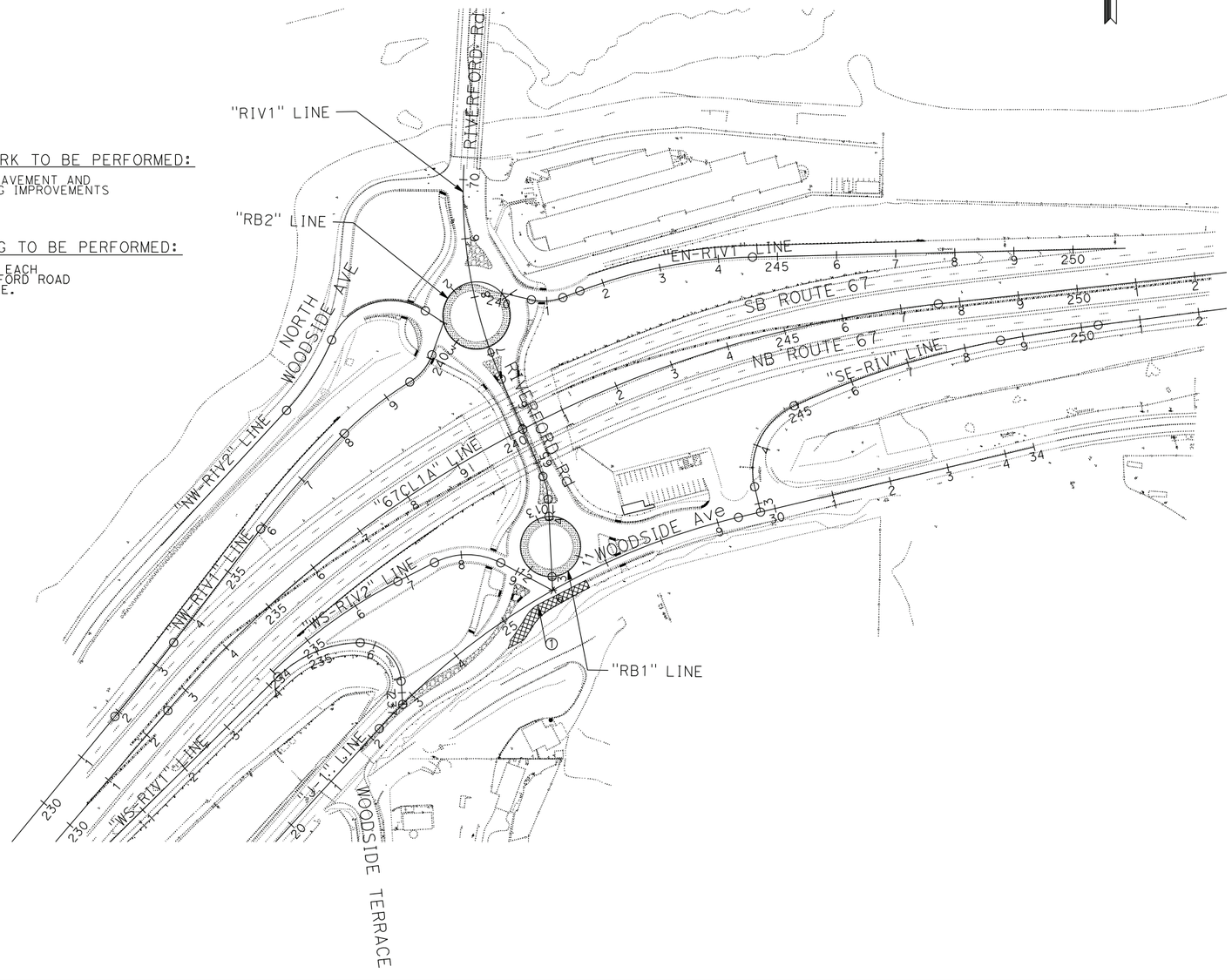
1. ALL CONFLICTING SIGNING, STRIPING AND PAVEMENT MARKINGS SHALL BE REMOVED PRIOR TO BEGINNING WORK ON EACH STAGE.

STAGE 6 CONSTRUCTION WORK TO BE PERFORMED:

① REMOVE TEMPORARY PAVEMENT AND CONSTRUCT REMAINING IMPROVEMENTS ON WOODSIDE AVENUE

STAGE 6 TRAFFIC HANDLING TO BE PERFORMED:

1. MAINTAIN 1 LANE IN EACH DIRECTION ON RIVERFORD ROAD AND WOODSIDE AVENUE.



RECON

M:\JOBS5\9009.30A\nos\graphics\fig5.6.ai 12/18/23 fmm

FIGURE 5.6
Construction Stage 6

5.2 Rock Removal

It is anticipated that rock removal will be necessary in multiple locations to construct the project. However, at the time of this writing, it has not been decided whether the rock will be removed with blasting or non-blasting methods at each location. Specifically, rock removal is anticipated to be needed along the south side of Woodside Avenue, at the southern roundabout, and at the northern roundabout's southwest and southeast corners. The following two scenarios were considered in this analysis:

Scenario 1: Non-Blasting

- Hydraulic splitter – The hydraulic splitter would be inserted into pre-drilled holes in the rock and split the rock from inside the hole.
- Pneumatic hammer – A pneumatic hammer attached to an excavator would break rock.
- Chemical expanders – A chemical solution would be inserted into the pre-drilled holes. The chemicals would expand and break the rock.

Caltrans Specifications would be followed for any of the rock removal options.

Of the three options listed above, the loudest equipment used during this process would be the excavator with a pneumatic hammer. Together, this equipment generates a noise level of 84.5 dB(A) L_{eq} at 50 feet which is equivalent to a sound power level of 116.2 dB(A) L_{pw}.

Scenario 2: Blasting and Controlled Blasting

There are two types of blasting methods: Blasting and Controlled Blasting as described below. Either method may potentially be used in conjunction with the non-blasting equipment/methods listed above. Caltrans Specifications would be followed for any of the blasting options. The contractor would implement the following methods:

Blasting

- Blasting within 30 feet of a building, highway facility or utilities is considered near-field blasting which requires an additional blasting consultant to monitor the operation with 10 years or experience in blasting monitoring.
- Pre-splitting can be used with blasting or controlled blasting by drilling 3-inch diameter holes aligned and spaced 3 feet apart to control the limits of the blasting slope.
- Blasting activities must comply with federal, state, and local blasting regulations, including Title 8 of the California Code of Regulations Chapter 4, Subchapter 7, Group 18, "Explosive Materials."
- Contractor is required to provide a blasting safety plan.

Controlled Blasting

- Controlled blasting is using a predetermined spacing and alignment with small-drilled holes to control where the rock will break.
- Blasting activities must comply with federal, State, and local blasting regulations, including Title 8 of the California Code of Regulations Chapter 4, Subchapter 7, Group 18, "Explosives and Pyrotechnics," Regulations, Division 4.5, Chapter 33, "Best Management Practices for Perchlorate Materials."
- Requires a blasting safety plan and a controlled blasting plan.

- Requires a pre-blasting survey of all structures including buildings within 330 feet of controlled blasting zone.
- Requires a post-blasting survey as well to determine that no damage was done to any items documented in the pre-blasting survey.
- Requires a Vibration and Noise Monitoring Report
    - Vibration levels will need to be below 2 inches per second at the nearest building highway facility or utility.
    - Noise must be below 128 decibels at the nearest building.
    - These are controlled by varying sequencing and/or blasting strength.
- Includes using a seismograph and decibel noise recorded.
- Requires a blasting monitoring consultant with 5 years of experience.

For these blasting scenarios (blasting and controlled blasting), a hole would be drilled with a rock drill, a blast would occur, and an excavator or loader would load the rock into a dump truck. Average hourly noise levels would not change significantly because blasting noise lasts a very brief amount of time.

6.0 Noise Impacts

6.1 General Construction

Using the parameters discussed in Section 5.0, construction noise levels were analyzed. Noise contour mapping was developed, and noise levels were calculated at seven specific avian receiver locations. Receivers 1 through 4 were calculated at the least Bell's vireo use areas, and receivers 5 through 7 were calculated at the coastal California gnatcatcher use areas. The results are summarized in Table 5. SoundPLAN data and noise contours are provided in Attachment 2.

Table 5
Construction Noise Levels

Receiver	Use Area	Loudest Noise Level During Construction [dB(A) L_{eq}]	Exceeds Threshold?
1	LBV	65	No
2	LBV	65	No
3	LBV	65	No
4	LBV	65	No
5	CAGN	67	No
6	CAGN	67	No
7	CAGN	67	No

SOURCE: Attachment 2.
LBV = least Bell's vireo.
CAGN = coastal California gnatcatcher.
dB(A) L_{eq} = A-weighted decibels average noise level.

As discussed in Section 5.0, construction noise levels greater than the 65 dB(A) L_{eq} (ambient existing conditions threshold) at the least Bell's vireo use area or the 67 dB(A) L_{eq} at the coastal California gnatcatcher use area would result in a potential impact. As shown in Table 5, the loudest construction noise levels are not anticipated to exceed these thresholds at either the coastal California gnatcatcher use area or least Bell's vireo use areas. Therefore, construction noise impacts to sensitive species would be less than significant.

6.2 Rock Removal

Scenario 1: Non-Blasting

Rock removal would be required along the south side of Woodside Avenue, at the southern roundabout, and at the northern roundabout's southwest and southeast corners. Noise contours for rock breaking and SoundPLAN data are provided in Attachment 3. Rock breaking at these locations may also occur simultaneously with other general construction activities.

Noise levels due to rock breaking alone are not anticipated to exceed 65 dB(A) L_{eq} at the least Bell's vireo use area or 67 dB(A) L_{eq} at the coastal California gnatcatcher use area. However, when combined with construction activities north of SR-67 (north of the yellow line on Figure 6), noise levels could exceed 65 dB(A) L_{eq} at the least Bell's vireo use area when rock breaking activities are occurring at the southern and northern roundabouts. Specifically, this exceedance would occur if rock breaking were to occur simultaneous with the general construction activities north of SR-67 (see noise contribution data provided in Attachment 3). Therefore, to ensure noise levels during construction do not exceed 65 dB(A) L_{eq} and do not adversely impact any habitat use areas, the following noise avoidance and minimization measure would be implemented as a part of the project's conditions of approval:

> All rock removal activities at the northern and southern roundabouts that may involve the use of a hydraulic splitter, pneumatic hammer, or any other noise producing rock removal equipment shall not occur simultaneously with any other general construction activities occurring north of the ESA line identified in Figure 6 for all stages of construction.

With implementation of this avoidance and minimization measure, construction noise levels are not anticipated to exceed 65 dB(A) L_{eq} at the least Bell's vireo use area or 67 dB(A) L_{eq} at the coastal California gnatcatcher use area. Therefore, construction noise impacts to sensitive species would be less than significant.

Scenario 2: Blasting and Controlled Blasting

For the area south of Woodside Avenue, blasting may also be used to remove rock. Blasting would be restricted at the southern roundabout because of existing waterline and gas facilities and at the northern roundabout because of the proximity to the bridge. Therefore, blasting was only analyzed at the area south of Woodside Avenue. Blasting noise contours and SoundPLAN data are provided in Attachment 4.

Blasting noise levels are not anticipated to exceed 65 dB(A) L_{eq} at the least Bell's vireo use area or 67 dB(A) L_{eq} at the coastal California gnatcatcher use area. Therefore, blasting noise impacts to sensitive species would be less than significant.

Image Source: NearMap (flown September 2023)

Project Boundary

Environmentally Sensitive Area (ESA) Line

0 Feet 200

RECON

M:\JOBS5\9009\9009.30A\common_gis\MXD\Bionoslt\fig6.mxd 3/27/2024 fmm

FIGURE 6

Noise Avoidance and Minimization

6.3 Operation

Once construction is complete, ambient noise levels in the vicinity of the project site would be similar to the existing conditions. Noise levels in the vicinity of the project site are dominated by vehicle traffic on SR-67. Noise is also generated by vehicle traffic on Riverford Road, Woodside Avenue, and the SR-67 on-ramps and off-ramps, although to a lesser degree compared to SR-67 because of the lower traffic volumes and speeds compared to vehicles traveling on SR-67. The project would not result in a significant change in roadway capacity. Therefore, there would be no or minor change in ambient noise due to a change in traffic volumes. Another factor affecting vehicle noise is vehicle speed. The project would convert signalized intersections into roundabout intersections. At signalized intersections, noise is generated by deceleration and acceleration. Converting a signalized intersection to a roundabout intersection generally results in traffic-calming conditions and a decrease in vehicle idling and overall intersection noise levels because the deceleration and acceleration noise would be reduced. It is noted that the effect depends upon traffic flow conditions. In the case of this project, the signalized intersection currently experiences significant traffic congestion and vehicle queues. This congestion causes a significant amount of stop-and-go movements, which generates more noise than vehicles moving at a relatively constant speed. It can, therefore, be concluded that the project would result in an overall decrease in ambient noise levels due to the anticipated improved traffic speeds and flow. Thus, no operational noise impacts to sensitive species are anticipated.

7.0 Conclusions

As discussed, the purpose of this study is to address potential construction noise impacts at the nearby sensitive biological habitat. Construction noise levels greater than the 65 dB(A) L_{eq} threshold at the least Bell's vireo use area or the 67 dB(A) L_{eq} ambient noise conditions at the coastal California gnatcatcher use area would result in a potential impact to these species. The analysis calculated noise levels due to general construction activities, non-blasting rock removal methods, and blasting. As shown in Table 5, noise levels due to general construction activities or due to blasting are not anticipated to exceed the applicable limits.

Noise levels due to rock breaking alone are not anticipated to exceed the applicable limits, however, if rock removal at the southern and northern roundabouts were to occur simultaneously with construction activities located north of SR-67, total noise levels could exceed 65 dB(A) L_{eq} at the least Bell's vireo use area. Therefore, as an avoidance measure, no rock removal activities conducted at the southern or northern roundabouts shall occur simultaneously with any other general construction activities occurring north of SR-67 (beyond the yellow line on Figure 6). Implementation of this avoidance measure would ensure total noise levels would not exceed the applicable thresholds, ensuring noise impacts to sensitive species would be less than significant.

Once the project is operational, ambient noise levels would either remain the same or potentially decrease due to the anticipated improved traffic circulation and efficiency of operations. Thus, no operational noise impacts to sensitive species are anticipated.

If you have any questions or concerns about this project, please call me at (619) 308-9333 extension 177.

Sincerely,

Jessica Fleming
Senior Noise Analyst

JLF:sh

8.0 References Cited

California Department of Transportation (Caltrans)

2013 Technical Noise Supplement. September. https://dot.ca.gov/programs/environmental-analysis/noise-vibration.

2016 Technical Guidance for Assessment and Mitigation of the Effects of Highway and Road Construction Noise on Birds, June.

Federal Highway Administration (FHWA)

2006 Roadway Construction Noise Model User's Guide. FHWA-HEP-05-054, SOT-VNTSC-FHWA-05-01. Final Report. January.

2008 Roadway Construction Noise Mode, V1.1. Washington DC.

Federal Transit Administration (FTA)

2006 Transit Noise and Vibration Impact Assessment. Washington, DC. May.

Fletcher, J. L.

1980 Effects of noise on wildlife: a review of relevant literature 1971-1978. Pages 611–620 in J.V. Tobias, G. Jansen, and W.D. Ward, eds. Proceedings of the Third International Congress on Noise as a Public Health Problem. Am. Speech-Language-Hearing Association, Rockville, Maryland.

1990 Review of noise and terrestrial species: 1983–1988. Pp. 181–188 in: B. Berglund and T. Lindvall, eds. Noise as a Public Health Problem Vol. 5: New Advances in Noise Research Part II. Swedish Council for Building Research, Stockholm.

Navcon Engineering, Inc.

2018 SoundPLAN Essential version 4.1.

RECON Environmental, Inc.

2023 Natural Environment Study. Riverford Road Roundabouts Project (DPW 1023987). December.

ATTACHMENTS

ATTACHMENT 1

Measurement Data

Summary

File Name on Meter	LxT_Data.009.s
File Name on PC	LxT_0003895-20231203 094659-LxT_Data.009.ldbin
Serial Number	0003895
Model	SoundTrack LxT®
Firmware Version	2.404
User	
Location	
Job Description	
Note	

Measurement

Description		
Start	2023-12-04	07:41:00
Stop	2023-12-04	09:41:00
Duration		02:00:03.7
Run Time		02:00:03.7
Pause		00:00:00.0
Pre-Calibration	2023-12-03	09:13:54
Post-Calibration		None
Calibration Deviation		---

Overall Settings

RMS Weight		A Weighting
Peak Weight		A Weighting
Detector		Slow
Preamplifier		PRMLxT1
Microphone Correction		Off
Integration Method		Linear
Overload	145.0	dB

	A	C	Z	
Under Range Peak	**101.0**	98.0	103.0	dB
Under Range Limit	**38.2**	37.8	44.9	dB
Noise Floor	29.0	28.7	35.8	dB

	First	Second	Third
Instrument Identification			

Results

LAeq	54.8	dB	
LAE	93.4	dB	
EA	241.720	µPa²h	
EA8	966.385	µPa²h	
EA40	4.832	mPa²h	
LApk (max)	2023-12-03 11:35:24	103.8	dB
LASmax	2023-12-03 11:45:06	70.2	dB
LASmin	2023-12-03 11:27:55	47.3	dB
SEA	-99.9	dB	

	Exceedance Counts	Duration	
LAS > 60.0 dB	36	207.4	s
LAS > 70.0 dB	1	1.5	s
LApk > 135.0 dB	0	0.0	s
LApk > 137.0 dB	0	0.0	s
LApk > 140.0 dB	0	0.0	s

LCeq	69.0	dB
LAeq	54.8	dB
LCeq - LAeq	14.2	dB
LAIeq	56.8	dB
LAeq	54.8	dB
LAIeq - LAeq	2.0	dB

	A		C		Z	
	dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
Leq	54.8		69.0			
LS(max)	70.2	2023/12/03 11:45:06				
LS(min)	47.3	2023/12/03 11:27:55				
Lpk(max)	103.8	2023/12/03 11:35:24				

Overload Count	0	
Overload Duration	0.0	s

Dose Settings

Dose Name	OSHA-1	OSHA-2	
Exchange Rate	5	5	dB
Threshold	90	80	dB
Criterion Level	90	90	dB
Criterion Duration	8	8	h

Results

Dose	-99.94	-99.94	%
Projected Dose	-99.94	-99.94	%
TWA (Projected)	-99.9	-99.9	dB
TWA (t)	-99.9	-99.9	dB
Lep (t)	48.8	48.8	dB

Statistics

LA 5.00	57.9	dB
LA 10.00	56.7	dB
LA 33.30	54.8	dB
LA 50.00	54.1	dB
LA 66.60	53.3	dB
LA 90.00	51.5	dB

Summary

File Name on Meter	LxT_Data.002.s
File Name on PC	LxT_0003896-20231204 083659-LxT_Data.002.ldbin
Serial Number	0003896
Model	SoundTrack LxT®
Firmware Version	2.404
User	
Location	
Job Description	
Note	

Measurement

Description		
Start	2023-12-04	07:36:59
Stop	2023-12-04	09:36:59
Duration		02:00:00.6
Run Time		02:00:00.6
Pause		00:00:00.0
Pre-Calibration	2023-12-04	08:08:09
Post-Calibration		None
Calibration Deviation		---

Overall Settings

RMS Weight		A Weighting
Peak Weight		A Weighting
Detector		Slow
Preamplifier		PRMLxT1
Microphone Correction		Off
Integration Method		Linear
Overload	144.3	dB

	A	C	Z	
Under Range Peak	100.3	97.3	102.3	dB
Under Range Limit	37.5	37.1	44.2	dB
Noise Floor	28.3	28.0	35.0	dB

	First	Second	Third
Instrument Identification			

Results

LAeq	54.6	dB	
LAE	93.2	dB	
EA	230.742	µPa²h	
EA8	922.890	µPa²h	
EA40	4.614	mPa²h	
LApk (max)	2023-12-04 09:57:43	101.9	dB
LASmax	2023-12-04 09:17:49	69.2	dB
LASmin	2023-12-04 10:17:29	43.3	dB
SEA	-99.9	dB	

	Exceedance Counts	Duration	
LAS > 60.0 dB	50	200.9	s
LAS > 70.0 dB	0	0.0	s
LApk > 135.0 dB	0	0.0	s
LApk > 137.0 dB	0	0.0	s
LApk > 140.0 dB	0	0.0	s

LCeq	69.9	dB
LAeq	54.6	dB
LCeq - LAeq	15.3	dB
LAIeq	57.0	dB
LAeq	54.6	dB
LAIeq - LAeq	2.4	dB

	A		C		Z	
	dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
Leq	54.6		69.9			
LS(max)	69.2	2023/12/04 9:17:49				
LS(min)	43.3	2023/12/04 10:17:29				
Lpk(max)	101.9	2023/12/04 9:57:43				

Overload Count	0	
Overload Duration	0.0	s

Dose Settings

Dose Name	OSHA-1	OSHA-2	
Exchange Rate	5	5	dB
Threshold	90	80	dB
Criterion Level	90	90	dB
Criterion Duration	8	8	h

Results

Dose	-99.94	-99.94	%
Projected Dose	-99.94	-99.94	%
TWA (Projected)	-99.9	-99.9	dB
TWA (t)	-99.9	-99.9	dB
Lep (t)	48.6	48.6	dB

Statistics

LA 5.00	58.0	dB
LA 10.00	56.9	dB
LA 33.30	54.8	dB
LA 50.00	53.8	dB
LA 66.60	52.6	dB
LA 90.00	50.1	dB

Summary

File Name on Meter	LxT_Data.002.s
File Name on PC	LxT_0003897-20231204 083217-LxT_Data.002.ldbin
Serial Number	0003897
Model	SoundTrack LxT®
Firmware Version	2.302
User	
Location	
Job Description	
Note	

Measurement

Description		
Start	2023-12-04	07:32:17
Stop	2023-12-04	09:32:21
Duration		02:00:03.7
Run Time		02:00:03.7
Pause		00:00:00.0
Pre-Calibration	2023-12-04	08:09:12
Post-Calibration		None
Calibration Deviation		---

Overall Settings

RMS Weight		A Weighting
Peak Weight		A Weighting
Detector		Slow
Preamplifier		PRMLxT1
Microphone Correction		Off
Integration Method		Linear
Overload	144.2	dB

	A	C	Z	
Under Range Peak	100.5	97.5	102.5	dB
Under Range Limit	49.5	47.5	55.5	dB
Noise Floor	36.3	36.9	44.6	dB

	First	Second	Third
Instrument Identification			

Results

LAeq	67.0	dB	
LAE	105.6	dB	
EA	4.012	mPa²h	
EA8	16.038	mPa²h	
EA40	80.190	mPa²h	
LApk (max)	2023-12-04 08:32:48	105.4	dB
LASmax	2023-12-04 09:42:14	83.5	dB
LASmin	2023-12-04 10:19:20	56.5	dB
SEA	-99.9	dB	

	Exceedance Counts	Duration	
LAS > 60.0 dB	2	7204.4	s
LAS > 70.0 dB	31	241.3	s
LApk > 135.0 dB	0	0.0	s
LApk > 137.0 dB	0	0.0	s
LApk > 140.0 dB	0	0.0	s

LCeq	70.8	dB
LAeq	67.0	dB
LCeq - LAeq	3.8	dB
LAleq	67.9	dB
LAeq	67.0	dB
LAleq - LAeq	0.9	dB

	A		C		Z	
	dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
Leq	67.0		70.8			
LS(max)	83.5	2023/12/04 9:42:14				
LS(min)	56.5	2023/12/04 10:19:20				
Lpk(max)	105.4	2023/12/04 8:32:48				

Overload Count	0	
Overload Duration	0.0	s

Dose Settings

Dose Name	OSHA-1	OSHA-2	
Exchange Rate	5	5	dB
Threshold	90	80	dB
Criterion Level	90	90	dB
Criterion Duration	8	8	h

Results

Dose	-99.94	0.01	%
Projected Dose	-99.94	0.03	%
TWA (Projected)	-99.9	31.1	dB
TWA (t)	-99.9	21.1	dB
Lep (t)	61.0	61.0	dB

Statistics

LA 5.00	69.1	dB
LA 10.00	68.6	dB
LA 33.30	67.3	dB
LA 50.00	66.6	dB
LA 66.60	66.0	dB
LA 90.00	64.3	dB

ATTACHMENT 2

SoundPLAN - Construction

9009.30A Riverford Road

SoundPLAN Data - Construction

Source name	Reference	Noise Level dB(A)	Corrections Cwall dB(A)	CI dB(A)	CT dB(A)
Stage 1 - 3, 4, 6	Lw/unit	113.9	-	-	-
Stage 1 - 1, 2, 5, 7	Lw/unit	113.9	-	-	-
Phase 2 - 3, 4, 6	Lw/unit	113.9	-	-	-
Phase 2 - 1, 2, 3, 5, 7	Lw/unit	113.9	-	-	-
Stage 3 - 4	Lw/unit	113.9	-	-	-
Stage 3 - 1	Lw/unit	113.9	-	-	-
Stage 3 - 3, 6	Lw/unit	113.9	-	-	-
Stage 3 - 2, 5	Lw/unit	113.9	-	-	-
Stage 4 - 1	Lw/unit	113.9	-	-	-
Stage 5 - 2	Lw/unit	113.9	-	-	-
Stage 5 - 2	Lw/unit	113.9	-	-	-
Stage 5 - 4	Lw/unit	113.9	-	-	-
Stage 5 - 7	Lw/unit	113.9	-	-	-
Stage 5 - 6	Lw/unit	113.9	-	-	-
Stage 5 - 1	Lw/unit	113.9	-	-	-
Stage 5 - 5	Lw/unit	113.9	-	-	-
Stage 5 - 3	Lw/unit	113.9	-	-	-
Stage 6 - 1	Lw/unit	113.9	-	-	-

9009.30A Riverford Road
SoundPLAN Data - Construction

No.	Coordinates X (meters)	Coordinates Y (meters)	Height (meters)	Stage 1 dB(A)	Stage 2 dB(A)	Stage 3 dB(A)	Stage 4 dB(A)	Stage 5 dB(A)	Stage 6 dB(A)
1	504735.29	3635145.81	106.77	48.1	58.5	62.3	38.2	55.9	38.2
2	504779.49	3635230.09	107.44	54.3	61.7	64.6	44.8	62.3	43.4
3	504860.04	3635351.69	108.18	55.6	59.0	65.4	48.3	64.1	43.3
4	505115.70	3635384.71	109.14	58.9	57.5	56.0	41.6	58.5	41.2
5	505124.90	3635127.34	126.45	53.7	55.5	56.2	49.3	63.9	40.9
6	505087.23	3635094.16	139.95	55.3	57.3	59.1	54.4	65.6	44.0
7	505032.41	3634999.32	165.58	56.6	54.9	58.7	54.4	62.1	55.8

Source name				Noise Level dB(A)
1	1.Fl	48.1	0.0	
Stage 1 - 1, 2, 5, 7				42.4
Stage 1 - 3, 4, 6				46.8
2	1.Fl	54.3	0.0	
Stage 1 - 1, 2, 5, 7				48.3
Stage 1 - 3, 4, 6				53.0
3	1.Fl	55.6	0.0	
Stage 1 - 1, 2, 5, 7				47.1
Stage 1 - 3, 4, 6				54.9
4	1.Fl	58.9	0.0	
Stage 1 - 1, 2, 5, 7				43.0
Stage 1 - 3, 4, 6				58.7
5	1.Fl	53.7	0.0	
Stage 1 - 1, 2, 5, 7				46.2
Stage 1 - 3, 4, 6				52.8
6	1.Fl	55.3	0.0	
Stage 1 - 1, 2, 5, 7				50.5
Stage 1 - 3, 4, 6				53.6
7	1.Fl	56.6	0.0	
Stage 1 - 1, 2, 5, 7				55.2
Stage 1 - 3, 4, 6				50.8

Source name				Noise Level dB(A)
1	1.Fl	58.5	0.0	
Phase 2 - 1, 2, 3, 5, 7				58.3
Phase 2 - 3, 4, 6				43.6
2	1.Fl	61.7	0.0	
Phase 2 - 1, 2, 3, 5, 7				61.1
Phase 2 - 3, 4, 6				52.5
3	1.Fl	59.0	0.0	
Phase 2 - 1, 2, 3, 5, 7				57.5
Phase 2 - 3, 4, 6				53.7
4	1.Fl	57.5	0.0	
Phase 2 - 1, 2, 3, 5, 7				50.9
Phase 2 - 3, 4, 6				56.5
5	1.Fl	55.5	0.0	
Phase 2 - 1, 2, 3, 5, 7				48.5
Phase 2 - 3, 4, 6				54.5
6	1.Fl	57.3	0.0	
Phase 2 - 1, 2, 3, 5, 7				52.1
Phase 2 - 3, 4, 6				55.7
7	1.Fl	54.9	0.0	
Phase 2 - 1, 2, 3, 5, 7				51.8
Phase 2 - 3, 4, 6				51.9

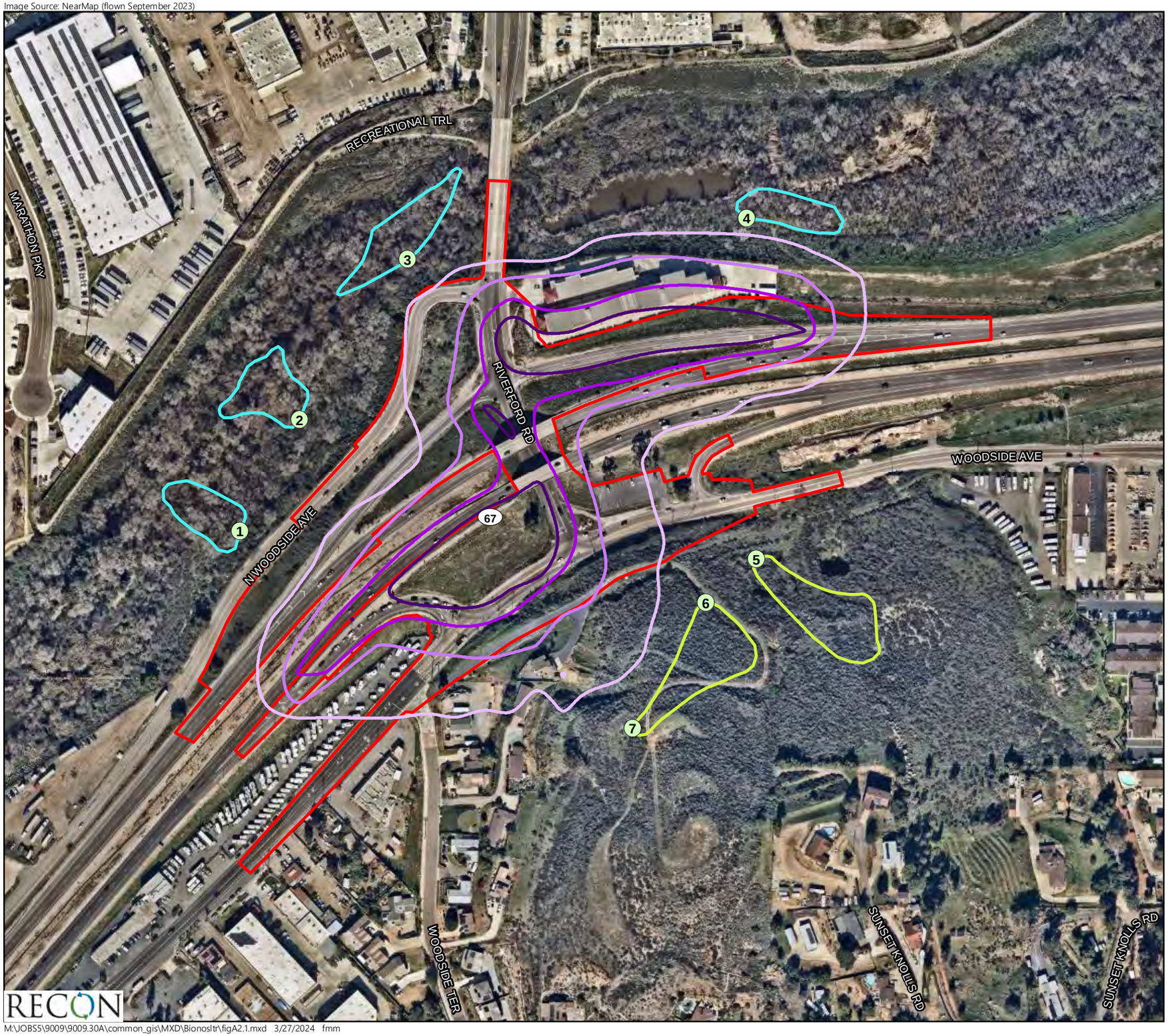
Source name				Noise Level dB(A)
1	1.Fl	62.3	0.0	
Stage 3 - 1				49.7
Stage 3 - 2, 5				38.4
Stage 3 - 3, 6				61.2
Stage 3 - 4				54.3
2	1.Fl	64.6	0.0	
Stage 3 - 1				56.8
Stage 3 - 2, 5				43.5
Stage 3 - 3, 6				61.9
Stage 3 - 4				59.3
3	1.Fl	65.4	0.0	
Stage 3 - 1				55.6
Stage 3 - 2, 5				44.3
Stage 3 - 3, 6				54.4
Stage 3 - 4				64.5
4	1.Fl	56.0	0.0	
Stage 3 - 1				51.9
Stage 3 - 2, 5				41.4
Stage 3 - 3, 6				47.1
Stage 3 - 4				52.4
5	1.Fl	56.2	0.0	
Stage 3 - 1				48.3
Stage 3 - 2, 5				53.6
Stage 3 - 3, 6				42.6
Stage 3 - 4				50.2
6	1.Fl	59.1	0.0	
Stage 3 - 1				53.6
Stage 3 - 2, 5				55.6
Stage 3 - 3, 6				47.8
Stage 3 - 4				52.2
7	1.Fl	58.7	0.0	
Stage 3 - 1				51.8
Stage 3 - 2, 5				54.3
Stage 3 - 3, 6				52.5
Stage 3 - 4				51.2

Source name				Noise Level dB(A)
1	1.Fl	38.2	0.0	
Stage 4 - 1				38.2
2	1.Fl	44.8	0.0	
Stage 4 - 1				44.8
3	1.Fl	48.3	0.0	
Stage 4 - 1				48.3
4	1.Fl	41.6	0.0	
Stage 4 - 1				41.6
5	1.Fl	49.3	0.0	
Stage 4 - 1				49.3
6	1.Fl	54.4	0.0	
Stage 4 - 1				54.4
7	1.Fl	54.4	0.0	
Stage 4 - 1				54.4

Source name				Noise Level dB(A)
1	1.Fl	55.9	0.0	
Stage 5 - 1				52.5
Stage 5 - 2				38.5
Stage 5 - 2				37.8
Stage 5 - 3				49.8
Stage 5 - 4				48.6
Stage 5 - 5				40.1
Stage 5 - 6				41.0
Stage 5 - 7				35.9
2	1.Fl	62.3	0.0	
Stage 5 - 1				56.4
Stage 5 - 2				46.3
Stage 5 - 2				45.6
Stage 5 - 3				58.3
Stage 5 - 4				55.1
Stage 5 - 5				43.4
Stage 5 - 6				51.5
Stage 5 - 7				42.2
3	1.Fl	64.1	0.0	
Stage 5 - 1				61.7
Stage 5 - 2				49.9
Stage 5 - 2				49.6
Stage 5 - 3				55.3
Stage 5 - 4				55.7
Stage 5 - 5				41.5
Stage 5 - 6				52.7
Stage 5 - 7				40.8
4	1.Fl	58.5	0.0	
Stage 5 - 1				53.9
Stage 5 - 2				41.8
Stage 5 - 2				42.9
Stage 5 - 3				51.0
Stage 5 - 4				53.6
Stage 5 - 5				39.9
Stage 5 - 6				47.0
Stage 5 - 7				43.2
5	1.Fl	63.9	0.0	
Stage 5 - 1				50.6
Stage 5 - 2				48.0
Stage 5 - 2				48.5
Stage 5 - 3				48.7
Stage 5 - 4				49.1
Stage 5 - 5				38.3
Stage 5 - 6				50.0
Stage 5 - 7				62.9
6	1.Fl	65.6	0.0	
Stage 5 - 1				52.1
Stage 5 - 2				51.7
Stage 5 - 2				51.5
Stage 5 - 3				53.9
Stage 5 - 4				52.2
Stage 5 - 5				40.7
Stage 5 - 6				55.8
Stage 5 - 7				63.8
7	1.Fl	62.1	0.0	
Stage 5 - 1				51.0
Stage 5 - 2				56.1
Stage 5 - 2				52.2
Stage 5 - 3				51.8
Stage 5 - 4				51.4
Stage 5 - 5				55.9
Stage 5 - 6				53.6
Stage 5 - 7				44.6

Source name				Noise Level dB(A)
1	1.Fl	38.2	0.0	
Stage 6 - 1				38.2
2	1.Fl	43.4	0.0	
Stage 6 - 1				43.4
3	1.Fl	43.3	0.0	
Stage 6 - 1				43.3
4	1.Fl	41.2	0.0	
Stage 6 - 1				41.2
5	1.Fl	40.9	0.0	
Stage 6 - 1				40.9
6	1.Fl	44.0	0.0	
Stage 6 - 1				44.0
7	1.Fl	55.8	0.0	
Stage 6 - 1				55.8

Image Source: NearMap (flown September 2023)



Project Boundary
Coastal California Gnatcatcher Use Areas
Least Bell's Vireo Use Areas
Receivers

Stage 1 Construction Noise Contours

60 dB(A) L_{eq}
65 dB(A) L_{eq}
70 dB(A) L_{eq}
75 dB(A) L_{eq}

0 Feet 200

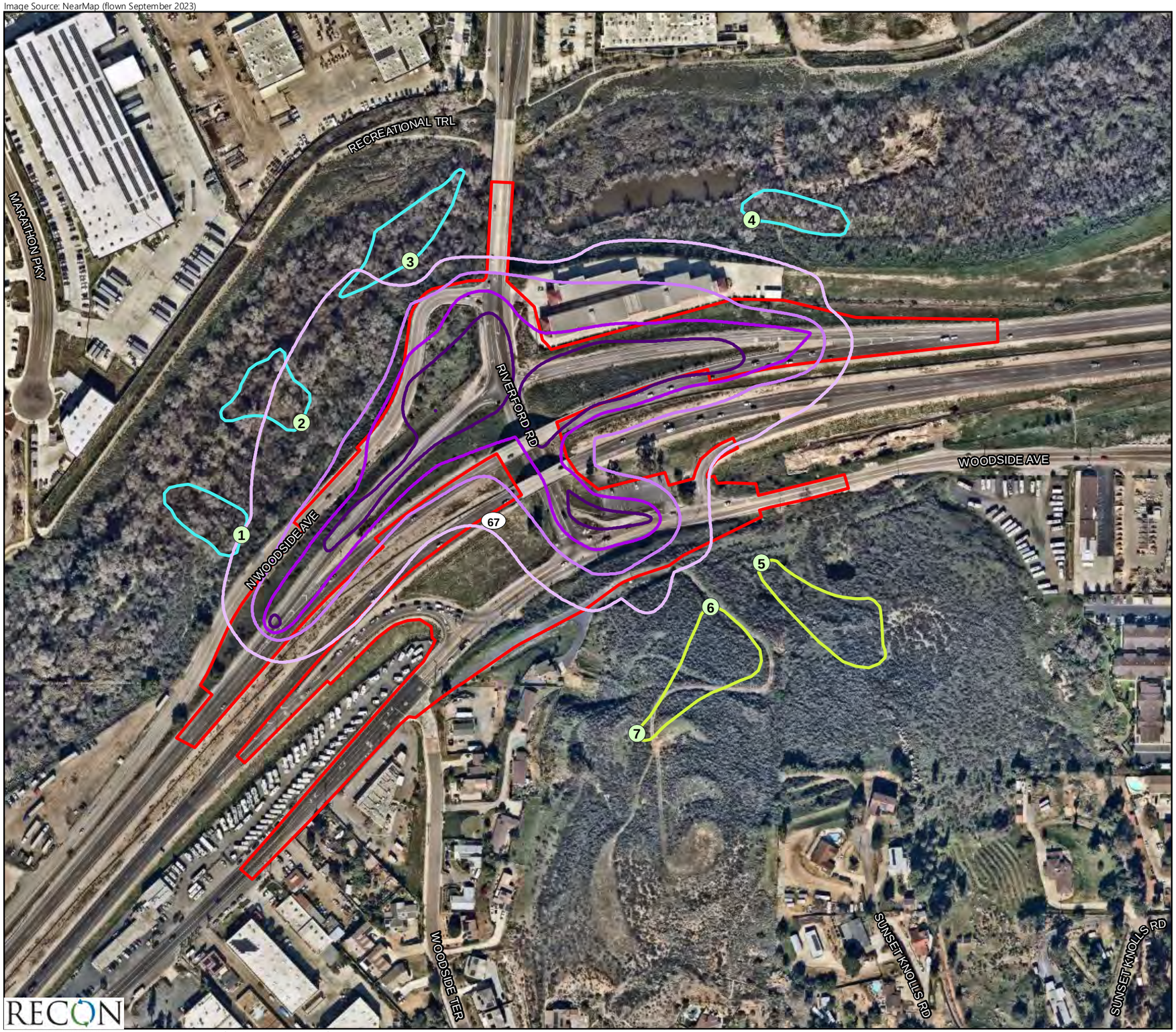
FIGURE A2.1

Stage 1 Construction Noise Contours

RECON

M:\JOBS5\9009\9009.30A\common_gis\MXD\Bionosltr\figA2.1.mxd 3/27/2024 fmm

Image Source: NearMap (flown September 2023)



Project Boundary
Coastal California Gnatcatcher Use Areas
Least Bell's Vireo Use Areas
Receivers

Stage 2 Construction Noise Contours

60 dB(A) L_{eq}
65 dB(A) L_{eq}
70 dB(A) L_{eq}
75 dB(A) L_{eq}

0 Feet 200

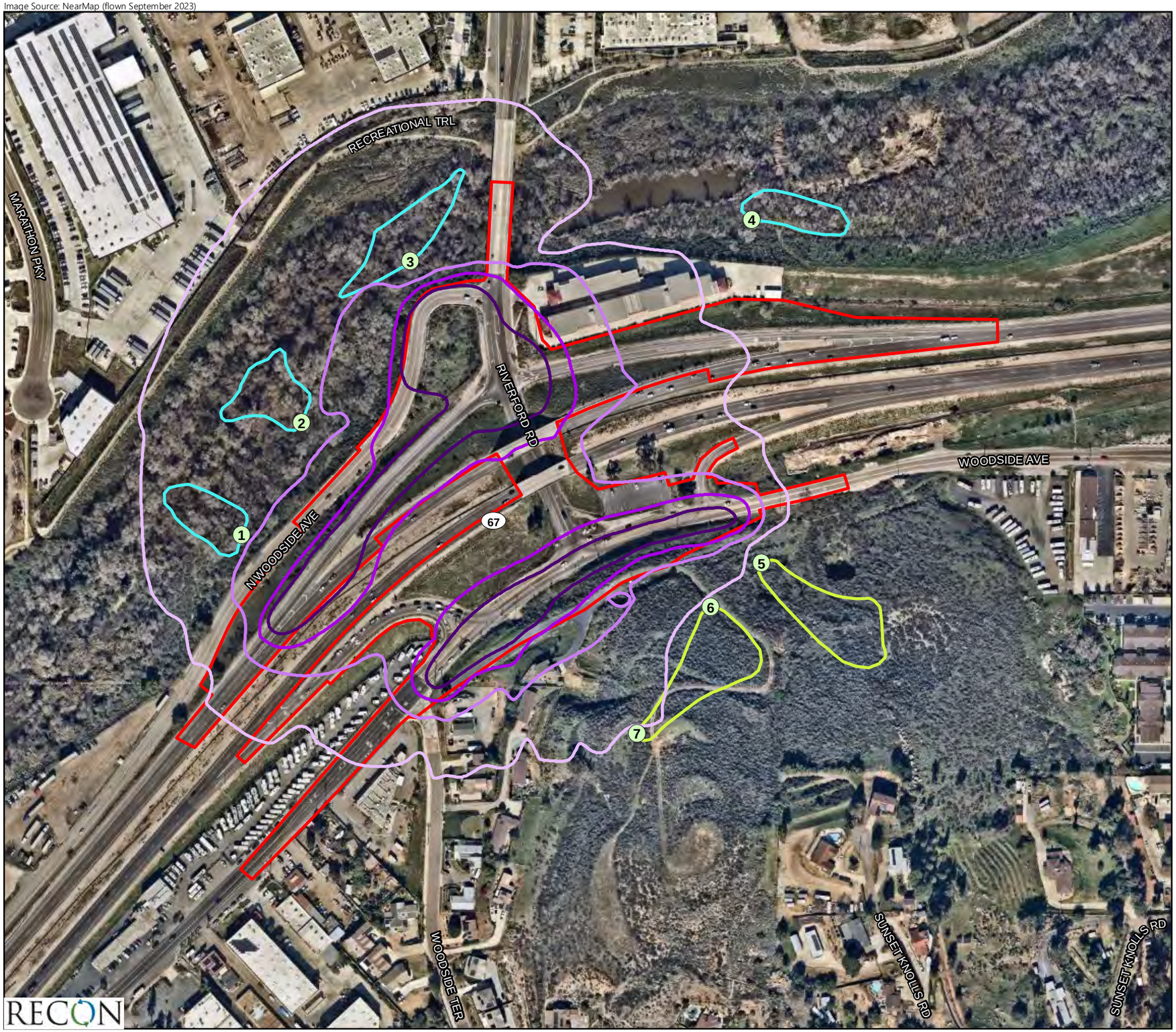
RECON

M:\JOBS5\9009\9009.30A\common_gis\MXD\BionosItr\figA2.2.mxd 3/27/2024 fmm

FIGURE A2.2

Stage 2 Construction Noise Contours

Image Source: NearMap (flown September 2023)



Project Boundary
Coastal California Gnatcatcher Use Areas
Least Bell's Vireo Use Areas
Receivers

Stage 3 Construction Noise Contours

60 dB(A) L_{eq}
65 dB(A) L_{eq}
70 dB(A) L_{eq}
75 dB(A) L_{eq}

0 Feet 200

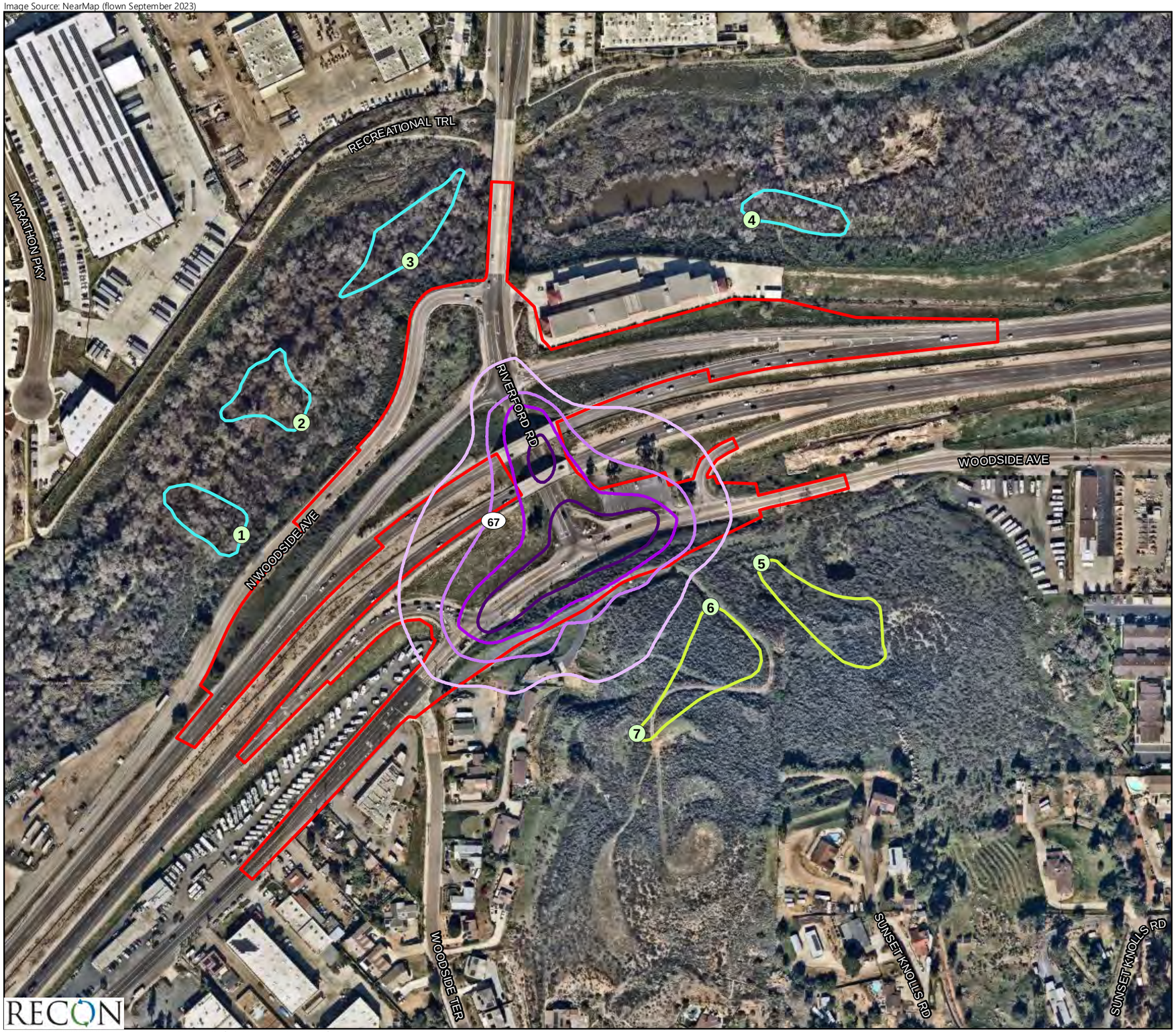
FIGURE A2.3

Stage 3 Construction Noise Contours

RECON

M:\JOBS5\9009\9009.30A\common_gis\MXD\Bionosltr\figA2.3.mxd 3/27/2024 fmm

Image Source: NearMap (flown September 2023)



Project Boundary
Coastal California Gnatcatcher Use Areas
Least Bell's Vireo Use Areas
Receivers

Stage 4 Construction Noise Contours

60 dB(A) L_{eq}
65 dB(A) L_{eq}
70 dB(A) L_{eq}
75 dB(A) L_{eq}

0 Feet 200

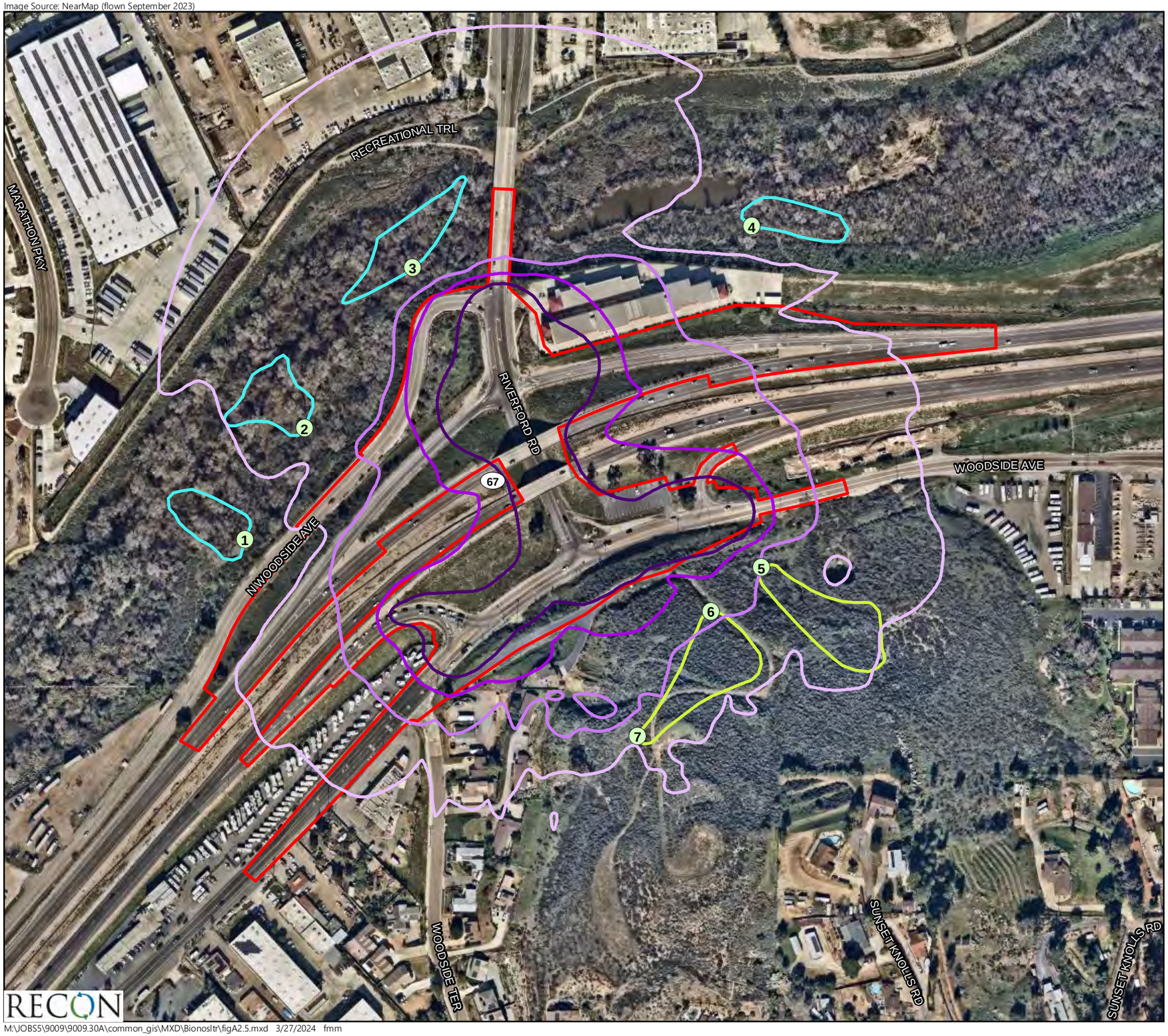
FIGURE A2.4

Stage 4 Construction Noise Contours

RECON

M:\JOBS5\9009\9009.30A\common_gis\MXD\Bionosltr\figA2.4.mxd 3/27/2024 fmm

Image Source: NearMap (flown September 2023)



Project Boundary
Coastal California Gnatcatcher Use Areas
Least Bell's Vireo Use Areas
Receivers

Stage 5 Construction Noise Contours

60 dB(A) L_{eq}
65 dB(A) L_{eq}
70 dB(A) L_{eq}
75 dB(A) L_{eq}

0 Feet 200

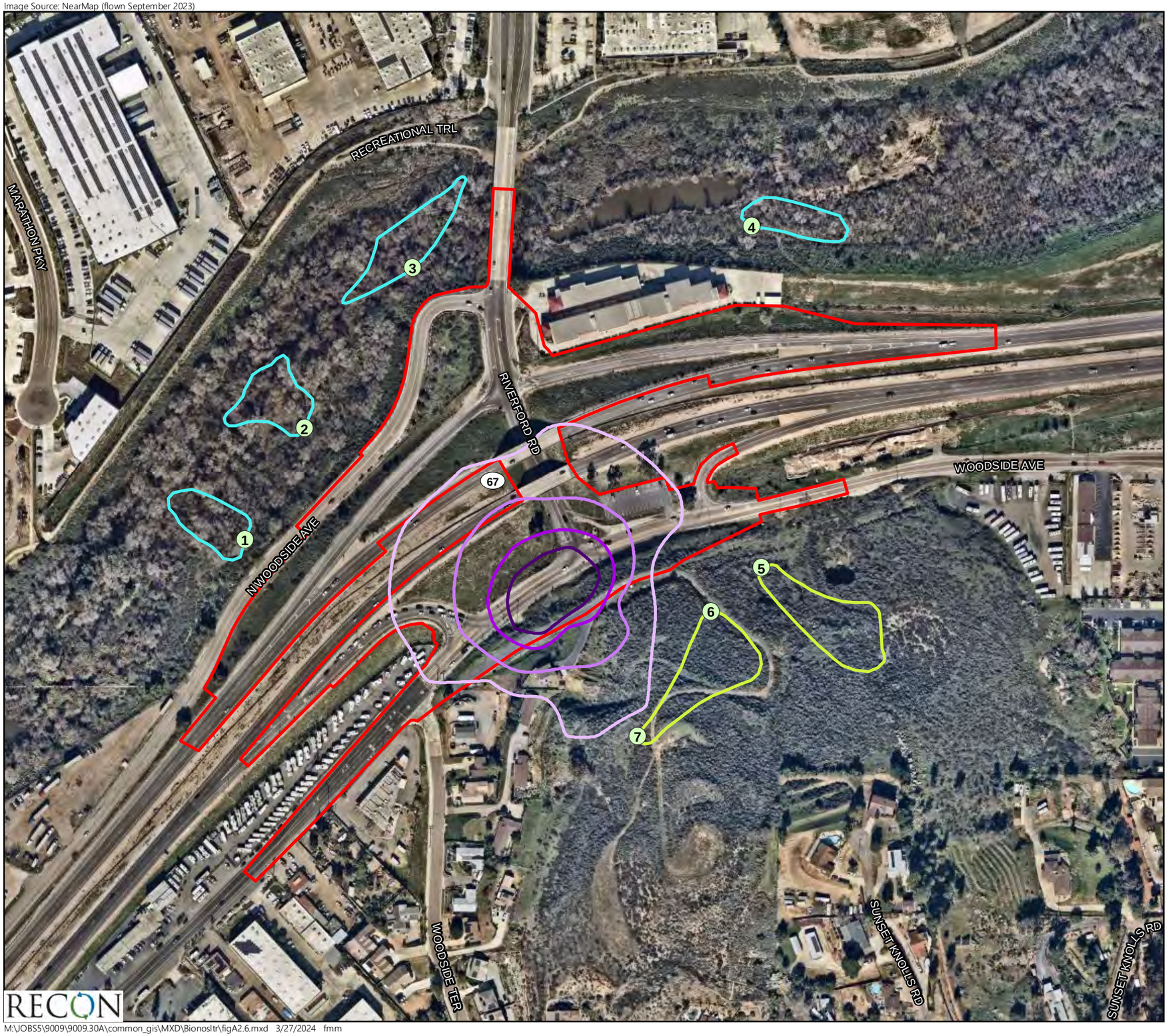
RECON

M:\JOBS5\9009\9009.30A\common_gis\MXD\BionosItr\figA2.5.mxd 3/27/2024 fmm

FIGURE A2.5

Stage 5 Construction Noise Contours

Image Source: NearMap (flown September 2023)



Project Boundary
Coastal California Gnatcatcher Use Areas
Least Bell's Vireo Use Areas
Receivers

Stage 6 Construction Noise Contours

60 dB(A) L_{eq}
65 dB(A) L_{eq}
70 dB(A) L_{eq}
75 dB(A) L_{eq}

0 Feet 200

FIGURE A2.6

Stage 6 Construction Noise Contours

RECON

M:\JOBS5\9009\9009.30A\common_gis\MXD\Bionosltr\figA2.6.mxd 3/27/2024 fmm

ATTACHMENT 3

SoundPLAN – Rock Breaking

9009.30A Riverford Road

SoundPLAN Data - Rock Breaking

Source name	Reference	Noise Level dB(A)	Corrections Cwall dB(A)	CI dB(A)	CT dB(A)
Rock Breaking - South of Woodside Avenue	Lw/unit	116.2	-	-	-
Rock Breaking - Southern Roundabout	Lw/unit	116.2	-	-	-
Rock Breaking - Northern Roundabout	Lw/unit	116.2	-	-	-

9009.30A Riverford Road
SoundPLAN Data - Rock Breaking

No.	Coordinates X	Y	Height	Rock Breaking South of Woodside Avenue	Southern Roundabout	Northern Roundabout
	(meters)		(meters)	dB(A)	dB(A)	dB(A)
1	504735.29	3635145.81	106.77	40.7	41.0	48.6
2	504735.29	3635145.81	106.77	40.7	41.0	58.8
3	504735.29	3635145.81	106.77	40.7	41.0	57.0
4	505115.70	3635384.71	109.14	46.5	44.1	53.6
5	505124.90	3635127.34	126.45	58.4	50.5	52.4
6	505087.23	3635094.16	139.95	61.2	54.5	56.1
7	505032.41	3634999.32	165.58	55.8	57.9	54.3

Table A3.1
Modeled Rock Breaking (Non-Blasting) Noise Levels – South of Woodside Avenue

Receiver	Use Area	Applicable Noise Level Limit [dB(A) L_{eq}]	Construction Noise Level [dB(A) L_{eq}]						
			Rock Breaking Only	Rock Breaking Combined with:					
				Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
1	LBV	65	41	49	59	62	43	56	43
2	LBV	65	49	55	62	65	50	63	50
3	LBV	65	49	56	59	65	52	64	50
4	LBV	65	47	59	58	56	48	59	48
5	CAGN	67	58	60	60	60	59	65	58
6	CAGN	67	61	62	63	63	62	67	61
7	CAGN	67	56	59	58	60	58	63	59

SOURCE: Attachment 3.
LBV = least Bell's vireo.
CAGN = coastal California gnatcatcher.
dB(A) L_{eq} = A-weighted decibels average noise level.

Table A3.2
Modeled Rock Breaking (Non-Blasting) Noise Levels – Southern Roundabout

Receiver	Use Area	Applicable Noise Level Limit [dB(A) L_{eq}]	Construction Noise Level [dB(A) L_{eq}]						
			Rock Breaking Only	Rock Breaking Combined with:					
				Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
1	LBV	65	41	49	59	62	43	56	43
2	LBV	65	47	55	62	65	49	62	49
3	LBV	65	50	57	60	**66**	52	64	51
4	LBV	65	44	59	58	56	46	59	46
5	CAGN	67	51	55	57	57	53	64	51
6	CAGN	67	55	58	59	60	57	66	55
7	CAGN	67	58	60	60	61	60	63	60

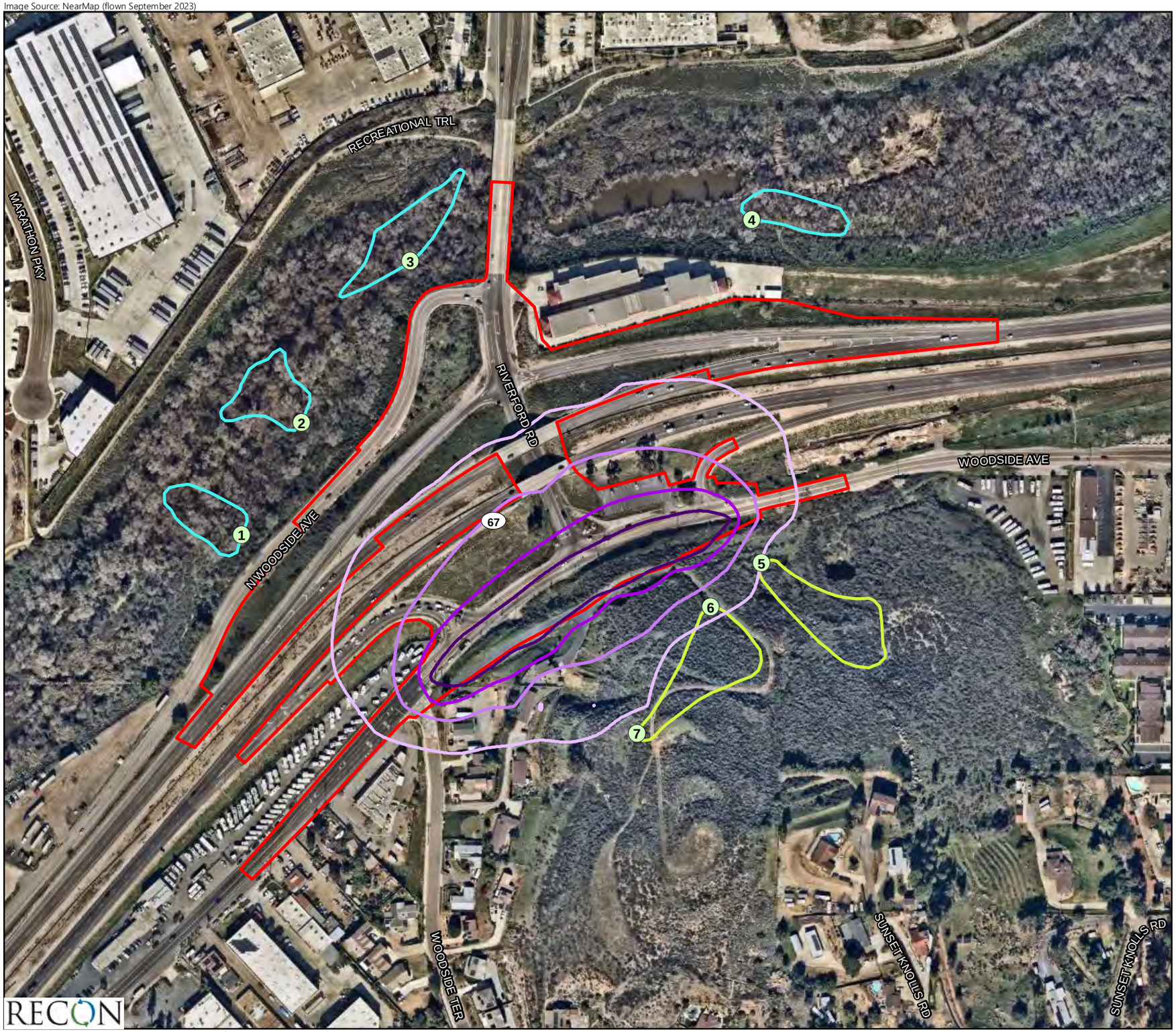
SOURCE: Attachment 3.
LBV = least Bell's vireo.
CAGN = coastal California gnatcatcher.
dB(A) L_{eq} = A-weighted decibels average noise level.
Bold = Threshold exceeded

Table A3.3
Modeled Rock Breaking (Non-Blasting) Noise Levels – Northern Roundabout

Receiver	Use Area	Applicable Noise Level Limit [dB(A) L_{eq}]	Construction Noise Level [dB(A) L_{eq}]						
			Rock Breaking Only	Rock Breaking Combined with:					
				Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
1	LBV	65	49	51	59	62	49	57	49
2	LBV	65	59	60	63	**66**	59	64	59
3	LBV	65	57	59	61	**66**	58	65	57
4	LBV	65	54	60	59	58	64	60	54
5	CAGN	67	52	56	57	58	64	64	53
6	CAGN	67	56	59	60	61	58	66	56
7	CAGN	67	54	59	58	60	57	63	58

SOURCE: Attachment 3.
LBV = least Bell's vireo.
CAGN = coastal California gnatcatcher.
dB(A) L_{eq} = A-weighted decibels average noise level.
Bold = Threshold exceeded

Image Source: NearMap (flown September 2023)



Project Boundary
Coastal California Gnatcatcher Use Areas
Least Bell's Vireo Use Areas
Receivers

Rock Breaking Noise Contours

60 dB(A) L_{eq}
65 dB(A) L_{eq}
70 dB(A) L_{eq}
75 dB(A) L_{eq}

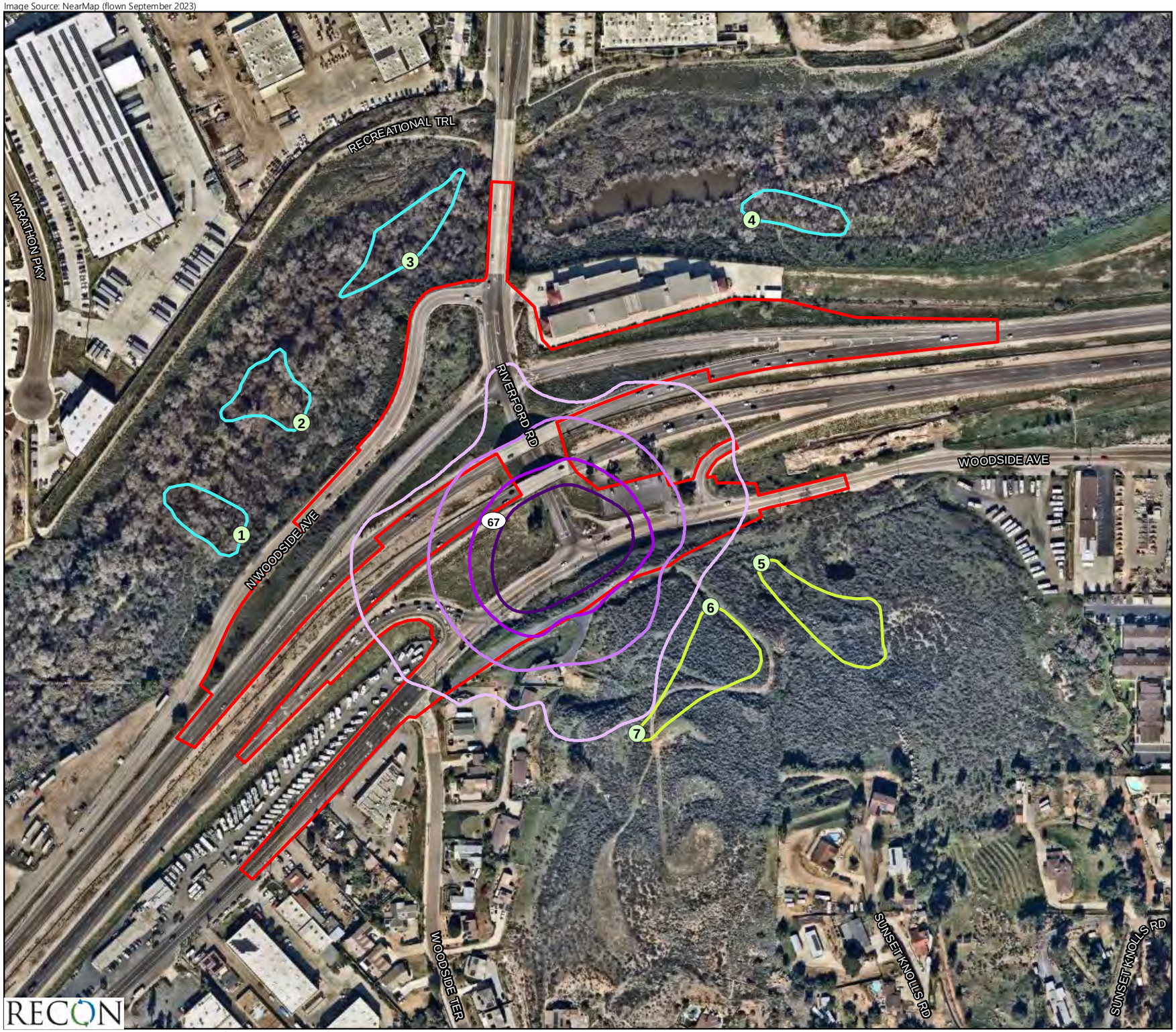
0 Feet 200

FIGURE A3.1
Rock Breaking Noise Contours –
South of Woodside Avenue

RECON

M:\JOBS5\9009\9009.30A\common_gis\MXD\Bionosltr\figA3.1.mxd 3/27/2024 fmm

Image Source: NearMap (flown September 2023)



Project Boundary
Coastal California Gnatcatcher Use Areas
Least Bell's Vireo Use Areas
Receivers

Rock Breaking Noise Contours

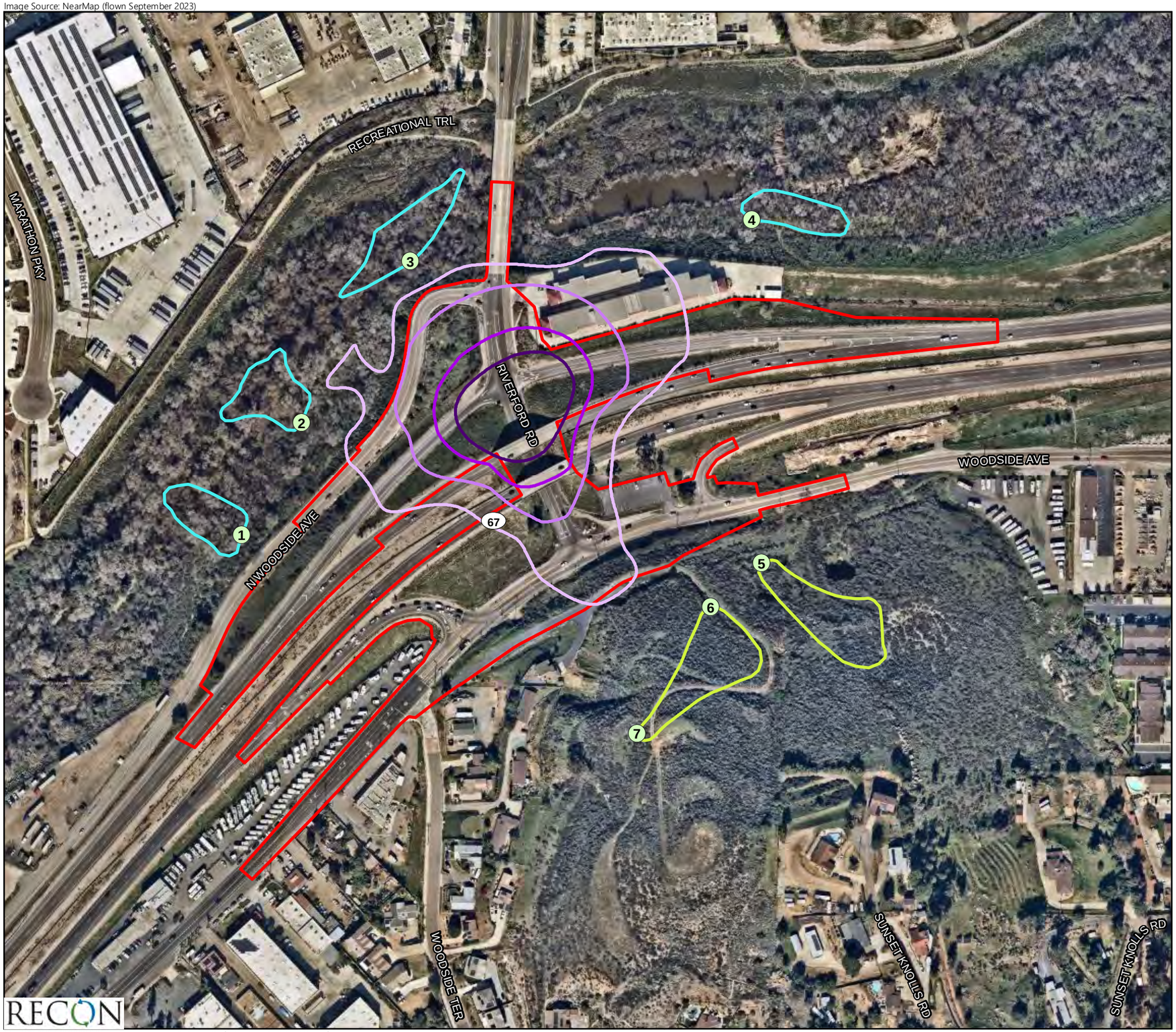
60 dB(A) L_{eq}
65 dB(A) L_{eq}
70 dB(A) L_{eq}
75 dB(A) L_{eq}

0 Feet 200

FIGURE A3.2
Rock Breaking Noise Contours –
Southern Roundabout

M:\JOBS5\9009\9009.30A\common_gis\MXD\BionosItr\figA3.2.mxd 3/27/2024 fmm

Image Source: NearMap (flown September 2023)



Project Boundary
Coastal California Gnatcatcher Use Areas
Least Bell's Vireo Use Areas
Receivers

Rock Breaking Noise Contours

60 dB(A) L_{eq}
65 dB(A) L_{eq}
70 dB(A) L_{eq}
75 dB(A) L_{eq}

0 Feet 200

RECON

M:\JOBS5\9009\9009.30A\common_gis\MXD\BionosItr\figA3.3.mxd 3/27/2024 fmm

FIGURE A3.3
Rock Breaking Noise Contours – Northern Roundabout

ATTACHMENT 4

SoundPLAN – Blasting

9009.30A Riverford Road

SoundPLAN Data - Blasting

Source name	Reference	Noise Level	Corrections Cwall	CI	CT
		dB(A)	dB(A)	dB(A)	dB(A)
Blasting	Lw/unit	105.6	-	-	-

9009.30A Riverford Road

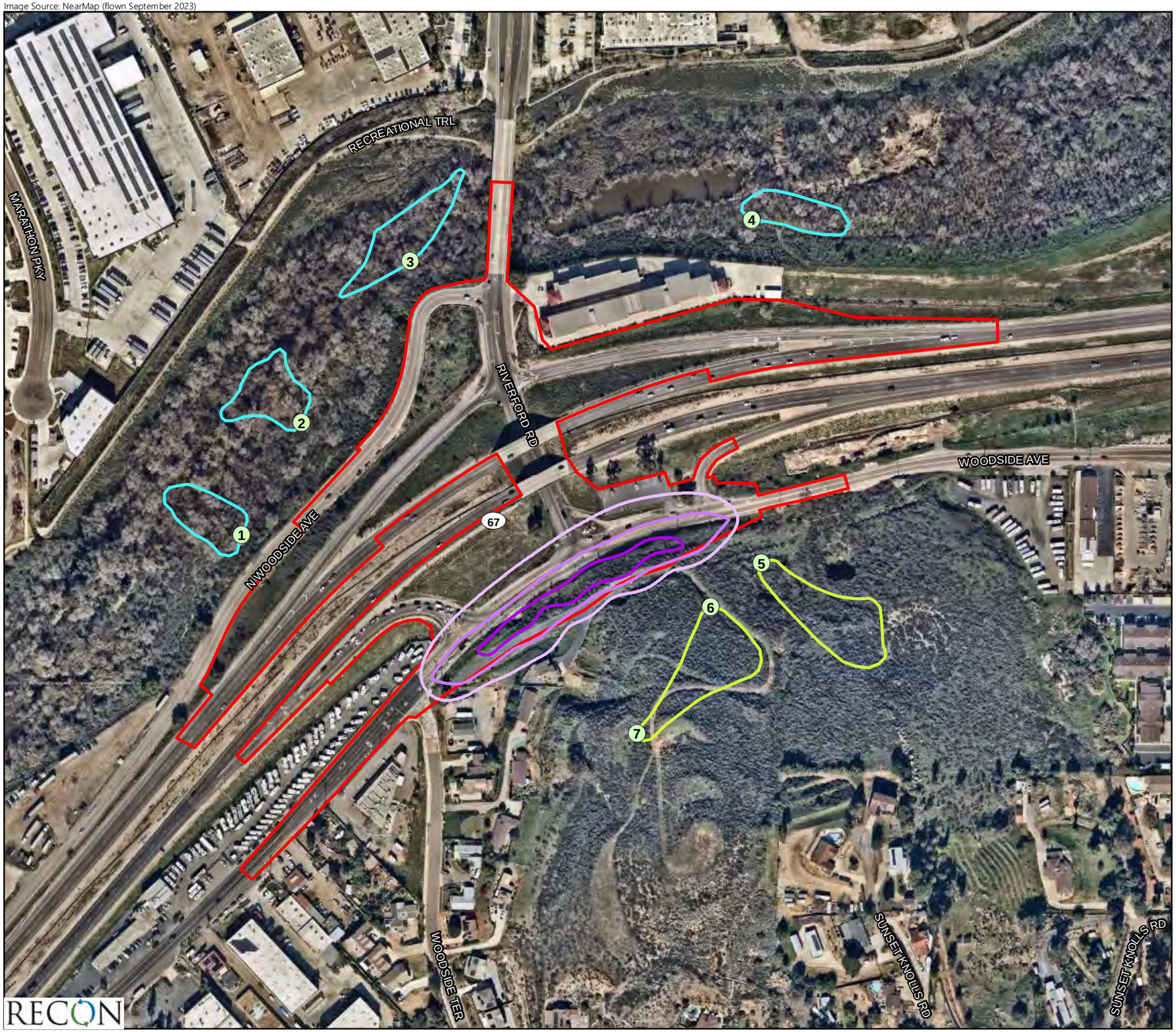
SoundPLAN Data - Blasting

No.	Coordinates X (meters)	Y (meters)	Height (meters)	Blasting dB(A)
1	504735.29	3635145.81	106.77	30.1
2	504779.49	3635230.09	107.44	38.5
3	504860.04	3635351.69	108.18	38.3
4	505115.70	3635384.71	109.14	35.9
5	505124.90	3635127.34	126.45	47.8
6	505087.23	3635094.16	139.95	50.6
7	505032.41	3634999.32	165.58	45.2

Table A4.1 Modeled Blasting Noise Levels									
		Applicable Noise Level Limit [dB(A) L_{eq}]	Construction Noise Level [dB(A) L_{eq}]						
				Blasting Combined with:					
Receiver	Use Area		Blasting Only	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
1	LBV	65	30	48	59	62	39	56	39
2	LBV	65	39	54	62	65	46	62	45
3	LBV	65	38	56	59	65	49	64	44
4	LBV	65	36	59	58	56	43	59	42
5	CAGN	67	48	55	56	57	52	64	49
6	CAGN	67	51	57	58	60	56	66	51
7	CAGN	67	45	57	55	59	55	62	56

SOURCE: Attachment 4.
LBV = least Bell's vireo.
CAGN = coastal California gnatcatcher.
dB(A) L_{eq} = A-weighted decibels average noise level.

Image Source: NearMap (flown September 2023)



Project Boundary
Coastal California Gnatcatcher Use Areas
Least Bell's Vireo Use Areas
Receivers

Blasting Noise Contours

60 dB(A) L_{eq}
65 dB(A) L_{eq}
70 dB(A) L_{eq}

0 Feet 200

RECON

M:\JOBS5\9009\9009.30A\common_gis\MXD\BionosItr\figA4.1.mxd 3/27/2024 fmm

FIGURE A4.1

Blasting Noise Contours

Appendix I – Coastal California Gnatcatcher Survey Report

RECON

An Employee-Owned Company

September 7, 2023

Ms. Stacey Love
U.S. Fish and Wildlife Service
Carlsbad Field Office
2177 Salk Avenue, Suite 250
Carlsbad, CA 92008

Reference: Post-survey Notification of Focused Survey Results for the 2023 Coastal California Gnatcatcher Surveys for the Riverford Road Roundabouts Project (DPW Project Number 1026299; RECON 9009-30)

Dear Ms. Love:

This letter is to notify the U.S. Fish and Wildlife Service (USFWS) of the results of our focused surveys for the federally listed threatened coastal California gnatcatcher (*Polioptila californica californica*) conducted for the Riverford Road Roundabouts Project (project). The project area occurs at the interchanges of State Route 67 (SR-67) and Riverford Road and SR-67 and Woodside Avenue, in the unincorporated community of Lakeside in eastern San Diego County (Figures 1 and 2). The project involves the construction of two roundabouts at the existing SR-67/Riverford Road interchange, at two but closely spaced intersections, to relieve traffic congestion. The project also includes construction of pedestrian crosswalks, sidewalks, and bicycle lanes. The project boundary is situated within the El Cajon land grant of the U.S. Geological Survey (USGS) 7.5-minute topographic map, El Cajon quadrangle (USGS 1994; see Figure 2).

Methods

RECON Environmental, Inc. (RECON) biologist Chris Thomson conducted three focused surveys for coastal California gnatcatcher in May, June, and July 2023 under the USFWS 10(a)(1)(A) Endangered/Threatened Species Permit TE-797665. RECON biologist JR Sundberg assisted under supervision during the surveys as a permit trainee. Before surveys were conducted, a 15-day notification letter dated May 3, 2023, was submitted via e-mail to the USFWS, stating the intent to conduct coastal California gnatcatcher surveys. The surveys were focused within 12.5 acres of suitable coastal scrub habitat[1], within the project boundary and a 300-foot buffer (survey area; Figure 3). The surveys were conducted in accordance with the USFWS survey protocol for this species (USFWS 1997). The survey visit dates, personnel, times, and weather conditions are provided in Table 1. Surveys were not conducted in high heat, wind, rain, fog, or other inclement weather. All bird species observed during the surveys were noted. In accordance with the survey guidelines (USFWS 1997), RECON biologists walked all portions of suitable habitat and periodically used recorded vocalizations in an attempt to elicit initial calls. Recorded vocalizations were not used in the vicinity of predators such as common raven (*Corvus corax*), Cooper's hawk (*Accipiter cooperii*), or northern mockingbird (*Mimus polyglottos*). As the survey area lies within an active Natural Community Conservation Planning area, three surveys were required.

[1] Please note that the project boundary and thus the survey area was revised slightly after the surveys were completed; however, based on the location and configuration of the changed boundaries, all areas were considered to have been adequately covered during the survey.

Table 1
Survey Dates, Personnel, Times, and Conditions

Date	Survey No.	Surveyor	Beginning Conditions	Ending Conditions	Acres Surveyed/ Hour	Results
5/18/2023	1	Chris Thomson, JR Sundberg*	6:40 a.m.; 57°F; winds 0–1 mph; 100% cc	9:55 a.m.; 60°F; winds 0–1 mph; 100% cc	3.3	6 total: 2 individual males observed calling and responding to recordings within survey area (southern portion); family of 4 observed foraging together oustide southern survey area boundary.
6/14/2023	2	Chris Thomson, JR Sundberg*	6:45 a.m.; 62°F; winds 0-1 mph; 100% cc	9:30 a.m.; 65°F; winds 1–2 mph; 100% cc	3.9	4 total: 1 pair and 1 individual male observed responding to recordings adjacent to, and outside southern survey area boundary. 1 additional male heard responding to playback outside southern survey area boundary.
7/26/2023	3	Chris Thomson, JR Sundberg*	6:40 a.m.; 72°F; winds 0-1 mph; 0% cc	8:40 a.m.; 81°F; winds 0-1 mph; 0% cc	5.3	5 total: 1 family of 4 and 1 individual female/juvenile observed calling and responding within the survey area (southern portion).

°F = degrees Fahrenheit; mph = miles per hour; % = percent; cc = cloud cover; * = under supervision

Exisiting Conditions

A total of 12.5 acres within the survey area were identified as supporting suitable habitat for the coastal California gnatcatcher and survey efforts were focused on these areas (see Figure 3). The northern and southern portions of the survey area, primarily, contain high-quality Diegan coastal sage scrub with a few small, disturbed areas of low to moderate quality Diegan coastal sage scrub. The Diegan coastal sage scrub is generally high in quality with dense native shrub cover of approximately 60 to 80 percent. Dominant species consist of California buckwheat (*Eriogonum fasciculatum*) and California sagebrush (*Artemisia californica*), with broom baccharis (*Baccharis sarothroides*) sparsely mixed throughout. The disturbed Diegan coastal sage scrub has similar dominant species, though it tends to be more open with more non-native grass (*Bromus* sp.) and mustard (*Brassica* sp.) species present. Critical habitat for coastal California gnatcatcher does not occur within the survey area.

Results

In total, two coastal California gnatcatcher use areas were identified within the survey area, both occurring in the southern portion of the survey area and extending beyond the survey area (see Figure 3). Detections within the survey area consisted of one pair, two family units, and five individual observation points (see Table 1). Four of these individual observation points were made adjacent to, and beyond the southern survey area boundary, with the furthest detection occurring approximately 80 feet beyond the southern survey area boundary (see Figure 3). A single observation point is defined as a momentary observation where a bird could not be followed due to the individual going quiet or having not been seen leaving the area. Coastal California gnatcatcher use areas were extrapolated from the sum of the mapped observation points; they represent the total observed area used by gnatcatcher during

the current 2023 breeding season. Field data used to determine coastal California gnatcatcher use areas included breaks in vegetation and simultaneous detection of multiple counter-singing males.

One additional federally listed avian species, least Bell's vireo (*Vireo bellii pusillus*), was detected during protocol coastal California gnatcatcher surveys. The least Bell's vireo is also state listed and a County sensitive Group 1 species. One individual least Bell's vireo was heard singing within riparian habitat in the northeastern portion of the survey area (see Figure 3). A separate post-survey report will be submitted detailing the results of the protocol survey effort for this species.

In addition, double-crested cormorant (*Nannopterum auritum*), a California Department of Fish and Wildlife Watch List species and County sensitive Group 2 species, was detected during these surveys. An individual double-crested cormorant was observed flying over the central portion of the survey area during these focused surveys.

If you have any questions concerning the contents of this results letter, please contact me by e-mail or phone at cthomson@reconenvironmental.com or (619) 308-9333 extension 115.

Sincerely,

Chris Thomson
Biologist

CNT:sh

References Cited

U.S. Fish and Wildlife Service (USFWS)
1997 Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Protocol. July.

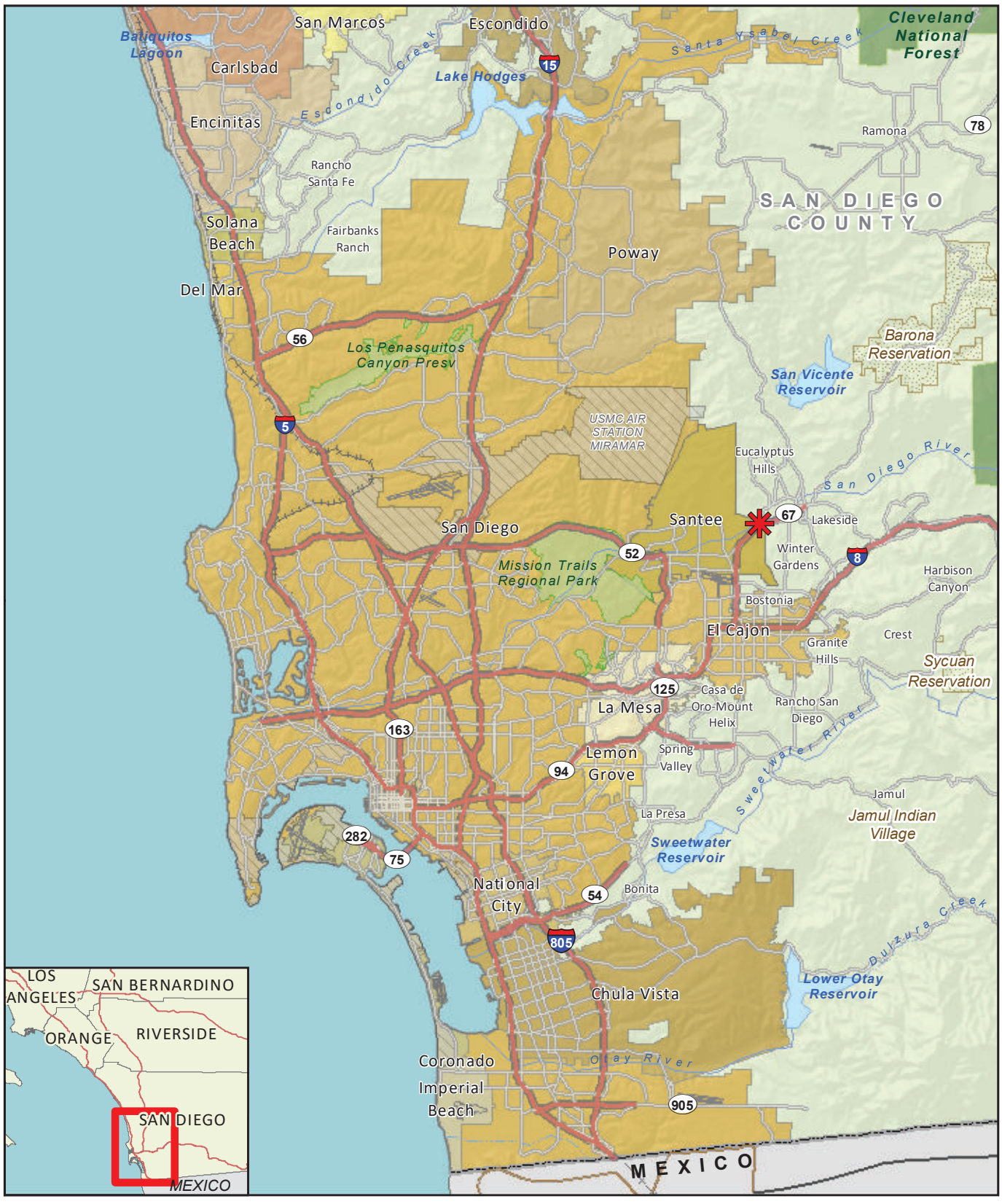
U.S. Geological Survey (USGS)
1994 El Cajon quadrangle, California 7.5-minute topographic map

Certification

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

Chris Thomson
Permit Number TE-797665

September 7, 2023
Date



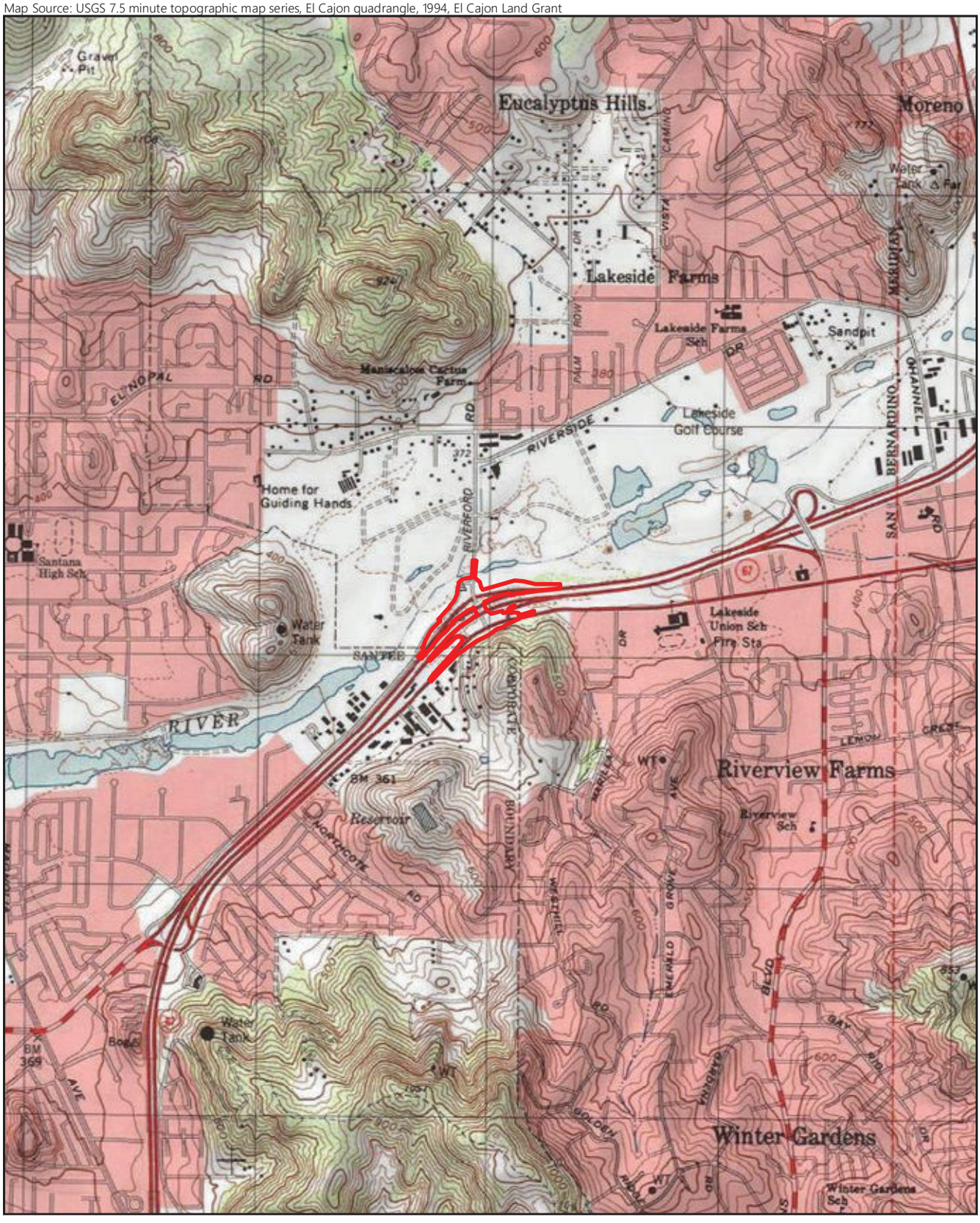
Project Location

RECON

M:\JOBS5\9009\9009.30\common_gis\fig1.mxd 5/2/2023 fmm

FIGURE 1
Regional Location

Map Source: USGS 7.5 minute topographic map series, El Cajon quadrangle, 1994, El Cajon Land Grant



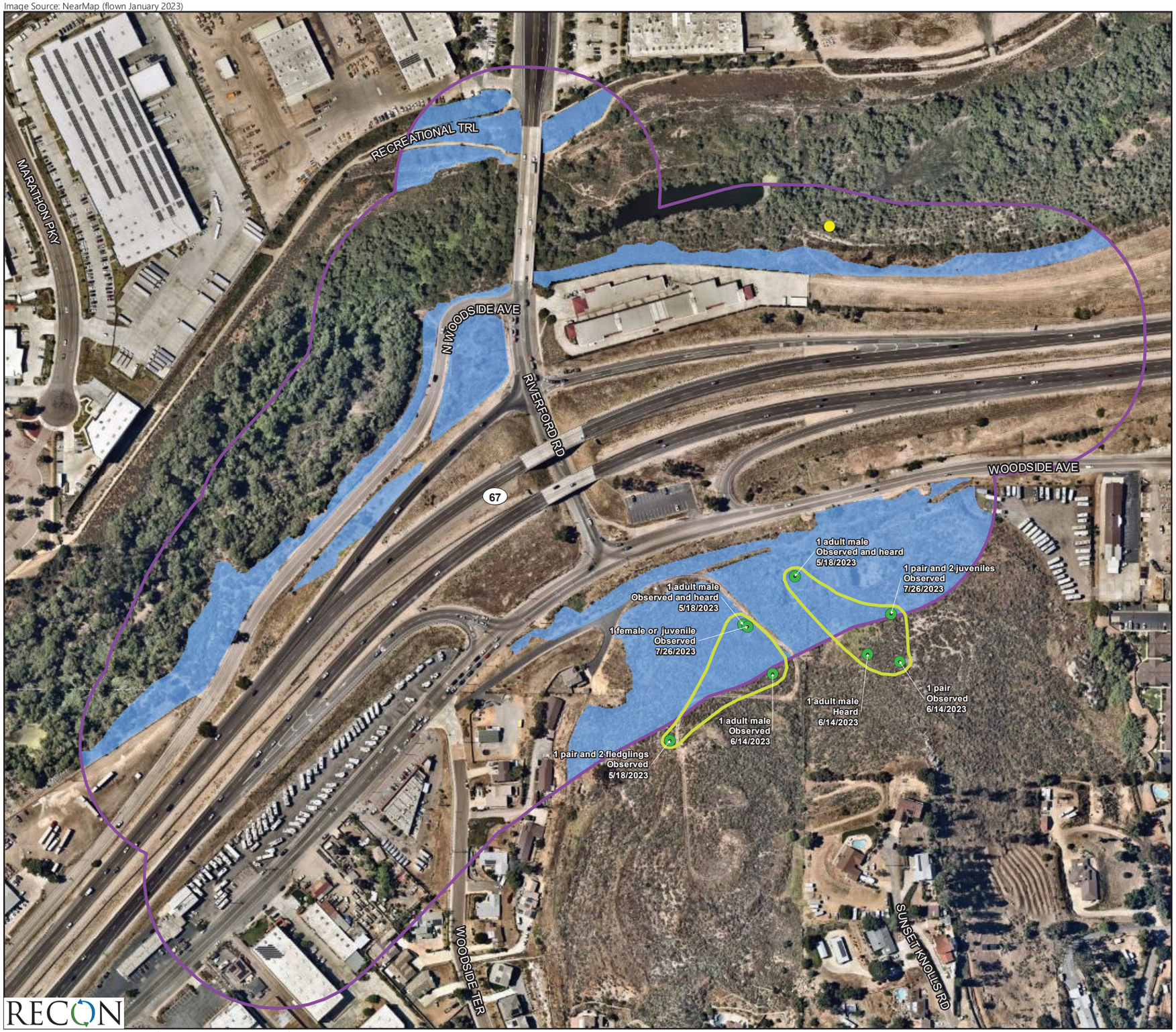
Project Boundary

RECON

M:\JOBS5\9009\9009.30\common_gis\fig2_USGS.mxd 9/1/2023 fmm

FIGURE 2
Project Location on USGS Map

Image Source: NearMap (flown January 2023)



Wildlife Survey Area (300 feet)

Coastal California Gnatcatcher Survey Area (Diegan Coastal Sage Scrub)

Coastal California Gnatcatcher Use Areas

Sensitive Wildlife Observations

Coastal California Gnatcatcher (*Polioptila californica californica*)

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

0 Feet 200

FIGURE 3

Coastal California Gnatcatcher
2023 Survey Area and Results

RECON

M:\JOBS5\9009\9009.30\common_gis\fig3_postCAGN.mxd 9/7/2023 fmm