Appendix B
Biological Resources Technical Report

Biological Resources Technical Report

North River Road and Sleeping Indian Road Drainage Improvements Project

JULY 2025

Prepared for:

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
°F	degrees Fahrenheit
amsl	above mean sea level
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
FESA	federal Endangered Species Act
HCP	habitat conservation plan
MBTA	Migratory Bird Treaty Act
MHCP	Multiple Habitat Conservation Program
MM	Mitigation Measure
NCCP	natural community conservation plan
NRCS	Natural Resources Conservation Service
project	North River Road and Sleeping Indian Road Drainage Improvements Project
RWQCB	Regional Water Quality Control Board
SSC	California Species of Special Concern
SWPPP	stormwater pollution prevention plan
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

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1 Introduction

This report presents the findings of a biological resources assessment conducted by Dudek for the proposed North River Road and Sleeping Indian Road Drainage Improvements Project (project). The purpose of this assessment is to evaluate the existing biological conditions and potential impacts to sensitive biological resources associated with the proposed project, including a 300-foot buffer (study area). This report is prepared at a level of detail sufficient to address California Environmental Quality Act (CEQA) requirements, specifically the biological thresholds of significance included in Appendix G of the CEQA Guidelines (14 CCR 15000 et seq.) and identify the potential need for permits for sensitive resources protected under federal and state regulations.

1.1 Project Location

The project is located in the City of Oceanside, in northern San Diego County, California. It is located on North River Road between North Wilshire Road and Sleeping Indian Road as well as on Sleeping Indian Road between North River Road and Las Tunas Drive (Figures 1 and 2). The project would include the replacement of four existing arch corrugated metal pipe culverts with four new concrete box culverts. Culvert 1 is located along Sleeping Indian Road, approximately 0.5 miles north of the Sleeping Indian Road and North River Road intersection. Culvert 1 is oriented northeast/southwest underneath Sleeping Indian Road, which runs generally north to south. Culverts 2–4 are oriented north/south underneath North River Road, which runs generally east/west. Culvert 2 is located along North River Road, immediately to the west of the Sleeping Indian Road and North River Road intersection. Culvert 3 is located along North River Road, approximately 0.1 miles west of Culvert 2. Culvert 4 is located along North River Road, approximately 0.25 miles west of Culvert 3.

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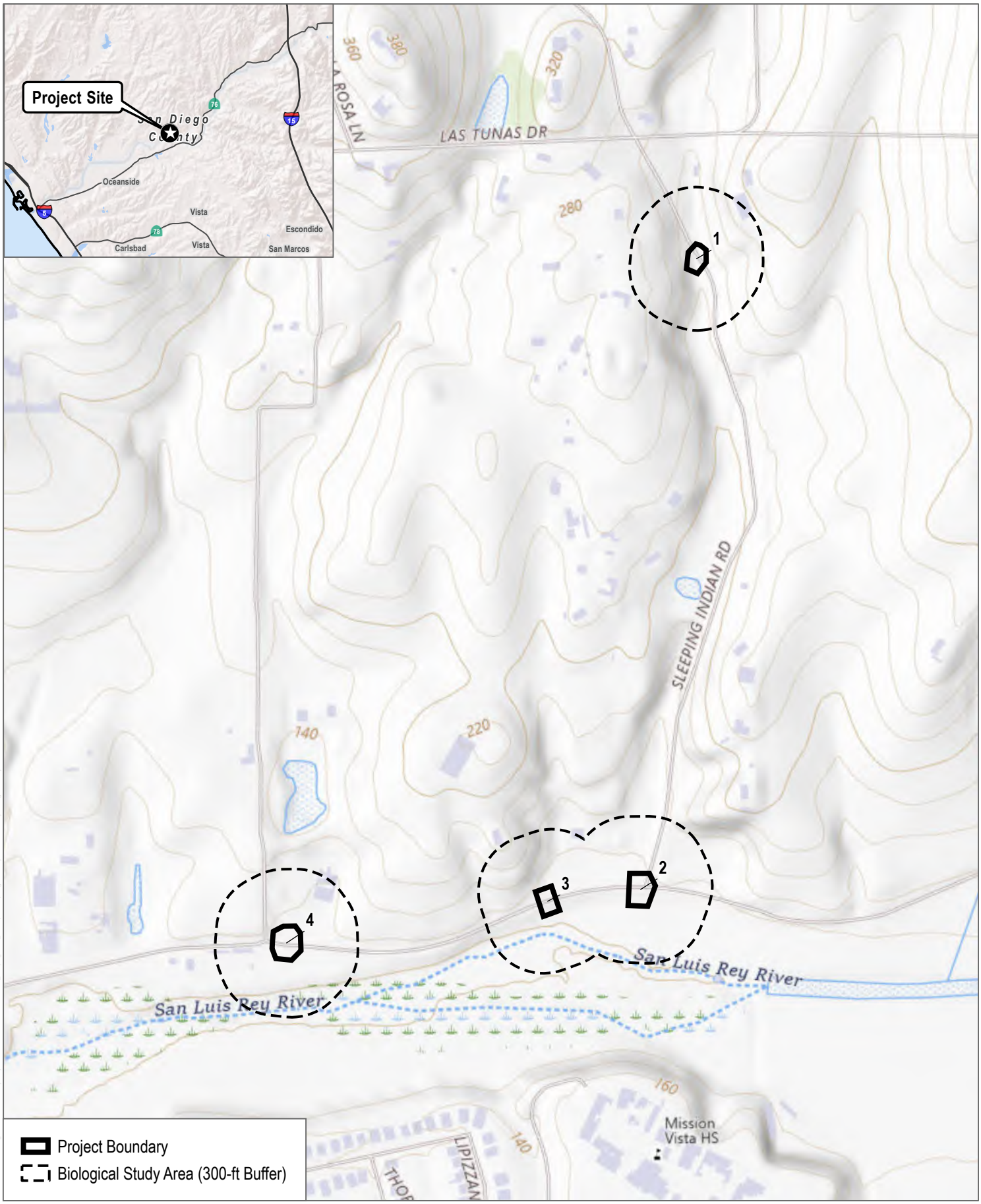

SOURCE: USGS National Map 2025

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FIGURE 1

Project Location

North River Road and Sleeping Indian Road Culverts Project

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SOURCE: Esri World Imagery; Open Street Map 2023

FIGURE 2

Review Area

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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2 Regulatory Context

This chapter describes the regulatory framework relevant to the project.

2.1 Federal Regulations

Federal Endangered Species Act

The federal Endangered Species Act (FESA) of 1973 (16 USC 1531 et seq.), as amended, is administered by the U.S. Fish and Wildlife Service (USFWS) for most plant and animal species, and by the National Oceanic and Atmospheric Administration National Marine Fisheries Service for certain marine species. FESA is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend and to provide programs for the conservation of those species, thus preventing extinction of plants and wildlife. FESA defines an endangered species as "any species which is in danger of extinction throughout all or a significant portion of its range" (16 USC 1532[6]). A threatened species is defined as "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range" (16 USC 1532[20]) Under FESA, it is unlawful to take any listed species; "take" is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct" (16 USC 1532[19]).

FESA allows for the issuance of Incidental Take Permits for listed species under Section 7, which is generally available for projects that also require other federal agency permits or other approvals, and under Section 10, which provides for the approval of habitat conservation plans (HCPs) on private property without any other federal agency involvement. Upon development of an HCP, USFWS can issue Incidental Take Permits for listed species.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) was originally passed in 1918 as four bilateral treaties, or conventions, for the protection of a shared migratory bird resource. The primary motivation for the international negotiations was to stop the "indiscriminate slaughter" of migratory birds by market hunters and others (16 USC 703–712). Each of the treaties protects selected species of birds and provides for closed and open seasons for hunting game birds. The MBTA protects more than 800 species. Two species of eagles that are native to the United States—bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*)—were granted additional protection within the United States under the Bald and Golden Eagle Protection Act (16 USC 668–668d) to prevent these species from becoming extinct.

Section 404 of the Clean Water Act

The objective of the Clean Water Act (CWA) is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. Under Section 404 of the CWA, the U.S. Army Corps of Engineers (USACE) has the authority to regulate activities that could discharge fill or dredge material or otherwise adversely modify wetlands or other waters of the United States. USACE implements the federal policy embodied in Executive Order 11990, which, when implemented, is intended to result in no net loss of wetland values or function.

Section 401 of the Clean Water Act

The State Water Resources Control Board has authority over wetlands through Section 401 of the CWA, as well as the Porter–Cologne Water Quality Control Act, California Code of Regulations Title 23 Sections 3830–3838, 3855–3861, and California Wetlands Conservation Policy. The CWA requires that an applicant for a Section 404 permit (to discharge dredge or fill material into waters of the United States) first obtain certification from the appropriate state agency stating that the fill is consistent with the state's water quality standards and criteria. In California, the authority to either grant certification or waive the requirement for permits is delegated by the State Water Resources Control Board to the nine regional boards. The San Diego Regional Water Quality Control Board (RWQCB) has authority for Section 401 compliance in the project area. A request for certification is submitted to the regional board at the same time that an application is filed with USACE.

2.2 State Regulations

California Endangered Species Act

The California Department of Fish and Wildlife (CDFW) administers the California Endangered Species Act (CESA), which prohibits the take of plant and animal species designated by the Fish and Game Commission as endangered or threatened in California. Under CESA, "take" is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" (California Fish and Game Code, Section 86). CESA stipulates that state agencies may not approve projects that will "jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat which would prevent jeopardy" (California Fish and Game Code, Section 2053).

CESA defines an endangered species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease" (California Fish and Game Code, Section 2062). CESA defines a threatened species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as 'rare' on or before January 1, 1985, is a 'threatened species'" (California Fish and Game Code, Section 2067). A candidate species is defined as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list" (California Fish and Game Code, Section 2068). CESA does not list invertebrate species.

California Fish and Game Code Sections 3503, 3511, 3513, 3801, 4700, 5050, and 5515

Section 2081(b) and (c) of the California Fish and Game Code authorizes take of endangered, threatened, or candidate species if take is incidental to otherwise lawful activity and if specific criteria are met. These provisions also require CDFW to coordinate consultations with USFWS for actions involving federally listed species that are also state-listed species. In certain circumstances, Section 2080.1 of the California Fish and Game Code allows

CDFW to adopt a federal incidental take statement or a 10(a) permit as its own, based on its findings that the federal permit adequately protects the species and is consistent with state law. A Section 2081(b) permit may not authorize the take of "fully protected" species or "specified birds" (California Fish and Game Code Sections 3505, 3511, 4700, 5050, 5515, and 5517). If a project is planned in an area where a fully protected species or a specified bird occurs, an applicant must design the project to avoid take.

California Environmental Quality Act

CEQA requires identification of a project's potentially significant impacts on biological resources and ways that such impacts can be avoided, minimized, or mitigated. CEQA also provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts.

Special-Status Plants and Wildlife

The CEQA Guidelines define endangered animals or plants as species or subspecies whose "survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors" (14 CCR 15380[b][1]). A rare animal or plant is defined in CEQA Guidelines Section 15380(b)(2) as a species that, although not currently threatened with extinction, exists "in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or … [t]he species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered 'threatened' as that term is used in the federal Endangered Species Act." Additionally, an animal or plant may be presumed to be endangered, rare, or threatened if it meets the criteria for listing as defined further in CEQA Guidelines Section 15380(c).

Special-Status Vegetation Communities

Section IV, Appendix G (Environmental Checklist Form) of the CEQA Guidelines (14 CCR 15000 et seq.) requires an evaluation of impacts to "any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service."

California Fish and Game Code, Sections 1600–1616

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

CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes characterized by the presence of (1) definable bed and banks and (2) existing fish or wildlife resources. CDFW takes jurisdiction to the top of bank of the stream or the limit of the adjacent riparian vegetation, which may include oak woodlands in canyon bottoms. Historical court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear but reemerge elsewhere. Under the CDFW definition, a watercourse need not exhibit evidence of an ordinary high-water mark to be claimed as jurisdictional. CDFW does not have jurisdiction over ocean or shoreline resources.

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

Porter–Cologne Water Quality Control Act

Pursuant to provisions of the Porter–Cologne Water Quality Control Act, the RWQCB regulates discharging waste, or proposing to discharge waste, within any region that could affect a water of the state (California Water Code, Section 13260[a]). The State Water Resources Control Board defines a water of the state as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code, Section 13050[e]).

2.3 Local Regulations

North County Multiple Habitat Conservation Program/City of Oceanside Subarea Plan

The North County Multiple Habitat Conservation Program (MHCP) is a long-term regional conservation program established to protect sensitive species and habitats in northern San Diego County through the MHCP Plan (SANDAG 2003). The MHCP area is divided into seven subareas, each with its own Subarea Plan; the subareas are permitted and implemented separately from one another. The City of Carlsbad is the only city under the MHCP that has an approved and permitted Subarea Plan. The City of Oceanside Subarea Plan has been prepared and is used as a guidance document for development projects in Oceanside, but the Oceanside Subarea Plan has not been approved or permitted (City of Oceanside 2010).

The overall goal of the Oceanside Subarea Plan is to contribute to regional biodiversity and the viability of rare, unique, and sensitive biological resources throughout Oceanside and the larger region while allowing public and private development to occur consistent with the City's General Plan and Capital Improvement Program. In addition, the Subarea Plan calls for the conservation of 90% to 100% of all hardline conservation areas; conservation of a minimum of 2,511 acres of existing native habitats as a biological Preserve in Oceanside; conservation of a minimum of 95% of rare and narrow endemic species populations within the Preserve and a minimum of 80% throughout the City as a whole; and restoration of a minimum of 164 acres of coastal sage scrub habitat within Oceanside, of which 145 acres will be within a wildlife corridor planning zone. Parcels within the wildlife corridor planning zone contribute to the north/south regional gnatcatcher steppingstone corridor (City of Oceanside 2010). Although the Oceanside Subarea Plan is used as a guidance document for development projects in Oceanside, the Subarea Plan has yet to be approved by the Oceanside City Council, and incidental take authority has therefore not been transferred to the City from USFWS and CDFW (the wildlife agencies).

The Oceanside Subarea Plan identifies undeveloped lands within Oceanside where conservation and management will achieve the Subarea Plan's biological goals while minimizing adverse effects on lands uses, economics, and private property rights. In addition, the Subarea Plan establishes Preserve planning zones, the existing biological

conditions and goals of which were used as foundations for their designation (City of Oceanside 2010). Brief descriptions of the Preserve planning zones are provided below (City of Oceanside 2010):

- **Wildlife Corridor Planning Zone.** The Wildlife Corridor Planning Zone extends from U.S. Marine Corps Base Camp Pendleton south to Buena Vista Creek. This zone varies in width from 1 to 2 miles along most of its length, and is centered roughly on El Camino Real and the associated San Diego Gas & Electric Company electric transmission corridor. It encompasses habitat parcels that potentially contribute to the north/south regional gnatcatcher steppingstone corridor, recognizing that existing Preserve lands north of the San Luis Rey River complete the steppingstone corridor connection to U.S. Marine Corps Base Camp Pendleton. The project study area is outside of the Wildlife Corridor Planning Zone.
- **Pre-Approved Mitigation Areas.** These areas represent land areas that have significant resource value and therefore qualify for on-site mitigation credit. Development is allowed in Pre-Approved Mitigation Areas, subject to planning guidelines to avoid, minimize, and fully mitigate impacts. The study area is not located within a Pre-Approved Mitigation Area.
- **Agricultural Exclusion Zone.** This zone includes lands north of the San Luis Rey River that are planned for agricultural uses under the Oceanside General Plan. Ongoing agricultural practices may continue in this area as long as they do not remove existing natural habitats. The project study area is located within an Agricultural Exclusion Zone.
- **Off-Site Mitigation Zone.** This zone includes all other parcels within Oceanside that support natural vegetation outside of the Wildlife Corridor Planning Zone, Agriculture Exclusion Zone, and Coastal Zone. The Off-Site Mitigation Zone includes several Pre-Approved Mitigation Areas. The project study area is located within an Off-Site Mitigation Zone and contains portions mapped as a hardline preserve area.
- **Coastal Zone.** This zone includes all areas within the City's Coastal Zone where the federal Coastal Zone Management Act and California Coastal Act policies apply. The project study area is not located within the Coastal Zone.

Portions of the project along North River Road are within the hardline preserve. Considering that this area is already developed (North River Road and agricultural production), it is likely that this is a mapping conflict associated with its proximity to the San Luis Rey River, which will need to be corrected by the City with concurrence from the Wildlife Agencies per Section 6.5.1 of the Subarea Plan.

Section 5 of the Oceanside Subarea Plan describes the minimum 100-foot biological buffer that shall be established for upland habitats, beginning at the outer edge of riparian vegetation along the San Luis Rey River. The following uses are prohibited in the 100-foot biological buffer (City of Oceanside 2010):

1. New development
2. New pedestrian and bike trails or passive recreational uses not already planned
3. Fuel modification activities for new development

Impacts within the 100-foot buffer shall be restored with native habitats appropriate to the location and soils (coastal sage scrub is typically preferred) as a condition of project approval (City of Oceanside 2010).

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3 Methods

Data regarding biological resources present within the study area were obtained through a review of pertinent literature and field reconnaissance.

3.1 Literature Review

The following data sources were reviewed to assist with the assessment of biological resources:

- CDFW California Natural Diversity Database (CDFW 2025a)
- USFWS Information for Planning and Consultation (USFWS 2025a)
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS 2025a)
- U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2025a)
- CDFW Biogeographic Information and Observation System (CDFW 2025b)

Prior to conducting the field investigation, the California Natural Diversity Database and CNPS Inventory of Rare and Endangered Plants were queried based on the U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle map for Morro Hill, where the study area is located, as well as the surrounding eight USGS 7.5-minute quadrangle maps (i.e., Bonsall, Fallbrook, Temecula, San Luis Rey, San Marcos, Oceanside, Las Pulgas Canyon, and Margarita Peak). The purpose of this review was to determine whether special-status plant and wildlife species are known to occur in the vicinity of or within the study area.

Other literature reviewed included A Manual of California Vegetation, Online Edition (CNPS 2025b); the California Natural Community List (CDFW 2025c); State and Federally Listed Endangered, Threatened, and Rare Plants of California (CDFW 2025d); State and Federally Listed Endangered and Threatened Animals of California (CDFW 2025e); and the CDFW California Wildlife Habitat Relationships Life History Accounts and Range Maps (CDFW 2025f). The following available resources were reviewed to assess the potential for jurisdictional waters: aerial photographs (Google Earth 2025; NETR 2025), the USGS Morro Hill 7.5-minute topographic quadrangle map (USGS 2018), the National Hydrography Dataset and Watershed Boundary Dataset (USGS 2025), and the USFWS National Wetlands Inventory (USFWS 2025b).

3.2 General Field Reconnaissance

Dudek biologists Josh Elson, Eilleen Salas, and Kimberly Narel conducted a general biological resources survey of the study area on January 16, 2025, and February 21, 2025. Survey conditions and times are listed in Table 1.

Table 1. Schedule of the Biological Reconnaissance Surveys

Date	Hours	Personnel	Conditions (temperature, skies, wind)
1/16/2025	0845–1430	Josh Elson, Eilleen Salas	52°F–68°F, 0%–50% cloud cover, no wind
2/21/2025	0800–1200	Kimberly Narel	60°F–72°F, 0%–100% cloud cover, 1–3 mph wind

The general biological resources surveys were conducted on foot. All plant and wildlife species encountered within the study area were identified and recorded. The potential for special-status plant and wildlife species to occur within the study area was evaluated based on the observed vegetation communities, soils present, and surrounding features. Vegetation communities and land covers on site were mapped directly in the field.

Vegetation Community and Land Cover Mapping

Vegetation communities and land covers within the survey area were mapped in the field based on general physical features and species composition. Data were recorded using the Field Maps Mobile Application over aerial base map imagery of the study area, and a geographic information system (GIS) coverage was created by Dudek GIS technicians using ArcGIS software.

The vegetation community and land cover mapping follow the Draft Vegetation Communities of San Diego County (Oberbauer et al. 2008), which is based on the Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986). Communities were given additional descriptions to more accurately represent existing conditions and community composition. Vegetation communities were classified as a "disturbed" form of the community when native shrub cover comprised 20% to 50% of the relative cover and non-native species comprised approximately 50% or more of the relative cover.

Plants

All plant species encountered during the field surveys were identified and recorded. Latin and common names for plant species with a California Rare Plant Rank (CRPR) follow the CNPS Inventory of Rare and Endangered Plants (CNPS 2025a). For plant species without a CRPR, Latin names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2025), and common names follow the U.S. Department of Agriculture NRCS Plants Database (USDA 2025b). Potential for special-status plant species to occur within the study area was assessed based on known geographic and elevation ranges as well as habitat and soil conditions that are known to support species occurring in the region.

Wildlife

All wildlife species, as detected during the field survey—by sight, calls, tracks, scat, or other signs—were identified and recorded. Binoculars were used to aid in the identification of observed wildlife. No trapping or focused surveys for special-status species or nocturnal species were conducted. In addition to species observed, expected wildlife usage of the study area was determined according to known habitat preferences of regional wildlife species and knowledge of their relative distributions in the area. Latin and common names for wildlife species referred to in this report follow Crother (2017) for reptiles and amphibians, American Ornithologists' Union Checklist (AOU 2018) for birds, Wilson and Reeder (2005) for mammals, and Moyle (2002) for fish. Potential for special-status wildlife species to occur within the study area was assessed based on known geographic ranges, the presence/absence of suitable habitat, and other natural history elements that might predict their occurrence.

3.3 Special-Status Plant and Wildlife Species Assessment

The potential for occurrence of plant and wildlife species was summarized according to the following categories. Because not all species are accommodated precisely by a given category (i.e., category definitions may be too restrictive), an expanded rationale for each category assignment is provided.

- Known to occur: The species has been documented on the property by a reliable source.
- High potential to occur: The species has not been documented on the property but is known to recently occur in the vicinity, and suitable habitat is present.
- Moderate potential to occur: The species has not been documented on the property or in the vicinity, but the site is within the known range of the species, and suitable habitat for the species is present.
- Low potential to occur: The species has not been documented in the vicinity or on the property, but the site is within the known range of the species; however, suitable habitat for the species on site is of low quality.
- Not expected to occur: The property is outside the known geographic or elevational range of the species, and/or the site does not support suitable habitat for the species.

Special-Status Plant Species

Endangered, rare, or threatened plant species as defined in CEQA Guidelines Section 15380(b) (14 CCR 15380[b]) are referred to as "special-status plant species" and, as used in this report, include (1) plant species listed, proposed for listing, or candidates for listing as endangered or threatened recognized in the context of CESA and FESA (CDFW 2025d); and/or (2) plant species with a CRPR 1 or 2 as designated by CNPS (2025a). Species with CRPR 3 or 4 generally do not qualify for protection under CEQA and are therefore analyzed in this report. Species listed on the Oceanside Subarea Plan Proposed Covered Species list (City of Oceanside 2010) are also considered special-status in this analysis.

For each special-status plant species known to occur in the vicinity of or within the study area, a determination was made regarding the potential for the species to occur within the study area based on site-specific information gathered during the field reconnaissance, such as the location of the site, vegetation communities and soils present, current site conditions, and each species' known range, habitat associations, preferred soil substrate, life form, elevation, and blooming period.

Special-Status Wildlife Species

Endangered, rare, or threatened wildlife species as defined in CEQA Guidelines Section 15380(b) (14 CCR 15380[b]), are referred to as "special-status wildlife species" and, as used in this report, include (1) wildlife species listed, proposed for listing, or candidates for listing as endangered or threatened recognized in the context of CESA and FESA (CDFW 2025e); (2) California Species of Special Concern (SSC) as designated by CDFW (2025g); and (3) mammals and birds that are fully protected species as described in the California Fish and Game Code, Sections 4700 and 3511 (CDFW 2025h). Species listed on the Oceanside Subarea Plan Proposed Covered Species list (City of Oceanside 2010) are also considered special-status in this analysis.

For each special-status wildlife species listed, a determination was made regarding potential use within the study area based on site-specific information gathered during the field reconnaissance, such as the location of the site, vegetation communities and soils present, current site conditions, and each species' known range and habitat preferences, as well as knowledge of the species' relative distributions in the area.

4 Environmental Setting

The study area is located within the City of Oceanside in San Diego County, bordered by the City of Vista to the south, and unincorporated areas of San Diego County to the north and west. The following describes the existing abiotic conditions of the proposed project site and surrounding area.

4.1 Land Use

The study area is a low-density, semi-rural area of the City, which is designated as Agriculture in the City's General Plan and zoned as Agriculture. Small-scale agricultural operations and residences are present to the north, west, and east of the study area. The San Luis Rey River runs parallel to North River Road to its south and forms the southern portion of the study area. Mission Vista High School is south of the study area, abutting the San Luis Rey River on its other side. Several churches and Melba Bishop Park are present approximately 1.25 miles to the west of the study area (Google Earth 2025; NETR 2025).

4.2 Climate

The project region has a Mediterranean climate with cool, wet winters and hot, dry summers. On average, August is the warmest month with an average high temperature of 83°F, and January is the coolest month on average with a low of 44°F. Rainfall occurs primarily between November through April, with the maximum average precipitation occurring in January. The mean annual rainfall for the region is approximately 13.1 inches of rain per year (WRCC 2025).

4.3 Topography

The topography within the study area slopes downhill from north to south toward the San Luis Rey River. Elevations in the southern portion of the study area range from 130 feet above mean sea level (amsl) to 110 feet amsl, and elevations in the northern portion of the study area range from 220 feet amsl to 284 feet amsl (USGS 2018; Google Earth 2025).

4.4 Soils

According to the U.S. Department of Agriculture NRCS Web Soil Survey (USDA 2025a), nine soil mapping units occur within the study area: Bonsall sandy loam, 9% to 15% slopes, eroded; Cieneba coarse sandy loam, 5% to 15% slopes, eroded; Cieneba coarse sandy loam, 15% to 30% slopes, eroded; Cieneba-rock outcrop complex, 30% to 75% slopes, very stony; Fallbrook sandy loam, 9% to 15% slopes, eroded; Placentia sandy loam, 5% to 9% slopes, eroded; Tujunga sands, 0% to 5% slopes, eroded; Visalia sandy loam, 2% to 5% slopes; Vista coarse sandy loam, 15% to 30% slopes, eroded; Riverwash, and Steep gullied land (Figure 3, Soils). Soil series are described by the NRCS as follows (USDA 2025a):

> **Bonsall Series.** The soils of the Bonsall series occur on gentle to moderate slopes in concave positions at elevations of 200 to 2,500 feet and formed in residuum weathered from granite or granodiorite. They are moderately well-drained soils, with slow to medium runoff and very slow permeability.

Cieneba Series. The soils of the Cieneba series occur on hills and mountains and formed in material weathered from granitic rock. They are somewhat excessively drained soils, with low to high runoff and moderately rapid permeability.

Fallbrook Series. The soils of the Fallbrook series occur on rolling hills and formed in material weathered from granitic rocks. They are well drained, with medium to very rapid runoff and moderately slow permeability,

Placentia Series. The soils of the Placentia series occur on fans and terraces and formed in alluvium from granite and other rocks of similar composition and texture. They are well to moderately well drained, with slow to rapid runoff and very slow permeability.

Tujunga Series. The soils of the Tujunga series occur on alluvial fans and floodplains and formed in alluvium from granitic sources. They are somewhat excessively drained, with negligible to low runoff.

Visalia Series. The soils of the Visalia series are somewhat poorly drained and are not hydric.

Vista Series. The soils of the Vista series occur on hills and mountainous uplands and formed in material weathered from decomposed granitic rocks. They are well drained, with slow to rapid runoff and moderately rapid permeability.

Riverwash. Riverwash consists of alluvial sediment transported within a drainage channel.

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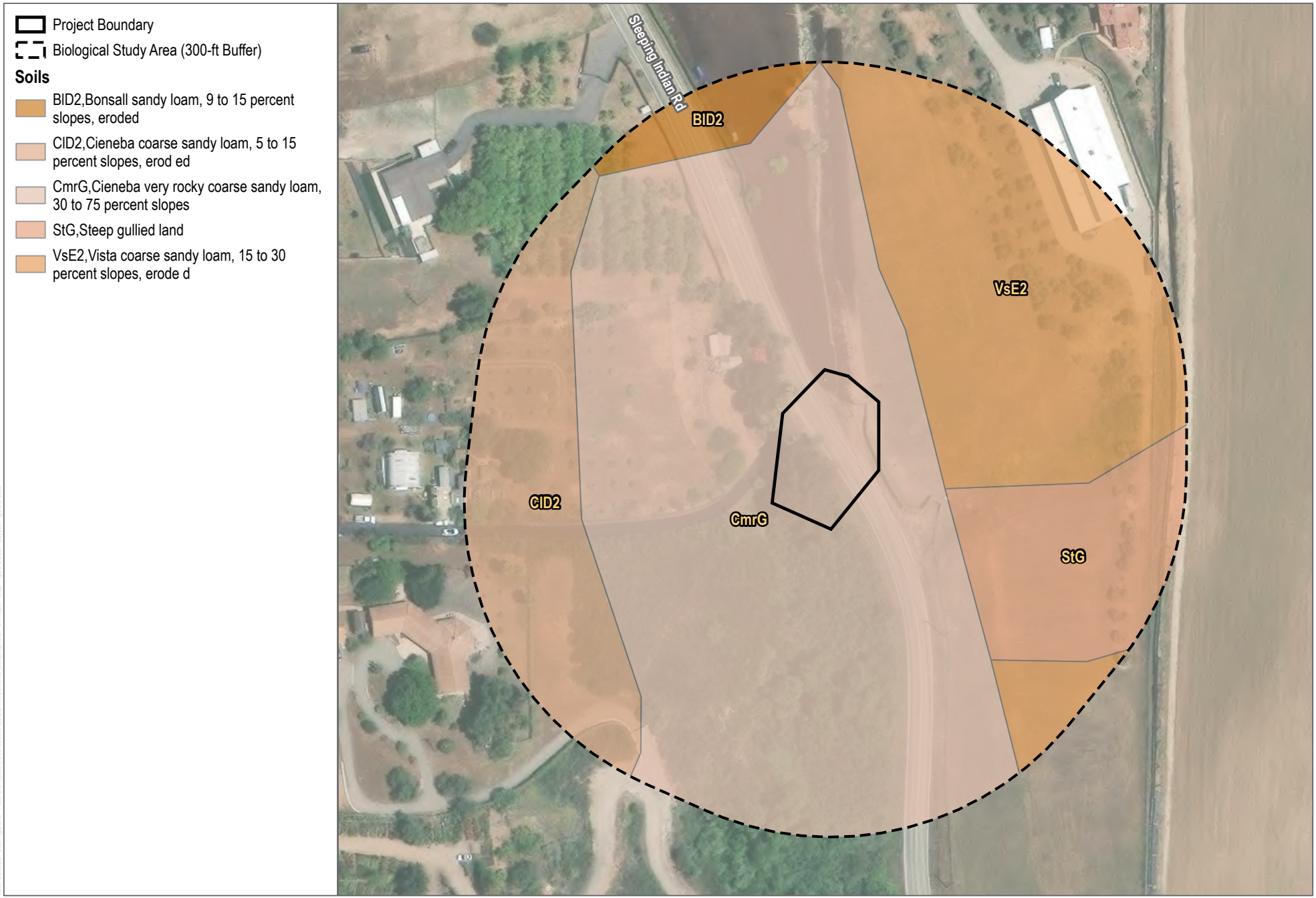

SOURCE: Esri World Imagery; Open Street Map 2023

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FIGURE 3a

Soils - Culvert #1

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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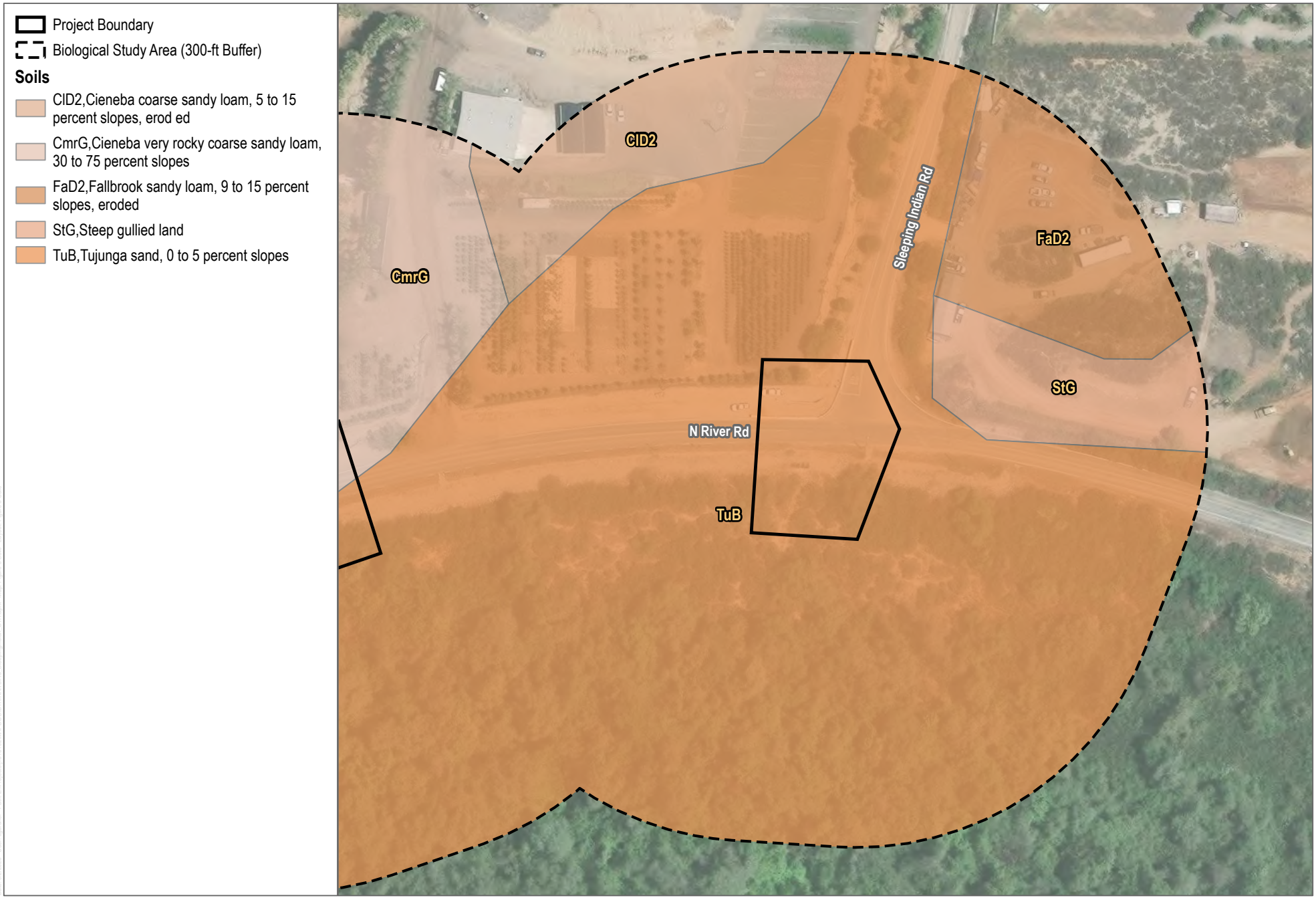

SOURCE: Esri World Imagery; Open Street Map 2023

DUDEK

0 62.5 125 Feet

FIGURE 3b

Soils - Culvert #2

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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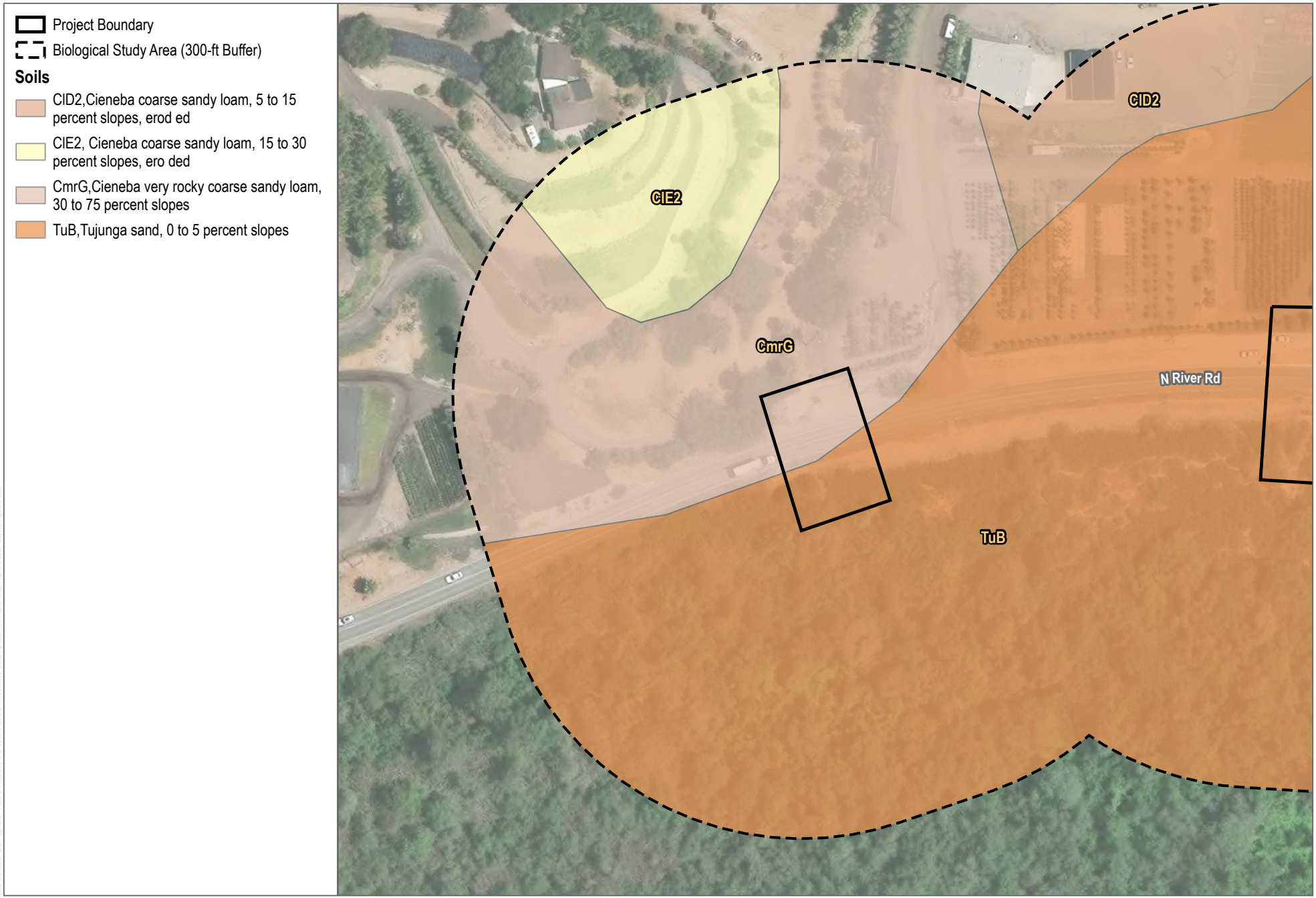

SOURCE: Esri World Imagery; Open Street Map 2023

DUDEK

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FIGURE 3c

Soils - Culvert #3

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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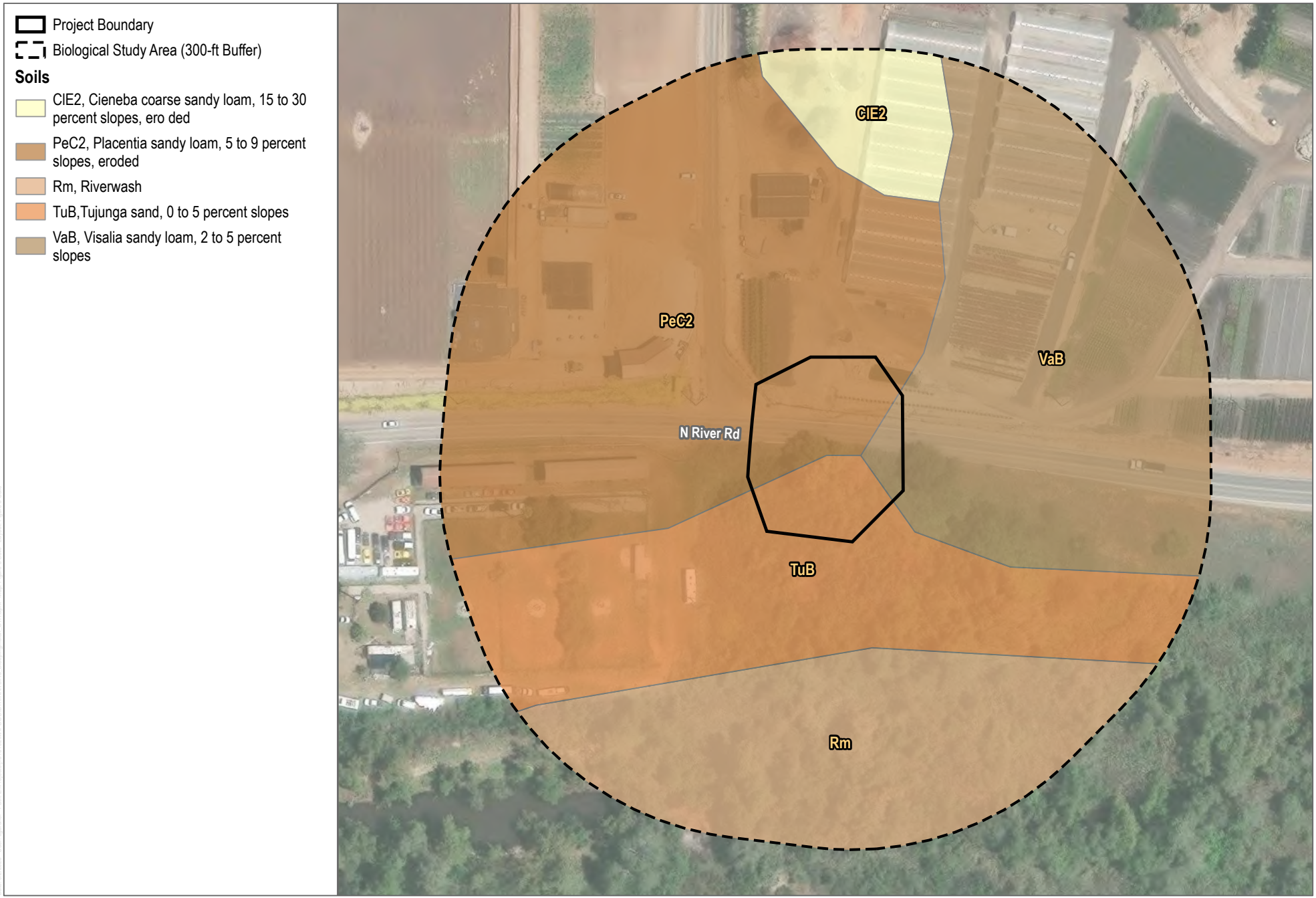

SOURCE: Esri World Imagery; Open Street Map 2023

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FIGURE 3d

Soils - Culvert #4

North River Rd and Sleeping Indian Rd Drainage Improvements Project

5 Results

Representative photos of the study area and the biological resources described in this chapter are included in Appendix A.

5.1 Vegetation Communities and Land Covers

A total of seven vegetation communities and four land cover types were mapped in the study area during the surveys. These vegetation communities and land cover types are described below, their acreages are presented in Table 2, and their spatial distributions are presented in Figure 4, Vegetation Communities and Land Covers.

Table 2. Vegetation Communities and Land Covers

Habitat Types/ Vegetation Communities	Mapping Unit Code	Project Site Acreage	Study Area Acreage	Total Acreage
Non-Native Grassland: Broadleaf Dominated	*42210*	0.02	4.53	4.55
Southern Arroyo Willow Riparian Forest	*61320*	0.01	7.87	7.88
Southern Riparian Scrub	*63000*	0.00	0.83	0.83
Mulefat Scrub	*63310*	0.44	2.01	2.45
Arundo-Dominated Riparian	*65100*	0.00	0.66	0.66
Non-Native Riparian	*65000*	0.11	0.19	0.3
Diegan Coastal Sage Scrub	*32500*	0.00	1.40	1.4
Diegan Coastal Sage Scrub: Baccharis-Dominated	*32530*	0.00	0.44	0.44
Non-Vegetated Channel or Floodway	*64200*	0.00	0.19	0.19
			Subtotal:	*18.7*
Developed or Disturbed Land Covers				
Disturbed Habitat	*11300*	0.09	1.93	2.02
Non-Native Vegetation	*11000*	0.03	2.32	2.35
Urban/Developed	*12000*	0.58	3.86	4.44
General Agriculture	*18000*	0.27	11.12	11.39
			Subtotal:	*20.2*
			Total:	**38.9**

Source: Oberbauer et al. 2008.
Note: Totals may not add up due to rounding.

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SOURCE: Esri World Imagery; Open Street Map 2023

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FIGURE 4a

Vegetation Communities and Land Covers - Culvert #1

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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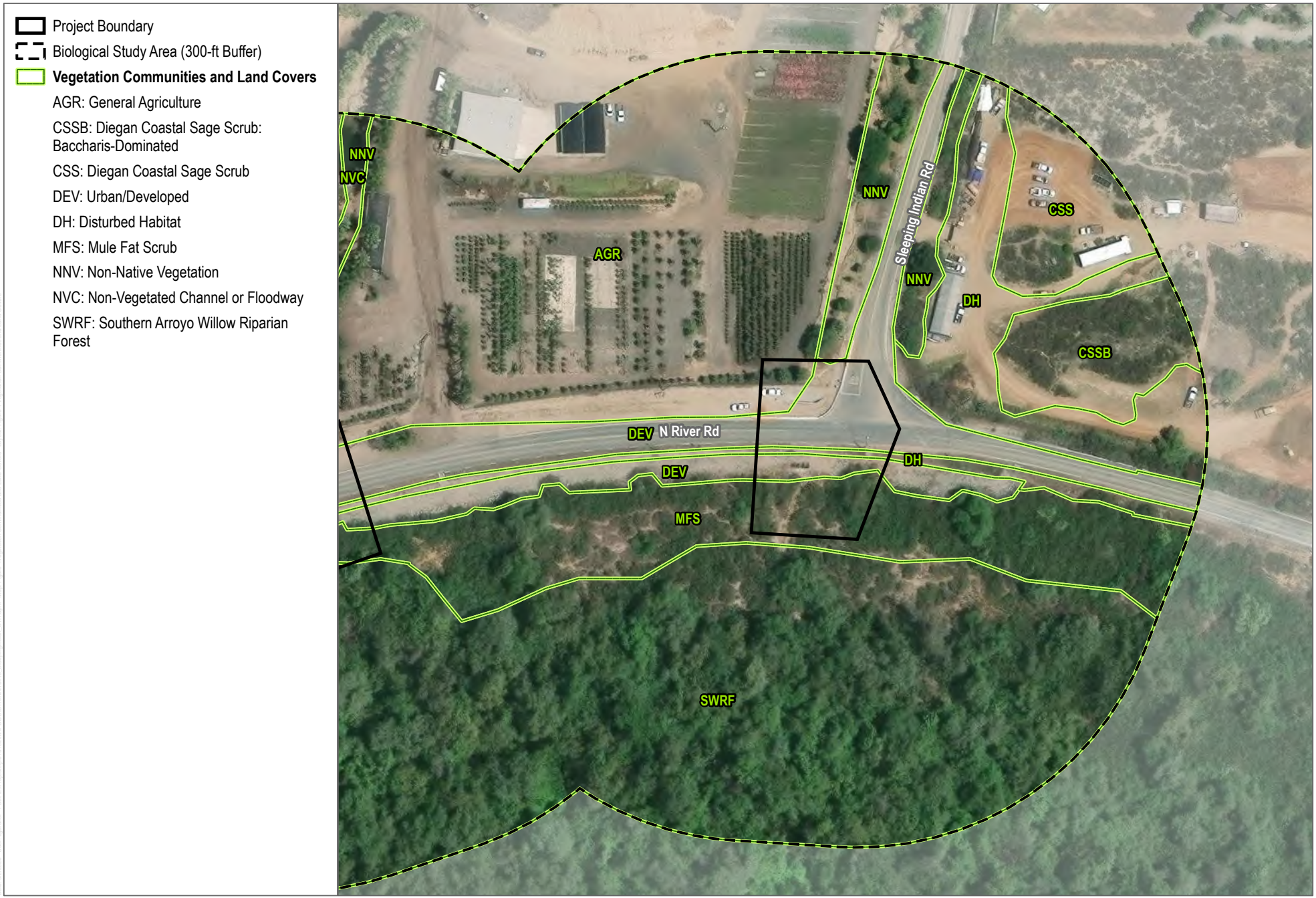

SOURCE: Esri World Imagery; Open Street Map 2023

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FIGURE 4b

Vegetation Communities and Land Covers - Culvert #2

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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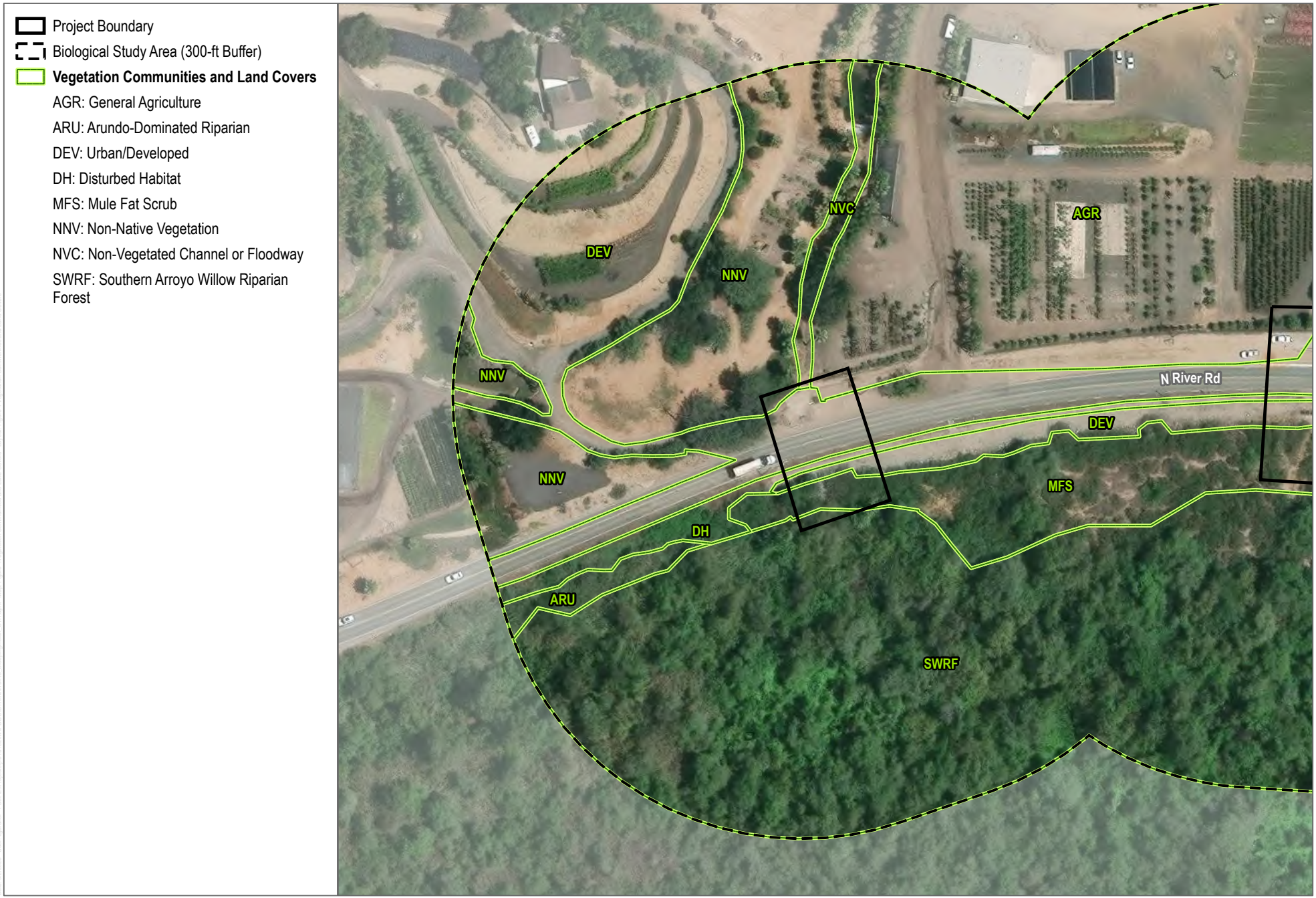

SOURCE: Esri World Imagery; Open Street Map 2023

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FIGURE 4c

Vegetation Communities and Land Covers - Culvert #3

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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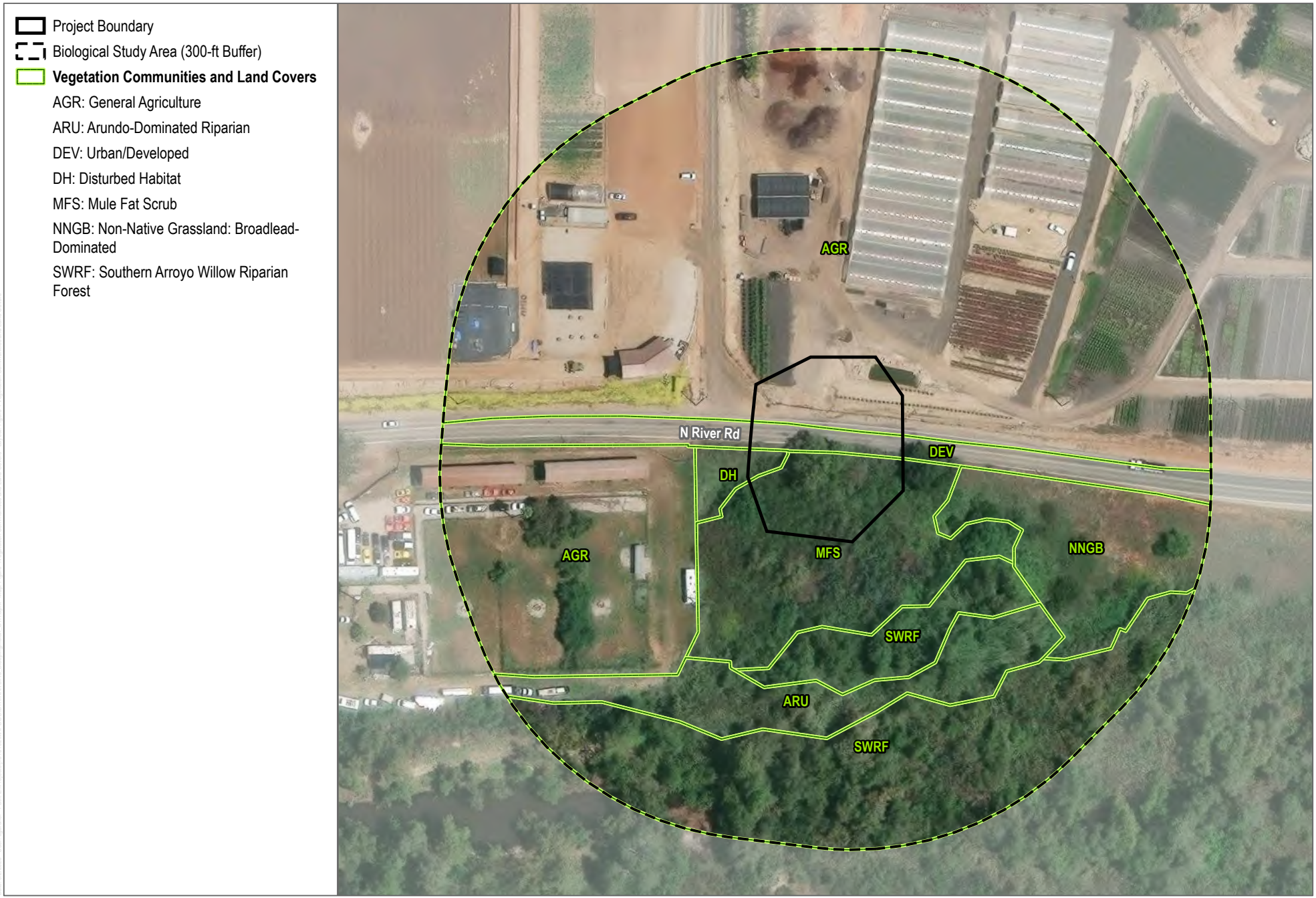

SOURCE: Esri World Imagery; Open Street Map 2023

DUDEK

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FIGURE 4d

Vegetation Communities and Land Covers - Culvert #4

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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5.1.1 Vegetation Communities

Non-Native Grassland: Broadleaf-Dominated (42210)

Non-native grassland: broadleaf-dominated is not recognized by Holland (1986) but is recognized by Oberbauer et al. (2008). According to Oberbauer et al. (2008), this subcategory of non-native grassland applies to areas in which previous disturbance or presence of a nearby seed source has caused one or multiple invasive, non-native broadleaf species to make up over 50% of the vegetative cover. This is a common vegetation community in northern San Diego County in disturbed areas. Characteristic species include but are not limited to black mustard (*Brassica nigra*), shortpod mustard (*Hirschfeldia incana*), fennel (*Foeniculum vulgare*), and knapweeds (*Centaurea* spp.) (Oberbauer et al. 2008).

This vegetation community was mapped in the southwestern portion of the study area, south of North River Road. Associated species observed within this community included fennel, shortpod mustard, and Canada horseweed (*Erigeron canadensis*).

Non-native grassland is within the Habitat Group E of the City of Oceanside HCP/Natural Community Conservation Plan (NCCP) and mitigation is required for impacts to this vegetation community.

Southern Arroyo Willow Riparian Forest (61320)

Southern arroyo willow riparian forest is a winter-deciduous riparian forest dominated by broad-leafed trees and arroyo willow (*Salix lasiolepis*). Typically, it consists of a moderately tall, closed, or nearly closed canopy, with an understory of shrubby willows (Oberbauer et al. 2008). Southern arroyo willow riparian forest is characterized by the presence of several species besides arroyo willow, including San Diego sagewort (*Artemisia palmeri*), mulefat (*Baccharis salicifolia*), manroot (*Marah macrocarpus*), California sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii* ssp. *fremontii*), Goodding's willow (*Salix gooddingii*), narrowleaf willow (*Salix exigua*), and yellow willow (*Salix lasiandra*) (Oberbauer et al. 2008). Southern arroyo willow riparian forest occurs in sub-irrigated and frequently overflowed areas along rivers and streams that are perennially wet (Oberbauer et al. 2008).

Within the study area, southern arroyo willow riparian forest occur in the San Luis Rey River riparian corridor in the southern portion of the study area. Associated species observed within this community in the field included mulefat and fennel.

Southern arroyo willow riparian forest is within the Habitat Group A of the City of Oceanside HCP/NCCP, is considered a special-status vegetation community, and as such mitigation is required for impacts to this vegetation community.

Southern Riparian Scrub (63000)

Southern riparian scrub typically occurs along major river systems and is characterized by riparian vegetation consisting of smaller trees and shrubs, without or with few tall trees (Oberbauer et al. 2008). Species usually associated with this vegetation community include broom baccharis (*Baccharis sarothroides*), arroyo willow, and other willow trees (Oberbauer et al. 2008).

Within the study area, southern riparian scrub occurs in the drainage crossing under Sleeping Indian Road, on the south side of the road Associated species include blue elderberry (*Sambucus mexicana*), laurel sumac (*Malosma laurina*), arroyo willow, mulefat, castor bean (*Ricinus communis*), and Mexican fan palm (*Washingtonia robusta*).

Southern riparian scrub is within the Habitat Group A of the City of Oceanside HCP/NCCP, is considered a special-status vegetation community, and as such mitigation is required for impacts to this vegetation community

Mulefat Scrub (63310)

Mulefat scrub is a depauperate, tall, herbaceous riparian scrub strongly dominated by mulefat. This early seral community is maintained by frequent flooding. Site factors include intermittent stream channels with fairly coarse substrate and moderate depth to the water table (Oberbauer et al. 2008). This community type is widely scattered along intermittent streams and near larger rivers.

Within the study area, mulefat scrub occurs in the San Luis Rey River riparian corridor, on the south side of North River Road.

Mulefat scrub is within the Habitat Group A of the City of Oceanside HCP/NCCP, is considered a special-status vegetation community, and as such mitigation is required for impacts to this vegetation community.

Arundo-dominated Riparian (65100)

Arundo-dominated riparian vegetation community is composed of monotypic or nearly monotypic stands of giant reed (*Arundo donax*) that are fairly widespread in Southern California. Typically, it occurs on moist soils and in streambeds and may be related directly to soil disturbance or the introduction of propagates by grading or flooding. Mapped occurrences may include surrounding native trees. Giant reed often occupies jurisdictional wetlands.

This vegetation community is present within the southern portion of the study area, interspersed within the other riparian vegetation communities of the San Luis Rey River corridor. This vegetation community is not considered a special-status community in the City of Oceanside HCP/NCCP, and no mitigation is required for impacts to this vegetation community.

Diegan Coastal Sage Scrub (32500)

Diegan coastal sage scrub is a native vegetation community. According to Oberbauer et al. (2008), coastal sage scrub is composed of a variety of soft, low, aromatic shrubs, characteristically dominated by drought-deciduous species—such as California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), and sages (*Salvia* spp.)—with scattered evergreen shrubs, including lemonadeberry (*Rhus integrifolia*) and laurel sumac.

On site, Diegan coastal sage scrub occurs on the northeast-facing slopes in the northern portion of the study area, west of Sleeping Indian Road. Associated species observed within this alliance in the field included broom baccharis, toyon (*Heteromeles arbutifolia*), and deerweed (*Acmispon glaber*).

Diegan coastal sage scrub is within the Habitat Group C of the City of Oceanside HCP/NCCP, is considered a special-status vegetation community, and as such mitigation is required for impacts to this vegetation community.

Diegan Coastal Sage Scrub: Baccharis-Dominated (32500)

Baccharis-dominated Diegan coastal sage scrub is similar to Diegan coastal sage scrub but dominated by *Baccharis* species (desert broom [*B. sarothroides*] and/or coyote brush [*B. pilularis*]) (Oberbauer et al. 2008). This community typically occurs on disturbed sites or those with nutrient-poor soils and is often found within other forms of Diegan coastal sage scrub and on upper terraces of river valleys.

On site, Baccharis-dominated Diegan coastal sage scrub occurs on the slopes north of North River Road in the eastern portion of the study area. Associated species observed within this community in the field included California sagebrush and California buckwheat.

Diegan coastal sage scrub is within the Habitat Group C of the City of Oceanside HCP/NCCP, is considered a special-status vegetation community, and as such mitigation is required for impacts to this vegetation community.

Non-Native Riparian (32500)

Non-native riparian habitat consists of densely vegetated riparian thickets dominated by non-native, invasive species. Non-native, invasive species account for greater than 50% of the total vegetative cover within a mapping unit (Oberbauer et al. 2008). Characteristic species include giant reed, tamarisk (*Tamarix* spp.), *Eucalyptus* spp., palms (*Phoenix* spp. and *Washingtonia* spp.), castor bean, and pampas grass (*Cortaderia* spp.).

On site, non-native riparian occurs within the drainage on the south side of Sleeping Indian Road. Associated species within this community include castor bean and eucalyptus.

This vegetation community is not considered a special-status community in the City of Oceanside HCP/NCCP and no mitigation is required for impacts to this vegetation community.

Non-Vegetated Floodplain or Channel (64200)

Non-vegetated floodplain or channel is not recognized by Holland (1986) but is recognized by Oberbauer et al. (2008). According to Oberbauer et al. (2008), non-vegetated floodplain or channel is the sandy, gravelly, or rocky fringe of waterways or flood channels that is unvegetated on a relatively permanent basis. Vegetation may be present but is usually less than 10% total cover and grows on the outer edge of the channel.

This land cover is present in the form of a sandy channel passing through an agricultural operation north of North River Road, in the central portion of the study area.

Non-vegetated channel is within the Habitat Group A of the City of Oceanside HCP/NCCP and is considered a special-status vegetation community. As such mitigation is required for impacts to this vegetation community

5.1.2 Disturbed and Developed Land Cover Types

Disturbed Habitat (11300)

Disturbed habitat is described as areas generally lacking vegetation due to high levels of existing or historical human disturbance and are no longer recognizable as a native or naturalized vegetation association. Areas mapped

as disturbed habitat may include unpaved roads, trails, and graded areas (Oberbauer et al. 2008). Vegetation in these areas, if present at all, is usually sparse and dominated by non-native weedy herbaceous species (Oberbauer et al. 2008). Areas mapped as disturbed habitat within the study area were present in the form of dirt roads, and mowed areas, and compacted dirt turnouts adjacent to Sleeping Indian Road and North River Road.

Non-native Vegetation (11000)

Non-native vegetation includes trees, shrubs, and herbs that are not native to California. Non-native vegetation within the study area largely consists of ornamental plantings along roadways or in landscaped areas of the various agricultural operations.

Urban/Developed (11200)

This mapping unit is described as areas supporting human-made structures, including homes, yards, sidewalks, and other highly modified lands supporting structures associated with dwellings or other permanent structures. Vegetation in these areas, if present at all, is typically associated with ornamental landscaping that has been included in the development footprint (Oberbauer et al. 2008). Developed lands in the study area include the asphalt roadways of North River Road and Sleeping Indian Road, the concrete basins associated with the culvert inlets adjacent to the roadways, and a riprap berm placed along the south side of North River Road.

General Agriculture (18000)

This mapping unit is described as lands supporting an active agricultural operation. This land cover is present within the study area in the form of nursery operations and row crops.

5.2 Plants

A list of plant and wildlife species observed during the biological reconnaissance survey is included in Appendix B, Plant and Wildlife Compendia. Of the 20 plant species observed, 55% were native species and 45% were non-native species. The survey was conducted outside of the typical blooming period for most herbaceous annual species, and it is expected that a greater number of common species would be detected during the blooming period.

5.2.1 Special-Status Plant Species

Appendix C, Assessment of Special-Status Plant Species Potentially Occurring in the Study Area, lists special-status plant species that are known to occur in the in the USGS 7.5-minute Morro Hill quadrangle and the surrounding eight USGS 7.5-minute quadrangles or that are included within the USFWS Information for Planning and Consultation list generated for the study area (CDFW 2025a; CNPS 2025a; USFWS 2025a). The assessment for occurrence resulted in 28 special-status species having a moderate potential to occur in the study area (see Appendix C). However, these species were deemed as having potential to occur due to the presence of coastal sage scrub habitat within the study area. The project footprint does not include any coastal sage scrub vegetation within its boundaries, and as such, no special-status plant species are expected to occur within it. Therefore, it is not anticipated that there will be any direct impacts to these special-status plant species and they are not discussed further. One federally and state-listed endangered species, Nevin's barberry (*Berberis nevinii*), was determined to

have a low potential to occur in the study area but is not expected to occur in the project area. Therefore, it is not anticipated that there will be any direct impacts to this species and it is not discussed further.

5.3 Wildlife

There were 13 wildlife species recorded within the project site during the biological reconnaissance survey, which can be found in Appendix B. All of the species recorded were birds; the study area does contain suitable nesting bird habitat. No amphibian species were observed and no reptile species were observed during the survey; however, western fence lizard (*Sceloporus occidentalis*) is a common reptile species that could occur within the study area. No mammal species were observed during the survey; however, common species such as California ground squirrel (*Otospermophilus beecheyi*) and coyote (*Canis latrans*) would be expected to occur within the study area and its surroundings.

5.3.1 Special-Status Wildlife Species

Appendix D, Assessment of Special-Status Wildlife Species Potentially Occurring in the Study Area, lists special-status wildlife species that are known to occur in the USGS 7.5-minute Morro Hill quadrangle and the surrounding eight USGS 7.5-minute quadrangles, as well as wildlife species included within the USFWS Information for Planning and Consultation list generated for the study area (CDFW 2025f; CNPS 2025a; USFWS 2025a).

No special-status wildlife species were observed foraging during the biological reconnaissance survey. The assessment for occurrence resulted in 14 special-status species having a moderate to high potential to occur within the study area, and three federally or state-listed species with a low potential to occur, as shown in Table 3. Critical habitat for least Bell's vireo (*Vireo bellii pusillus*), arroyo toad (*Anaxyrus californicus*), and southwestern willow flycatcher (*Empidonax traillii extimus*) has been designated within the San Luis Rey River riparian corridor in the southern portion of the study area (USFWS 2025a).

All of the special-status wildlife species determined to have moderate to high potential to occur, or low potential to occur but are included in the discussion due to being federally or state-listed, have potential to occur within either coastal sage scrub habitat or riparian habitat areas. No coastal sage scrub habitat will be directly impacted by the project, and as such, it is not anticipated that there will be direct impacts to special-status wildlife species associated with this habitat. The project has the potential to directly impact special-status bird species associated with riparian habitats, as well as the potential to indirectly impact bird species associated with coastal sage scrub habitat. These species are discussed in further detail below.

Table 3. Special-Status Wildlife Species with a Moderate to High Potential to Occur in the Study Area and Listed Species with a Low Potential to Occur

Scientific Name	Common Name	Status (Federal/ State)[1]	Primary Habitat Associations/Life Form/Blooming Period/Elevation Range (feet)	San Diego MHCP Oceanside Subarea	Potential to Occur[2]
Reptiles					
Actinemys pallida	southwestern pond turtle	FPT/SSC	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter	Covered	High potential to occur. Suitable habitat is present within the San Luis Rey River corridor in the southern part of the study area.
Thamnophis sirtalis ssp.	south coast garter snake	None/SSC	Marsh and upland habitats near permanent water and riparian vegetation	None	High potential to occur. Suitable habitat is present within the San Luis Rey River corridor in the southern part of the study area.
Birds					
Accipiter cooperii (nesting)	Cooper's hawk	None/WL	Nests and forages in dense stands of live oak, riparian woodlands, or other woodland habitats often near water	Covered	High potential to occur. Suitable nesting and foraging habitat is present within the San Luis Rey River corridor in the southern part of the study area.
Agelaius tricolor (nesting colony)	tricolored blackbird	BCC/SSC, ST	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberry; forages in grasslands, woodland, and agriculture	None	Low potential to occur. Marginal nesting habitat is present within riparian scrub in the study area.
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	None/WL	Nests and forages in open coastal scrub and chaparral with low cover of scattered scrub interspersed with rocky and grassy patches	Covered	Moderate potential to occur. Suitable coastal sage scrub habitat is present within the study area.

Table 3. Special-Status Wildlife Species with a Moderate to High Potential to Occur in the Study Area and Listed Species with a Low Potential to Occur

Scientific Name	Common Name	Status (Federal/ State)[1]	Primary Habitat Associations/Life Form/Blooming Period/Elevation Range (feet)	San Diego MHCP Oceanside Subarea	Potential to Occur[2]
Coccyzus americanus occidentalis (nesting)	western yellow-billed cuckoo	FT/SE	Nests in dense, wide riparian woodlands and forest with well-developed understories	None	Moderate potential to occur. Suitable riparian habitat is present and the species was documented approximately 5.25 miles to the northwest within the San Luis Rey River riparian corridor in 2011 (CDFW 2025a).
Empidonax traillii extimus (nesting)	southwestern willow flycatcher	FE/SE	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration	Covered	High potential to occur. Suitable nesting habitat and USFWS designated critical habitat is present within the San Luis Rey River riparian corridor in the southern part of the study area, and species was documented less than 0.25 miles from the study area in 2008 (CDFW 2025a).
Icteria virens (nesting)	yellow-breasted chat	None/SSC	Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush	Covered	High potential to occur. Suitable nesting habitat is present within the San Luis Rey River riparian corridor in the southern part of the study area, and species was documented within the study area in 2003 (CDFW 2025a).
Polioptila californica californica	coastal California gnatcatcher	FT/SSC	Nests and forages in various sage scrub communities, often dominated by California sagebrush and buckwheat; generally avoids	Covered	Low potential to occur. While coastal sage scrub habitat is present, it is marginal and isolated from larger blocks of continuous habitat

Table 3. Special-Status Wildlife Species with a Moderate to High Potential to Occur in the Study Area and Listed Species with a Low Potential to Occur

Scientific Name	Common Name	Status (Federal/ State)[1]	Primary Habitat Associations/Life Form/Blooming Period/Elevation Range (feet)	San Diego MHCP Oceanside Subarea	Potential to Occur[2]
			nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 feet above mean sea level		needed by this species. CNDDB records are present within the vicinity of the study area, but are generally from over 20 years ago and appear to be documented before these areas were developed (CDFW 2025a).
Setophaga petechia (nesting)	yellow warbler	None/SSC	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats	None	Moderate potential to occur. Suitable nesting habitat is present and species was documented within study area in 2003 (CDFW 2025a).
Vireo bellii pusillus (nesting)	least Bell's vireo	FE/SE	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season	Covered	High potential to occur. USFWS designated critical habitat (USFWS 2025a) is present within the study area and the species was documented within the study area in 2013 (CDFW 2025a).
Mammals					
Antrozous pallidus	pallid bat	None/SSC	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees	None	Moderate potential to occur. Trees and man-made structures for roosting are present within the study area. However, no trees or structures are expected to be felled within the project area.
Corynorhinus townsendii	Townsend's big-eared bat	None/SSC	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas;	None	Moderate potential to occur. Trees and man-made structures for roosting, as well as riparian habitat, are present within the

Table 3. Special-Status Wildlife Species with a Moderate to High Potential to Occur in the Study Area and Listed Species with a Low Potential to Occur

Scientific Name	Common Name	Status (Federal/ State)[1]	Primary Habitat Associations/Life Form/Blooming Period/Elevation Range (feet)	San Diego MHCP Oceanside Subarea	Potential to Occur[2]
			roosts in limestone caves and lava tubes, man-made structures, and tunnels		study area. However, no trees or roosting structures are expected to be felled within the project area.
Dipodomys stephensi	Stephens' kangaroo rat	FT/ST	Annual and perennial grassland habitats, coastal scrub or sagebrush with sparse canopy cover, or in disturbed areas	Covered	Low potential to occur. While coastal sage scrub habitat is present within the study area, it is marginal and isolated from larger continuous blocks of habitat.
Eumops perotis californicus	western mastiff bat	None/SSC	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels	None	Moderate potential to occur. Trees and man-made structures for roosting are present within the study area. However, no trees or roosting structures are expected to be felled within the project area.
Lepus californicus bennettii	San Diego black-tailed jackrabbit	None/ None	Arid habitats with open ground; grasslands, coastal scrub, agriculture, disturbed areas, and rangelands	Covered	Moderate potential to occur. Suitable habitat is present within the study area.
Invertebrates					
Bombus crotchii	Crotch's bumble bee	None/SCE	Open grassland and scrub communities supporting suitable floral resources.	None	Moderate potential to occur. Suitable foraging habitat is present within the study area.

Notes: CNDDB = California Natural Diversity Database.

[1] **Status Designations**

Federal

BCC: USFWS Bird of Conservation Concern

FPT: Federally proposed for listing as threatened

FT: Federally listed as threatened

State

SCE: State candidate for listing as endangered

SE: State listed as endangered

SSC: California Species of Special Concern (CDFW 2025f)
ST: State listed as threatened
WL: CDFW Watch List species

Cooper's Hawk

Cooper's hawk is a CDFW Watch List species and a covered species under the North County MHCP/Oceanside Subarea Plan. It occurs in areas with dense stands of live oak, riparian habitat, or other forest habitats near water.

This bird is relatively common year-round in the Project vicinity, and suitable nesting habitat exists within the San Luis Rey River riparian corridor where it passes through the study area. This species has a high potential to occur within the riparian habitat of the study area.

Southern California Rufous-Crowned Sparrow

Southern California rufous-crowned sparrow is a CDFW Watch List species and a covered species North County MHCP/Oceanside Subarea Plan. It is a species that occupies moderate to steep hillsides that are rocky, grassy, or covered by coastal scrub or chaparral. This species is not expected to occur within the project impact area but has a moderate potential to occur within the coastal sage scrub habitat in the study area.

Western Yellow-Billed Cuckoo

Western yellow-billed cuckoo is listed as a federally threatened and state endangered species. It is a species that nests in dense, wide riparian woodlands and forest with well-developed understories. Potentially suitable habitat is present for this species within the San Luis Rey River riparian corridor in the southern part of the study area, and it was documented within the San Luis Rey River approximately 5 miles upstream in 2011. This species has a moderate potential to occur within the riparian vegetation in the study area.

Southwestern Willow Flycatcher

Southwestern willow flycatcher is listed as both state- and federally endangered and a covered species under the North County MHCP/Oceanside Subarea Plan. Southwestern willow flycatcher is a riparian-obligate species restricted to complex streamside vegetation. Suitable nesting habitat is present for this species within the San Luis Rey River riparian corridor in the southern part of the study area, and species was documented less than 0.25 miles from the study area in 2008. USFWS-designated Critical Habitat for the species is present within the San Luis Rey River corridor within the study area. This species has a high potential to occur within the riparian vegetation in the study area.

Yellow-Breasted Chat

Yellow-breasted chat is a California Species of Special Concern for nesting and a covered species under the North County MHCP/Oceanside Subarea Plan. In California, it is associated with early successional riparian thickets and riparian woodlands with a dense understory for nesting. Suitable nesting habitat is present within the San Luis Rey River riparian corridor in the southern part of the study area. This species has a high potential to occur within the riparian vegetation in the study area.

Yellow Warbler

Yellow warbler is a California Species of Special Concern. It breeds commonly in riparian thickets and woodlands in the region. Suitable nesting habitat is present within the San Luis Rey River riparian corridor in the southern part of the study area. This species has a moderate potential to occur within the riparian vegetation in the study area.

Least Bell's Vireo

Least Bell's vireo is listed as both a state- and federally endangered species and a covered species under the North County MHCP/Oceanside Subarea Plan. Least Bell's vireo nesting habitats in cismontane and coastal areas include southern willow scrub, mulefat scrub, arroyo willow riparian forest edge, wild blackberry thickets, and, more rarely, cottonwood forest, sycamore alluvial woodland, and southern coast live oak riparian forest. Suitable nesting habitat is present within the San Luis Rey River riparian corridor in the southern part of the study area. Furthermore, this species was documented within the study area in 2013, and USFWS-designated Critical Habitat for this species overlaps the study area. As such, there is high potential for this species to occur within the study area.

Tricolored Blackbird

Tricolored blackbird is listed as a state threatened species and is a USFWS Bird of Conservation Concern and CDFW Species of Special Concern. Tricolored blackbird usually breeds in freshwater marshes with dense growths of vegetation dominated by cattails or bulrushes, but breeding colonies also occur in willows, blackberries, thistles, and nettles. Marginal nesting habitat is present within the riparian scrub of the study area, and this species has a low potential to occur there.

Coastal California Gnatcatcher

Coastal California gnatcatcher is federally listed as threatened, a California Species of Special Concern and a covered species under the North County MHCP/Oceanside Subarea Plan. Coastal California gnatcatcher generally prefers open sage scrub habitats with California sagebrush as a dominant or co-dominant species. Nest placement is typically in areas with less than 40% slope gradient (Mock 2004).

While coastal sage scrub habitat is present, it is marginal and isolated from larger blocks of continuous habitat needed by this species. California Natural Diversity Database records are present within the vicinity of the study area but are from over 20 years ago and appear to be documented before these areas were developed. Therefore, this species has a low potential to occur within coastal sage scrub vegetation in the study area.

5.3.2 Wildlife Corridors and Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Corridors can also be aquatic resources that provide passage for fish. Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation; they may be continuous habitat or discrete habitat islands that function as steppingstones for wildlife dispersal.

On a regional level, the study area does not occur within any designated wildlife corridors or habitat linkages identified in the South Coast Missing Linkages analysis conducted by South Coast Wildlands (2008) or CDFW's

California Essential Habitat Connectivity Project (Spencer et al. 2010), as shown in the CDFW Biogeographic Information and Observation System (CDFW 2025b).

The San Luis Rey River Valley is identified as a hardline Preserve in the Oceanside Subarea Plan as well as the MHCP to allow for east-west wildlife movement. Wildlife movement, including fish, could occur in the riparian corridor associated with the San Luis Rey River, which is present within the southern portion of the study area. However, only a very small portion of the project site is associated with natural habitats within the San Luis Rey River (0.08 acres of mulefat scrub). Additionally, this impacted portion of the San Luis Rey River is located on the outer edge of the river channel directly adjacent to North River Road and it is anticipated that wildlife using this corridor would easily be able to avoid this small area by moving farther into the riparian vegetation present.

On a local level, the study area does not have any portions of the San Luis Rey River that would provide fish passage. The study area only contains riparian habitat associated with the San Luis Rey River.

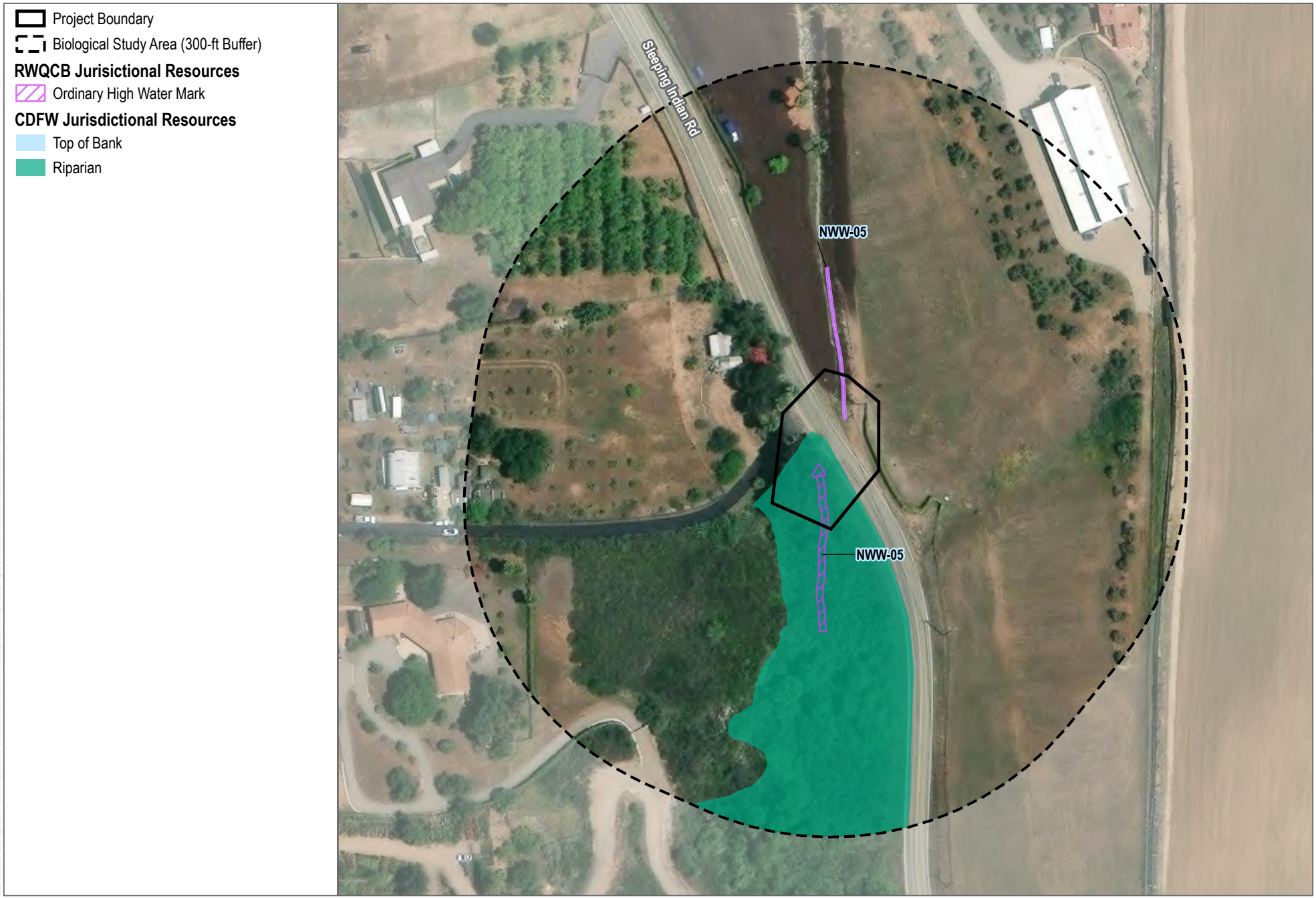
5.4 Jurisdictional Wetlands and Waters

A formal jurisdictional delineation was conducted and results are included in Appendix E, Aquatic Resources Delineation Report. Five potential jurisdictional resources were identified within the project site during the aquatic resources delineation survey (Figure 5). Tables 4, 5, and 6 below outline potential RWQCB, CDFW, and USACE jurisdictional resources. Acreages presented in Tables 4 and 5 were calculated based on the project footprint plus a 100-foot buffer study area used for the delineation.

Table 4. RWQCB Aquatic Resource Summary for the Study Area

Feature Name	Location (Latitude/Longitude; Decimal Degrees)	Acreage/Linear Feet[1]
Non-Wetland Waters		
NWW-01	33.25909561, -117.2703598	0.01/373
NWW-02	33.25960771, -117.2657312	0.01/275
NWW-03[2]	33.25964266, -117.2659161	0.00/0
NWW-04	33.2599545, -117.2641418	0.03/503
NWW-05	33.26893324, -117.2631853	0.03/305
San Luis Rey River	33.259889, -117.264282	2.60/2,021
	Total	**2.68/3,630**

Notes: RWQCB = Regional Water Quality Control Board; NWW = non-wetland water.
1 Totals may not sum due to rounding.
2 NWW-03 is contiguous with the San Luis Rey River.



SOURCE: Esri World Imagery; Open Street Map 2023

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FIGURE 5a

Potential Jurisdictional Aquatic Resources - USACE/RWQCB/CDFW - Culvert #1

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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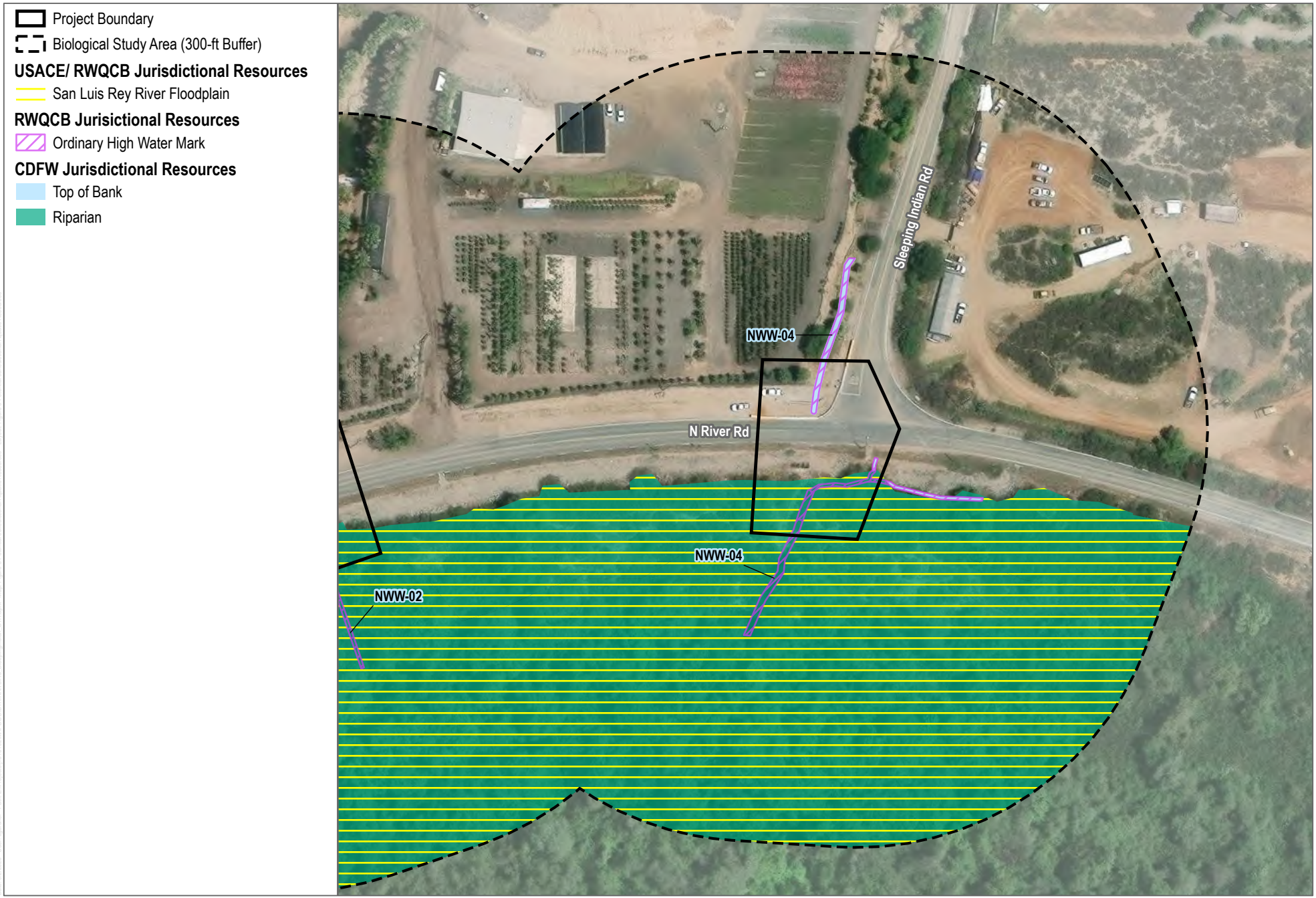

SOURCE: Esri World Imagery; Open Street Map 2023

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FIGURE 5b

Potential Jurisdictional Aquatic Resources - USACE/RWQCB/CDFW - Culvert #2

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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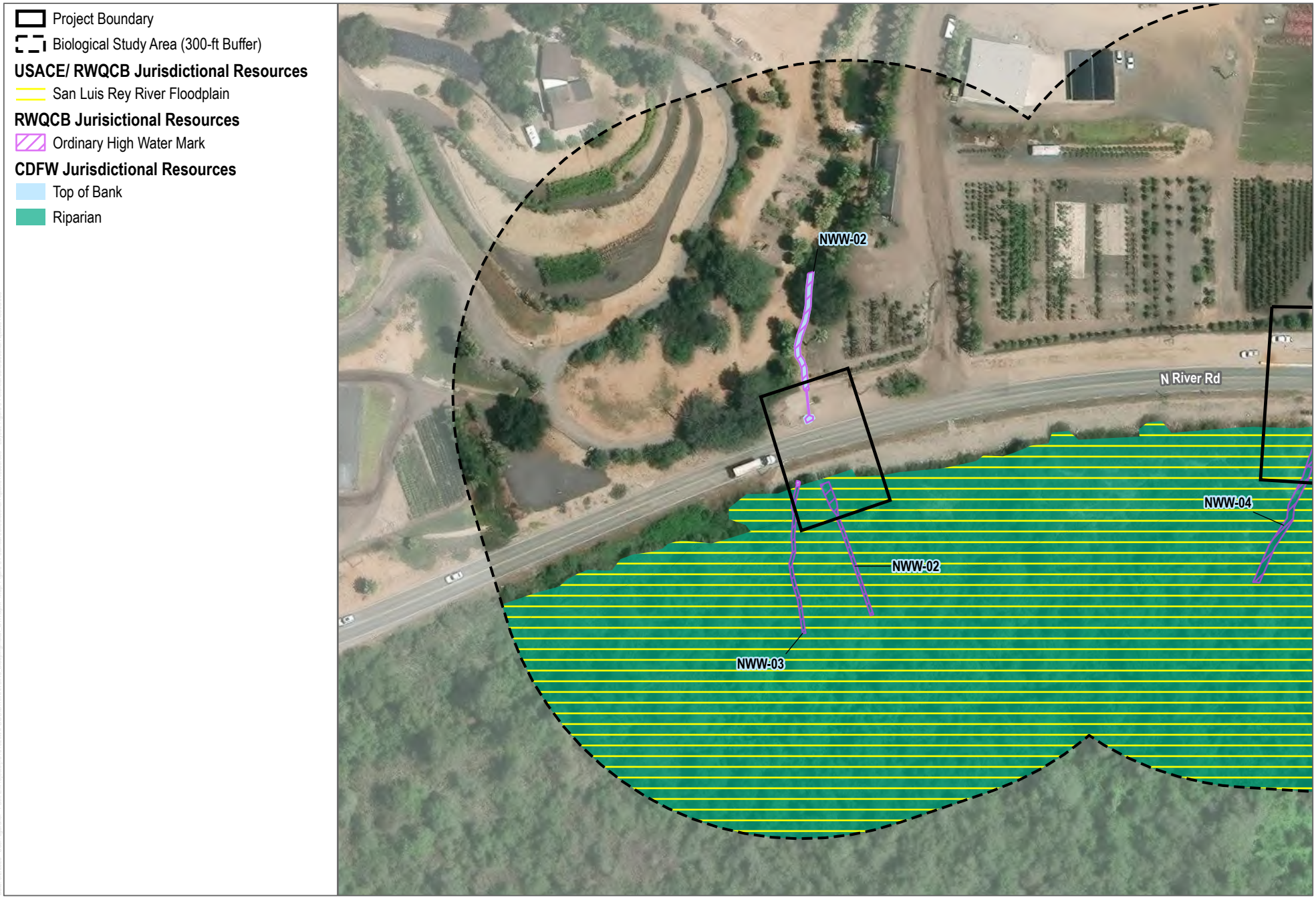

SOURCE: Esri World Imagery; Open Street Map 2023

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FIGURE 5c

Potential Jurisdictional Aquatic Resources - USACE/RWQCB/CDFW - Culvert #3

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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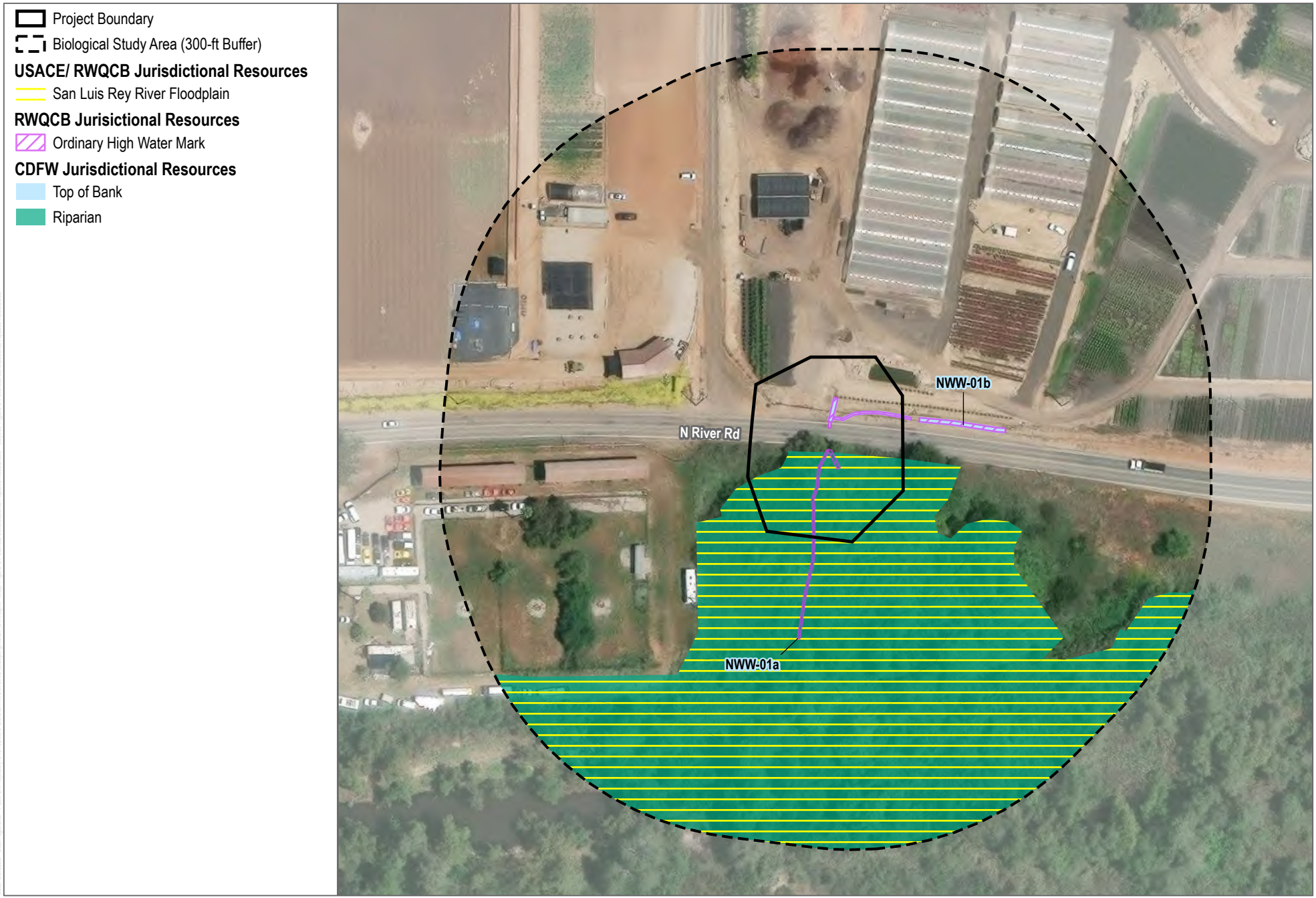

SOURCE: Esri World Imagery; Open Street Map 2023

FIGURE 5d

Potential Jurisdictional Aquatic Resources - USACE/RWQCB/CDFW - Culvert #4

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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Table 5. CDFW Aquatic Resource Summary for the Study Area

Feature Name	Location (Latitude/Longitude; Decimal Degrees)	Acreage
Streambed and Bank		
NWW-01	33.25909561, -117.2703598	0.04
NWW-02	33.25960771, -117.2657312	0.05
NWW-03	33.25964266, -117.2659161	0.01
NWW-04	33.2599545, -117.2641418	0.08
NWW-05	33.26893324, -117.2631853	0.04
	Streambed and Bank Subtotal	*0.22*
Riparian		
Mule Fat Scrub	33.25909629, -117.2703182	1.59
Southern Riparian Scrub	33.26883944, -117.2632229	0.12
Southern Arroyo Willow Riparian Forest	33.25961941, -117.2657727	1.02
Non-Native Riparian	33.26900083, -117.2631734	0.24
	Riparian Subtotal	*2.96*
	Grand Total	**3.18[1]**

Notes: CDFW = California Department of Fish and Wildlife; NWW = non-wetland water.
[1] Totals may not sum due to rounding.

Table 6. USACE Aquatic Resource Summary for the Study Area

Feature Name	Strahler Stream Order	Cowardin Code[1]	OHWM Indicators	Location (Latitude/ Longitude; Decimal Degrees)	Acres/Linear Feet
Non-Wetland Waters					
San Luis Rey River	4	R5UBF	None in study area	33.259889°, -117.264282°	2.60/2,021

Notes: USACE = U.S. Army Corps of Engineers; OHWM = ordinary high water mark.
[1] Pursuant to Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979) and USACE Cowardin Codes for ORM Data Entry (USACE 2025).

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6 Project Impacts

This chapter addresses direct and indirect impacts to biological resources that would result from implementation of the proposed project.

6.1 Definition of Impacts

6.1.1 Direct Permanent Impacts

Direct permanent impacts refer to the absolute and permanent physical loss of a biological resource due to clearing, grading, and/or construction of structures, which can be determined in four ways: (1) permanent loss of vegetation communities, land covers, and general wildlife and their habitat; (2) permanent loss of or harm to individuals of special-status plant and wildlife species; (3) permanent loss of suitable habitat for special-status species; and (4) permanent loss of wildlife movement and habitat connectivity.

6.1.2 Direct Temporary Impacts

Direct temporary impacts refer to a temporal loss of vegetation communities and land covers resulting from vegetation and land cover clearing. The main criterion for direct temporary impacts is that impacts would occur for a short period of time and would be reversible.

6.1.3 Indirect Impacts

Indirect impacts are reasonably foreseeable effects caused by project implementation on remaining or adjacent biological resources outside the direct construction disturbance zone that may occur during construction (i.e., short-term, construction-related indirect impacts) or later in time as a result of the development (i.e., long-term, or operational, indirect impacts). Indirect impacts may affect areas within the defined study area but outside the construction disturbance zone. Indirect impacts include short-term effects immediately related to construction activities and long-term or chronic effects related to the human occupation of developed areas (i.e., development-related, long-term effects) that are adjacent to naturalized areas.

For the proposed project, it is assumed that the potential indirect impacts resulting from construction activities include fugitive dust from earthmoving activities, accidental leaks or spills from construction equipment, noise from construction activities, and general human presence that may temporarily disrupt species and habitat vitality, as well construction-related soil erosion and runoff that could affect downstream resources.

6.1.4 Explanation of Findings of Significance

Impacts to sensitive vegetation communities or riparian habitat, special-status plant species, special-status wildlife species, wildlife corridors and habitat connectivity, and regional resource planning must be analyzed to determine whether such impacts are significant. CEQA Guidelines Section 15064(b) states that an ironclad definition of "significant" effect is not possible because the significance of an activity may vary with the setting. However, CEQA Guidelines Section 15065(a) lists impacts that are helpful in defining whether a project may have a significant effect on the environment. Mandatory findings of significance occur when there is substantial evidence that a

project could (1) substantially degrade the quality of the environment, (2) substantially reduce the habitat of a fish or wildlife species, (3) cause a fish or wildlife population to drop below self-sustaining levels, (4) threaten to eliminate a plant or animal community, or (5) reduce the number or restrict the range of a rare or endangered plant or animal.

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

Impact BIO-1	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service
Impact BIO-2	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service
Impact BIO-3	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means
Impact BIO-4	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impedes the use of native wildlife nursery sites
Impact BIO-5	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
Impact BIO-6	Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan

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

6.2 Impact BIO-1: Special-Status Species

Direct Impacts

Special-Status Plants

Direct impacts to special-status plant species are not expected, as the areas where direct impacts will occur primarily consist of hardscape or riprap, and in the natural areas where direct impacts will occur, no special-status plant species were detected. As such, there would be **no impact.**

Special-Status Wildlife

Fourteen special-status species have a moderate to high potential to occur within the study area and are listed as follows: South coast garter snake, southwestern pond turtle, Cooper's hawk, Southern California rufous-crowned sparrow, western yellow-billed cuckoo, southwestern willow flycatcher, yellow-breasted chat, yellow warbler, least Bell's vireo, pallid bat, Townsend's big-eared bat, western mastiff bat, San Diego black-tailed jackrabbit, and Crotch's bumble bee. Four federally or state-listed wildlife species have a low potential to occur within the study area but were included in this analysis due to their listing, and are listed as follows: western spadefoot, tricolored blackbird, coastal California gnatcatcher, and Stephens' kangaroo rat.

All of the aforementioned species have potential to occur within coastal sage scrub habitat or riparian communities which are present within the study area. However, within the impact area, land covers consist of developed or disturbed areas, with the exception of 0.08 acres of mule fat scrub habitat on the south side of North River Road, in the western part of the project area. As such, it is not anticipated that there will be any direct impacts to special-status wildlife from implementation of the project, and any that do occur would be reduced to **less than significant with mitigation incorporated** with the implementation of **Mitigation Measure (MM) BIO-1** (Minimize Construction-Related Indirect Impacts to Biological Resources)**.**

While no significant direct impacts are expected to special-status wildlife, there is the potential for indirect impacts to special-status birds within the study area, which are discussed in further detail below.

Indirect Impacts

Special-Status Plants

Construction-Related Indirect Impacts

Potential short-term or temporary indirect impacts to special-status plant species resulting from construction activities include inadvertent spillover impacts, including unintentional clearing, trampling, or grading outside of the Project footprint; generation of fugitive dust; changes in hydrology resulting from construction, including sedimentation and erosion; and the release of chemical pollutants. These potential construction-related indirect impacts to special-status plant species would be potentially significant absent mitigation.

Project implementation of **MM-BIO-1** would reduce potential indirect impacts to a less-than-significant level by requiring delineation of Project boundaries, implementation of standard dust control measures, development of a stormwater pollution prevention plan (SWPPP), and servicing of all vehicles and equipment in designated staging

areas. Additionally, implementation of **MM-BIO-2** (Biological Monitoring) would reduce potential indirect impacts to a less than-significant level by requiring implementation of biological monitoring and a Worker Environmental Awareness Program Training. With implementation of MM-BIO-1 and MM-BIO-2, construction-related indirect impacts to special-status plant species would be minimized to **less than significant with mitigation incorporated.**

Special-Status Wildlife

Project development has the potential to result in indirect impacts to special-status wildlife.

Potential indirect impacts to special-status wildlife resulting from construction activities include the release of chemical pollutants; generation of fugitive dust, vibration, and increased human presence; and nighttime lighting. Additionally, adverse effects from noise could result from project construction activities, which has the potential to disrupt foraging, nesting, and reproductive activities of special-status birds such as Cooper's hawk, Southern California rufous-crowned sparrow, western yellow-billed cuckoo, southwestern willow flycatcher, yellow-breasted chat, yellow warbler, least Bell's vireo, tricolored blackbird, and coastal California gnatcatcher.

These potential construction-related indirect impacts to special-status wildlife would be potentially significant absent mitigation.

Project implementation of MM-BIO-1 and MM-BIO-2 would help to reduce potential indirect impacts to a less-than-significant level through delineation of Project boundaries, development of a SWPPP, implementation of standard dust control measures, requirement that all vehicles and equipment be serviced in designated staging areas, mandating that construction will not be conducted at night, biological monitoring, and requirement of a Worker Environmental Awareness Training. Additionally, potential noise impacts to nesting birds would be avoided and minimized through implementation of **MM-BIO-3** (Nesting Bird Surveys), which requires a nesting bird survey to be conducted within the project area and a 500-foot buffer 72 hours prior to any construction activities should work be conducted during the breeding season, and the implementation of appropriate disturbance avoidances buffers for any active nests.

Implementation of MM-BIO-1 through MM-BIO-3 would reduce construction-related indirect impacts to special-status wildlife to **less than significant with mitigation incorporated.**

6.3 Impact BIO-2: Riparian Habitat and Sensitive Communities

Direct Impacts

Five sensitive vegetation communities were identified within the study area: southern arroyo willow riparian forest, disturbed southern riparian scrub, mulefat scrub, Diegan coastal sage scrub, and non-vegetated channel or floodway.

There is potential for direct impacts to 0.37 acres of mulefat scrub in the southern portion of the work area; however, it would be limited to the minimal extent of vegetation removal needed to complete construction activities. Given how small the area of mulefat scrub to potentially be impacted is, the incremental loss of the habitat on the project site would not be expected to diminish the abundance of these habitats on a regional level. Additionally, Project implementation of MM-BIO-1 and MM-BIO-2 would help to further reduce potential direct impacts to special-

status vegetation communities through delineation of Project boundaries, biological monitoring, and requirement of a Worker Environmental Awareness Training,

The proposed project would result in permanent direct impacts to agriculture, urban/developed, disturbed habitat, mulefat scrub, and non-native riparian. These impacts are summarized in Table 7 and their spatial distributions are shown in Figure 6.

Table 7. Impacts to Vegetation Communities

Vegetation Community/Land Cover Type	Proposed Impacts (Acres)	Total Within Study Area (Acres)[1]	Mitigation	
			Minimum Mitigation Ratio	Mitigation Required (Acres)
Agriculture	0.01	11.12	None	0.00
Urban/Developed	0.10	3.86	None	0.00
Disturbed Habitat	0.01	1.93	None	0.00
Mulefat Scrub	0.08	2.01	1:1	0.08
Non-Native Riparian	0.02	0.19	1:1	0.02
Total[1]	**0.22**	**19.11**	**N/A**	**0.10**

Notes: N/A = not applicable.
[1] Acreages may not sum precisely due to rounding.

Impacts to mulefat scrub require mitigation, per Table 5-2, Mitigation Standards for Impacts to Natural Vegetation and Habitat, in the Oceanside Subarea Plan (City of Oceanside 2010). The impacted mulefat scrub is also entirely contained within CDFW jurisdiction and is considered riparian vegetation. Permanent impacts to mulefat scrub are considered a potentially significant impact per the Oceanside Subarea Plan. The permanent loss of this vegetation community would be mitigated to less than significant with the implementation of **MM-BIO-4** (Compensation for Unavoidable Loss of Aquatic Resources). Impacts will be mitigated at a minimum of a 1:1 ratio with establishment or re-establishment for impacts on aquatic resources as a part of an overall strategy to ensure no net loss. If establishment or re-establishment mitigation is not available, a higher ratio may be needed to achieve no net loss. Final mitigation ratios and credits will be a minimum of 1:1 and determined in consultation with USACE, RWQCB, and/or CDFW based on agency evaluation of current resource functions and values and through each agency's respective permitting process.

Direct impacts to sensitive vegetation communities would be mitigated to a level below significant with implementation of MM-BIO-1, MM-BIO-2, and MM-BIO-4. Therefore, direct impacts to riparian habitat and sensitive vegetation communities would be **less than significant with mitigation incorporated**.

Indirect Impacts

Potential short-term indirect impacts to special-status vegetation communities in the study area would primarily result from construction activities and include impacts related to or resulting from the generation of fugitive dust, increased human activity, and the introduction of pollutants from construction equipment. Excessive dust can decrease the vigor and productivity of vegetation through effects on light, penetration, photosynthesis, respiration, and transpiration; increased penetration of phytotoxic gaseous pollutants; and increased incidence of pests and diseases. Erosion and chemical pollution (releases of fuel, oil, lubricants, paints, release agents, and other

project-related materials) may affect special-status vegetation communities. The use of chemical pollutants can decrease the number of plant pollinators, increase the existence of non-native plants, and cause damage to and destruction of native plants. These potential short-term, construction-related indirect impacts could affect the special-status vegetation communities in the study area.

Project implementation of **MM-BIO-1** and **MM-BIO-2** would help to reduce potential indirect impacts to special-status vegetation communities a less-than-significant level through delineation of Project boundaries, development of a SWPPP, implementation of standard dust control measures, requirement that all vehicles and equipment be serviced in designated staging areas, mandating that construction will not be conducted at night, biological monitoring and requirement of a Worker Environmental Awareness Training,

Implementation of **MM-BIO-1** and **MM-BIO-2** would reduce construction-related indirect impacts to special-status vegetation communities to **less than significant with mitigation incorporated.**

SOURCE: Esri World Imagery; Open Street Map 2023

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FIGURE 6a

Impacts to Biological Resources - Culvert #1

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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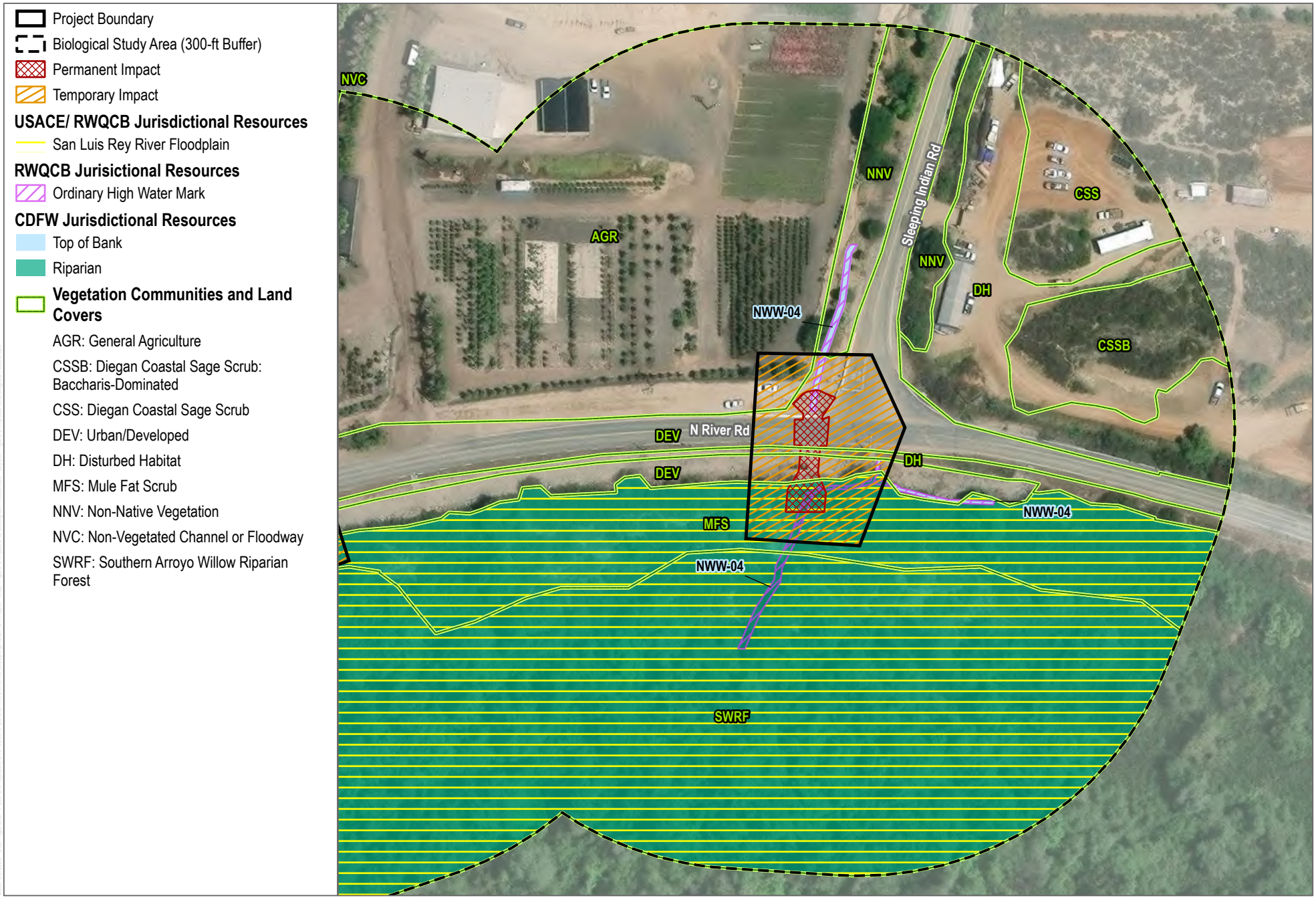

SOURCE: Esri World Imagery; Open Street Map 2023

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FIGURE 6b

Impacts to Biological Resources - Culvert #2

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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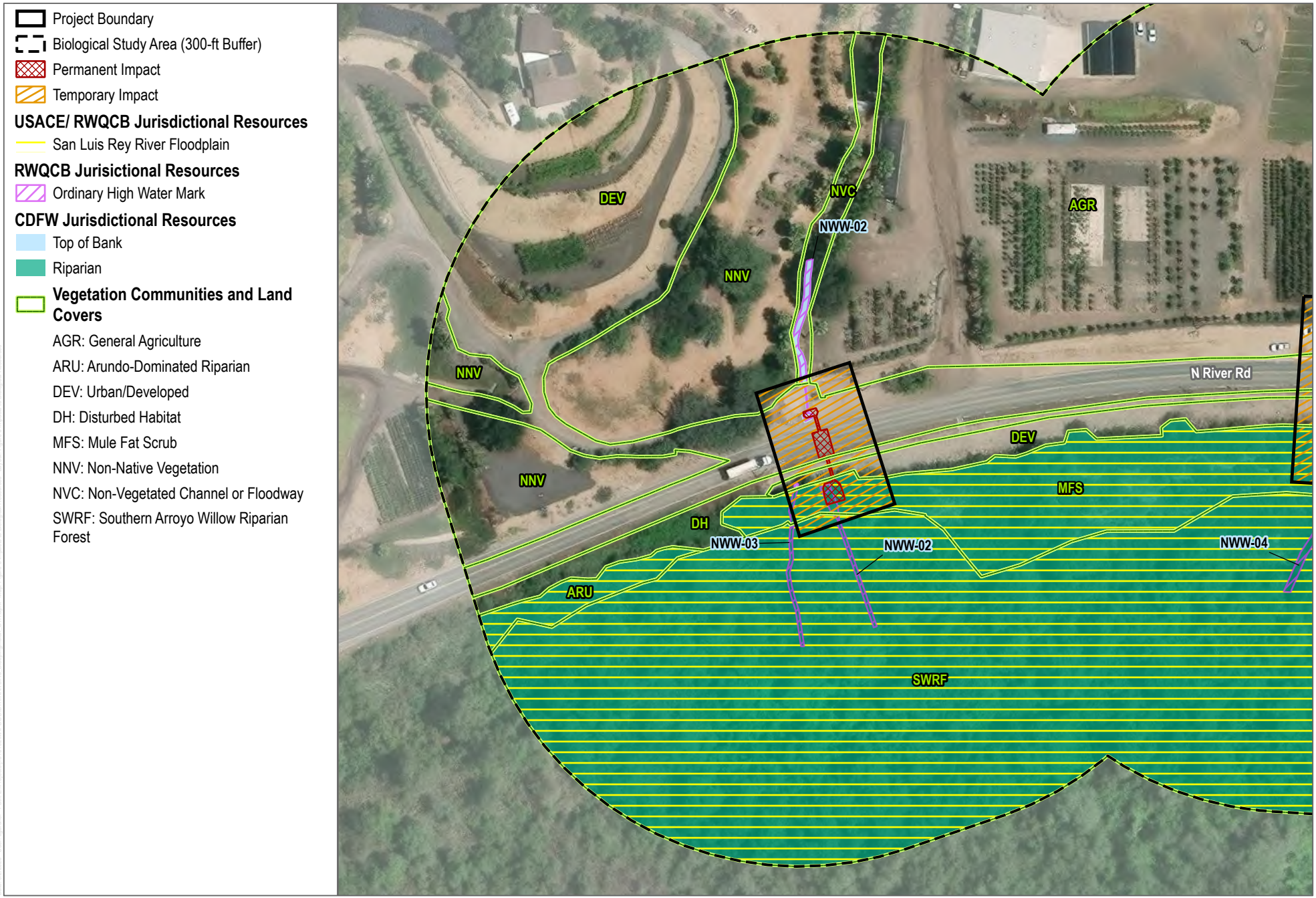

SOURCE: Esri World Imagery; Open Street Map 2023

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FIGURE 6c

Impacts to Biological Resources - Culvert #3

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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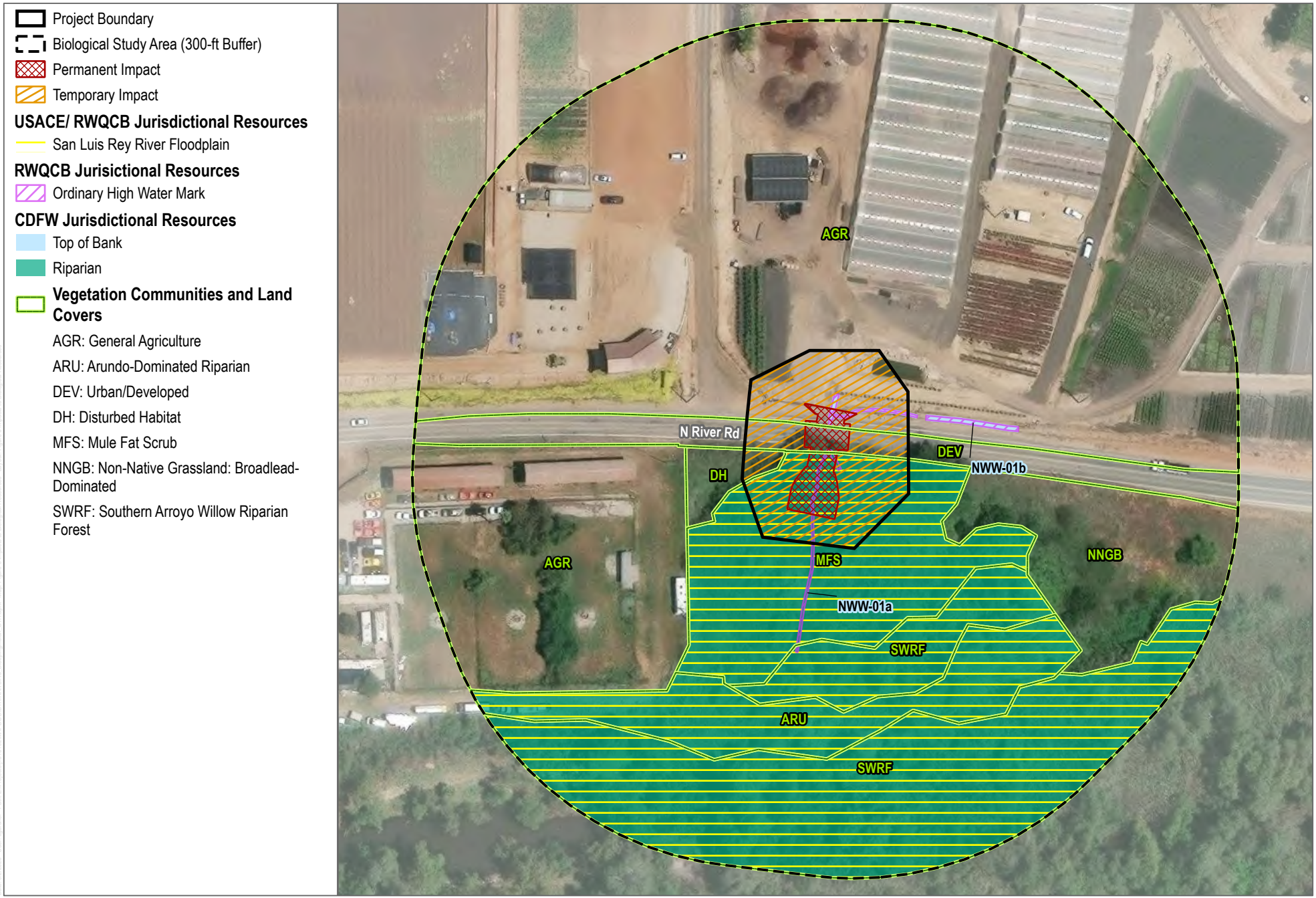

SOURCE: Esri World Imagery; Open Street Map 2023

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FIGURE 6d

Impacts to Biological Resources - Culvert #4

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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6.4 Impact BIO-3: Jurisdictional Wetlands and Waters

Direct Impacts

The Proposed Project would result in direct permanent and temporary impacts to the jurisdictional resources summarized in Tables 4, 5, and 6. These impacts shown in Figure 7 and summarized in Tables 8, 9, and 10.

Direct impacts to state protected aquatic resources would be reduced to a less than significant level through incorporation of MM-BIO-4, which requires consultation with agency staff to ensure no net loss of regulated aquatic resources. Following implementation of MM-BIO-4, direct impacts to jurisdictional wetlands and waters would be **less than significant with mitigation incorporated**.

Table 8. Impacts to RWQCB Aquatic Resources

Feature Name	Total Acreage Within the Study Area	Temporarily Impacted Acres	Permanently Impacted Acres
Non-Wetland Waters			
NWW-01	0.02	0.005	0.006
NWW-02	0.03	0.004	0.004
NWW-03[1]	0.01	0.002	0.000
NWW-04	0.05	0.015	0.007
NWW-05	0.03	0.006	0.005
San Luis Rey River	0.01	0.002	0.000
Total	**0.14**	**0.032**	**0.022**

Notes: USACE = U.S. Army Corps of Engineers; RWQCB = Regional Water Quality Control Board.
Totals may not add up due to rounding.
[1] NWW-03 is contiguous with the San Luis Rey River

Table 9. Impacts to CDFW Aquatic Resources

Feature Name	Total Acreage Within the Study Area	Temporarily Impacted Acres	Permanently Impacted Acres
Streambed and Bank			
NWW-01	0.04	0.003	0.006
NWW-02	0.05	0.011	0.004
NWW-03	0.01	0.002	0.000
NWW-04	0.08	0.015	0.007
NWW-05	0.04	0.013	0.005
Total	*0.22*	*0.044*	*0.022*
Riparian			
Mule Fat Scrub	1.59	0.353	0.076
Southern Riparian Scrub	0.12	0.000	0.000
Southern Arroyo Willow Riparian Forest	1.02	0.013	0.000
Non-Native Riparian	0.24	0.081	0.017

Table 9. Impacts to CDFW Aquatic Resources

Feature Name	Total Acreage Within the Study Area	Temporarily Impacted Acres	Permanently Impacted Acres
Riparian Subtotal	*2.96*	*0.447*	*0.093*
Grand Total	**3.18**	**0.491**	**0.115**

Notes: CDFW = California Department of Fish and Wildlife; NWW = non-wetland water.
Totals may not add up due to rounding.

Table 10. Impacts to USACE Aquatic Resources (Non-Wetland Waters)

Feature Name	Total Acreage Within the Study Area	Temporarily Impacted Acres	Permanently Impacted Acres
San Luis Rey River Floodplain	2.60	0.37	0.76
Total	**2.60**	**0.37**	**0.76**

Figure 7a Impacts to Jurisdictional Resources

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Figure 7b Impacts to Jurisdictional Resources

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Figure 7c Impacts to Jurisdictional Resources

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Figure 7d Impacts to Jurisdictional Resources

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Indirect Impacts

Potential temporary indirect impacts could result from construction activities and would include impacts from the generation of fugitive dust and the potential introduction of chemical pollutants (including herbicides). Excessive dust can decrease the vigor and productivity of vegetation through effects on light, penetration, photosynthesis, respiration, and transpiration; increased penetration of phytotoxic gaseous pollutants; and increased incidence of pests and diseases. Erosion and chemical pollution (releases of fuel, oil, lubricants, paints, release agents, and other construction materials) may affect wetlands/jurisdictional waters. The release of chemical pollutants can reduce the water quality downstream and degrade adjacent habitats. However, during construction, erosion-control measures would be implemented as part of the stormwater pollution prevention plan for the project. Prior to the start of construction activities, the contractor is required to file a Permit Registration Document with the State Water Resources Control Board in order to obtain coverage under the National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2022-0057-DWQ, NPDES No. CAS000002) or the latest approved general permit. This permit is required for earthwork that results in the disturbance of 1 acre or more of total land area. The required stormwater pollution prevention plan will mandate the implementation of best management practices to reduce or eliminate construction-related pollutants in the runoff, including sediment. Therefore, temporary indirect impacts would be less than significant due to compliance with regulations.

6.5 Impact BIO-4: Wildlife Corridors and Nurseries

While the study area does not occur within any designated wildlife corridors or habitat linkages identified in the South Coast Missing Linkages analysis conducted by South Coast Wildlands (2008) or CDFW's California Essential Habitat Connectivity Project (Spencer et al. 2010), the San Luis Rey River riparian corridor present in the southern portion of the study area provides for wildlife movement. The area has the potential to provide foraging and nesting habitat for raptors and special-status birds. However, only a very small portion of the project site is associated with natural habitats within the San Luis Rey River (0.08 acres of mulefat scrub). Additionally, this impacted portion of the San Luis Rey River is located on the outer edge of the river channel directly adjacent to North River Road and it is anticipated that wildlife using this corridor would easily be able to avoid this small area by moving farther into the riparian vegetation present. Furthermore, project work is anticipated to take place during the daytime, while most potential wildlife movement within the riparian corridor would be expected to take place during the nighttime. Direct or indirect impacts to wildlife corridors and habitat connectivity would be **less than significant**.

The project would be required to comply with the MBTA and Sections 3503, 3503.5, and 3513 of the California Fish and Game Code by preventing the disturbance of nesting birds during construction activities. This would generally involve clearing a project site of all vegetation outside the nesting season (from September 1 through January 31), or if construction would commence within the nesting season (which generally runs from February 1 through August 31 and as early as February 1 for raptors), conducting a pre-construction nesting bird survey to determine the presence of nesting birds or active nests at a construction site. Any active nests and nesting birds must be protected from disturbance by construction activities through buffers between nest sites and construction activities. The buffer areas may be removed only after the birds have fledged. These requirements are outlined in MM-BIO-3. Compliance with the MBTA and implementation of MM-BIO-2 would ensure that the implementation of the project would not interfere with the nesting of any native bird species. Direct and indirect impacts to nurseries would be **less than significant with mitigation incorporated.**

6.6 Impact BIO-5: Local Policies or Ordinances

City of Oceanside Policy 400-02, Removal of Publicly Owned Trees

The project does not involve removal of publicly owned trees. Therefore, no impact would occur.

6.7 Impact BIO-6: HCP/NCCP

The proposed project is consistent with the requirements of the draft Oceanside Subarea Plan. Specifically, as required in Section 5.3.4 of the Oceanside Subarea Plan, the project will mitigate for impacts to special-status biological resources with mitigation within the Wildlife Corridor Planning Zone or pre-approved Mitigation Areas (City of Oceanside 2010). The proposed project will directly impact 0.08 acres of vegetation communities that would require mitigation under the plan.

These vegetation communities function as a small piece of a larger habitat corridor along the San Luis Rey River. Therefore, mitigation occurring within the riparian corridor of the San Luis Rey River would provide preservation of biologically equivalent or superior habitat, as well as fulfilling the requirements of the Oceanside Subarea Plan for habitat in the Off-Site Mitigation Zone.

Although impacts will occur within the buffer of the San Luis Rey River and the general creek/tributary buffer proposed by the Oceanside Subarea Plan, impacts will occur primarily within agricultural land (0.58 acres), developed land (0.36 acres), and disturbed habitat (0.31 acres). The remaining impacts are to 0.08 acres of mulefat scrub. Impacts within the buffer are required for necessary improvements to City stormwater infrastructure, which is an allowable use and does not fall under one of the three prohibited uses within the buffer (see Section 5.2.4 of the Oceanside Subarea Plan). Because the proposed project would mitigate these direct impacts, the proposed project would not result in a loss of vegetation that is regionally significant; therefore, it would not contribute to a cumulative impact.

A small portion of the project site is within the Agricultural Exclusion Zone north of the San Luis Rey River as defined in Section 5.3.3 of the Oceanside Subarea Plan. Discretionary actions, conversions to nonagricultural uses, or removal of habitat within the Agricultural Exclusion Zone will be subject to the conservation guidelines listed in Section 5.3.3, and to the Citywide conservation policies presented in Section 5.2, of the Oceanside Subarea Plan. Land use within the Agricultural Exclusion Zone will not change as a result of the proposed project. Impacts within the Agricultural Exclusion Zone are limited to a strip of disturbed habitat along the northern shoulder of North River Road and will not disturb or remove any wildlife habitat.

7 Mitigation Measures

There would be potential direct and indirect significant impacts to sensitive vegetation communities, special-status wildlife species, and jurisdictional resources with implementation of the project.

7.1 Minimization and Mitigation Measures

The following mitigation measures shall be implemented during the proposed project to reduce the significant impacts identified in Chapter 6, Project Impacts, to a less-than-significant level. Significant direct and indirect impacts to special-status species, sensitive vegetation communities and jurisdictional resources can be mitigated to less than significant with implementation of the following measures:

MM-BIO-1 Minimize Construction-Related Indirect Impacts to Biological Resources. Prior to issuance of a grading permit, the Project's Applicant/Developer shall include the following in the construction contractor's plans and specifications to address indirect construction-related impacts to special-status species:

- **Delineation of Property Boundaries.** Before beginning activities that would cause impacts, the contractor shall, in consultation with the biological monitor, clearly delineate the boundaries with fencing, stakes, or flags, consistent with the grading plan, within which the impacts will take place. All impacts outside the fenced, staked, or flagged areas shall be avoided, and all fencing, stakes, and flags shall be maintained until the completion of impacts in that area. In addition, any avoided environmental resources shall be clearly delineated. Prior to implementing construction activities, the biological monitor shall verify that the flagging clearly delineates the construction limits and any sensitive environmental resources to be avoided.
- **Standard Dust Control Measures.** Standard dust control measures as per the South Coast Air Quality Management District shall be implemented to reduce dust impacts on nearby conserved lands, plants, and wildlife. Measures include controlling speed to 15 mph or less on unpaved roads, replacing ground cover in disturbed areas as quickly as possible, frequently watering active work sites, installing shaker plates, and suspending excavation and grading operations during periods of high winds.
- **Stormwater Pollution Prevention Plan.** Prior to issuance of a grading permit for construction, the applicant shall submit a stormwater pollution prevention plan (SWPPP) to the City of Oceanside that specifies best management practices to prevent all construction pollutants from contacting stormwater, with the intent of keeping sedimentation or any other pollutants from moving off site and into receiving waters. The requirements of the SWPPP shall be incorporated into design specifications and construction contracts. Best management practices categories employed on site would include erosion control, sediment control, and non-stormwater (good housekeeping).
- **Minimize Spills of Hazardous Materials.** All vehicles and equipment shall be maintained in proper condition to minimize the potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. Hazardous spills and contaminated soil shall be immediately cleaned up and the contaminated soil shall be properly handled or

disposed of at a licensed facility. Servicing of construction equipment shall take place only at a designated staging area.

- **Wildlife Hazards.** The following measures shall be implemented to ensure that wildlife do not become trapped, entangled, injured, or poisoned by construction activities:
  - Structures in which wildlife may become trapped (e.g., open pipes, pits, trenches) shall be tightly covered at the end of each work day. If covering the structure is not possible, an escape ramp shall be provided to allow any wildlife that falls in to safely escape.
  - Debris piles, construction materials, equipment, and other items that may be used as wildlife refuge shall be inspected for wildlife at the start of each work day and prior to disturbance. If wildlife is discovered, it shall either be moved out of harm's way by a qualified biologist or allowed to move off of the study area on its own.
  - Nets and mesh shall be made of loose-weave material that is not fused at the intersections of the weave, as nets with welded weaves present an entanglement risk.
  - Toxic materials and garbage shall be removed from the work site and safely stored or disposed of at the end of each work day.

  Night Work. All short-term construction lighting shall be facing active work areas only and shall be shielded to avoid light spillover and shall be directed away from adjacent open space areas to protect native wildlife from direct lighting. If lighting is required during construction activities that would occur during or after sunset, the lighting fixtures shall be located on the interior of work areas with a minimum of 50-foot buffer from the edge of adjacent open space.

MM-BIO-2 Biological Monitoring. To prevent inadvertent disturbance to areas outside the limits of grading, all project activities with the potential to impact native vegetation shall be monitored by a biologist. The biological monitor(s) shall be contracted to perform biological monitoring during all vegetation removal activities and periodic monitoring during and after vegetation removal when recommended by a Qualified Biologist. The project biologist(s) also shall do the following:

a. Attend the pre-construction meeting with the contractor and other key construction personnel prior to construction activities to reduce conflict between the timing and location of construction activities with other mitigation requirements (e.g., seasonal surveys for nesting birds).
b. The Qualified Biologist shall conduct a training session for all project personnel prior to any construction activities. At a minimum the training shall include a description of the target species of concern, its habitats, the general provisions of the Endangered Species Act (Act) and the MHCP, the need to adhere to the provision of the Act and the MHCP, the penalties associated with violating the provisions of the Act, the general measures that are being implemented to conserve the target species of concern as they relate to the project, and the access routes to and project site boundaries within which the project activities must be accomplished. Prior to clearing and grubbing, the project biologist shall conduct meetings with the contractor and other key construction personnel each morning prior to construction activities to go over the proposed activities for the day, and for the monitor(s) to describe the importance of restricting work to designated areas and of minimizing harm to or harassment of wildlife.

c. Review and/or designate the construction area in the field with the contractor in accordance with the final grading plan prior to activities.

d. Supervise and monitor construction activities weekly to ensure against direct and indirect impacts to biological resources that are intended to be protected and preserved and to document that protective fencing is intact.

e. Flush wildlife species (e.g., reptiles, mammals, avian, and other mobile species) from occupied habitat areas immediately prior to brush-clearing activities. This does not include disturbance to nesting birds (see MM-BIO-3) or "flushing" of federally listed species (i.e., coastal California gnatcatcher).

f. Periodically monitor the construction site to verify that the project is implementing the following stormwater pollution prevention plan best management practices: dust control, silt fencing, removal of construction debris and a clean work area, covered trash receptacles that are animal-proof and weather-proof, prohibition of pets on the construction site, and a speed limit of 15 miles per hour.

g. Periodically monitor the construction site after grading is completed and during the construction phase to see that artificial security light fixtures are directed away from open space and are shielded, and to document that no unauthorized impacts have occurred.

h. If dead or injured federally and/or state-listed species are found on site, the City, CDFW, and/or USFWS will be notified in compliance with applicable laws and regulations.

i. Keep monitoring notes for the duration of project construction for submittal in a final report to substantiate the biological supervision of the vegetation clearing and grading activities and the protection of biological resources.

j. Prepare a monitoring report after construction activities are completed that describes the biological monitoring activities, including a monitoring log; photos of the site before, during, and after the grading and clearing activities; and a list of special-status species observed.

k. Halt work, if necessary, and confer with the City of Oceanside to ensure the proper implementation of special-status species and sensitive resource protection measures.

l. Submit a final report to the City of Oceanside within 60 days of project completion that includes as-built construction drawings with an overlay of habitat that was impacted and avoided, photographs of habitat areas that were to be avoided, and other relevant summary information documenting that authorized impacts were not exceeded and that compliance with all measures was achieved.

DOCUMENTATION: The applicant shall provide a letter of agreement with this condition to the City of Oceanside. **TIMING:** Prior to final grading release. **MONITORING:** The City of Oceanside shall review the concurrence letter.

MM-BIO-3 Nesting Bird Surveys. Construction-related ground-disturbing activities (e.g., clearing/grubbing, grading, and other intensive activities) that occur during the avian breeding season (typically February 1 through September 15) shall require a one-time biological survey for nesting bird species to be conducted within the limits of grading and a 500-foot buffer (where feasible) within 72 hours prior to construction. This survey is necessary to ensure avoidance of impacts to nesting raptors and other birds protected by the federal Migratory Bird Treaty Act and California Fish and

Game Code Sections 3503 and 3513. If any active nests are detected, the area shall be flagged and mapped on the construction plans or a biological resources figure, and the information provided to the construction supervisor and any personnel working near the nest buffer. Active nests shall have avoidance buffers established around them (e.g., 250 feet for passerines to 500 feet for raptors) by the project biologist in the field with brightly colored flagging tape, conspicuous fencing, or other appropriate barriers or signage. The project biologist shall serve as a construction monitor during those periods when construction activities occur near active nest areas to avoid inadvertent impacts to these nests. The project biologist may adjust the 250-foot or 500-foot buffer at their discretion depending on the species and the location of the nest (e.g., if the nest is well protected in an area buffered by dense vegetation). However, if needed, additional qualified monitor(s) shall be provided to monitor active nest(s) or other project activities in order to ensure all of the project biologist's duties are completed. Once the nest is determined by a qualified monitor to be no longer occupied for the season, construction may proceed in the buffer areas.

If construction activities, particularly clearing/grubbing, grading, and other intensive activities, stop for more than 3 days, an additional nesting bird survey shall be conducted within the proposed work area and a 500-foot buffer, where feasible.

DOCUMENTATION: The applicant shall provide a letter of agreement with this condition to the City of Oceanside. **TIMING:** Prior to pre-construction conference and prior to any clearing, grubbing, trenching, grading, or any land disturbances and throughout the duration of the grading, compliance with this condition is mandatory unless the requirement is waived by the City of Oceanside upon receipt of concurrence from the Wildlife Agencies. **MONITORING:** The City of Oceanside shall review the concurrence letter.

MM-BIO-4 Compensation for Unavoidable Loss of Aquatic Resources. If temporary or permanent loss of protected wetlands and other aquatic resources cannot feasibly be avoided, the project proponent will implement the following actions:

- Prior to project activities, the project proponent will coordinate with the USACE Los Angeles District and San Diego RWQCB staff to assure conformance with permitting requirements of Section 401 and 404 of the Clean Water Act and the Porter–Cologne Water Quality Control Act. Prior to activity within CDFW-jurisdictional lake or streambed or associated riparian habitat, the project proponent will coordinate with the appropriate CDFW South Coast Region staff to assure conformance with California Fish and Game Code Section 1600 permitting requirements.
- As part of the permit application process, the project proponent will sufficiently mitigate to ensure no-net-loss of waters at a minimum of 1:1 with establishment or re-establishment for impacts on aquatic resources as a part of an overall strategy to ensure no net loss. If establishment or re-establishment mitigation is not available, a higher ratio may be needed to achieve no net loss. Final mitigation ratios and credits will be a minimum of 1:1 and determined in consultation with USACE, RWQCB and/or CDFW based on agency evaluation of current resource functions and values and through each agency's respective permitting process.
- Should applicant-sponsored mitigation be implemented, a mitigation and monitoring plan (Plan) will be prepared in accordance with resource agency guidelines and approved by the agencies in accordance with the proposed permits. The Plan will include but is not limited to a

conceptual planting plan including planting zones, grading, and irrigation, as applicable; a conceptual planting plant palette; a long-term maintenance and monitoring plan; annual reporting requirements; proposed success criteria; legal and funding mechanisms; and parties responsible for long-term management and monitoring of the restored or enhanced habitat. Any off-site applicant-sponsored mitigation shall be conserved and managed in perpetuity

- As part of the permit application process, the project proponent will mitigate impacts to sensitive riparian vegetation communities to a less than significant level through preservation of the requisite habitat in perpetuity. Final mitigation ratios and credits will be a minimum of 1:1 and determined in consultation with USACE, RWQCB and/or CDFW based on agency evaluation of current resource functions and values and through each agency's respective permitting process.
- Best management practices shall be implemented to avoid any indirect impacts to jurisdictional waters, as follows:
    1. Vehicles and equipment shall not be operated in ponded or flowing water except as described in permits.
    2. Water containing mud, silt, or other pollutants from grading or other activities shall not be allowed to enter jurisdictional waters or be placed in locations that may be subjected to high storm flows.
    3. Spoil sites shall not be located within 30 feet from the boundaries of jurisdictional waters or in locations that may be subject to high storm flows where spoils might be washed back into drainages.
    4. Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to vegetation or wildlife resources resulting from Proposed Project-related activities shall be prevented from contaminating the soil and/or entering avoided jurisdictional waters.
    5. No equipment maintenance shall be performed within 100 feet of jurisdictional waters, including wetlands and riparian areas, where petroleum products or other pollutants from the equipment may enter these areas. Fueling of equipment shall not occur on the project site.

7.2 Regional Resource Planning Context – Compliance Review

City of Oceanside MHCP Subarea Plan

The proposed project is consistent with the requirements of the draft Oceanside Subarea Plan. Specifically, as required in Section 5.3.4 of the Oceanside Subarea Plan, the project will mitigate for impacts to special-status biological resources with mitigation within the Wildlife Corridor Planning Zone or pre-approved Mitigation Areas (City of Oceanside 2010). The proposed project will directly impact 0.08 acres of vegetation communities that would require mitigation under the plan.

These vegetation communities function as a small piece of a larger habitat corridor along the San Luis Rey River. Therefore, mitigation occurring within the riparian corridor of the San Luis Rey River would provide preservation of

biologically equivalent or superior habitat, as well as fulfilling the requirements of the Oceanside Subarea Plan for habitat in the Off-Site Mitigation Zone.

Project Implementation Guidelines

Section 5.2.8 of the Oceanside MHCP Subarea Plan contains minimization measures and best management practices that shall be implemented by projects that may impact biological resources within the City of Oceanside.

Conditions of Coverage for Cooper's Hawk

As part of the project review process (e.g., CEQA) for individual projects within the MHCP area, qualified biologists must survey all potential nesting areas during the nesting season. Surveys must be conducted when impacts could occur as a result of direct or indirect impacts from a project in or adjacent to suitable habitat. Preserve/open space areas must include 300-foot biological buffers around nest sites where feasible. No direct impact to active nests are allowed during the nesting season (City of Oceanside 2010).

Avoiding tree pruning activities in or near preserve areas during the breeding season (March 1 through July 31) will not be feasible if the work activities take place during breeding season (City of Oceanside 2010).

Nesting bird surveys are included as a mitigation measure for the project and include surveying for Cooper's hawk and other raptor nests. A 300-foot buffer would be established around any active nests detected during these surveys.

Conditions of Coverage for Coastal California Gnatcatcher

In addition to minimum conservation requirements, all of the following conditions must be met for California gnatcatcher to be adequately conserved (City of Oceanside 2010):

1. Implement an adaptive management program to comprehensively monitor and manage gnatcatcher habitat and populations throughout the preserve system. Increased coordination of monitoring and management may improve knowledge of species' requirements and habitat quality in the study area.

Coastal California gnatcatcher was determined to have low potential to occur in the study area adjacent to direct impacts, but does not have potential to occur within the direct impact areas due to lack of suitable habitat.

2. Take of occupied gnatcatcher habitat must be mitigated according to approved MHCP (Volume I, Section 4.3) or subarea plan ratios using one or more of the following measures: (a) conservation of occupied gnatcatcher habitat inside the BCLA [Biological Core and Linkage Area] or in the unincorporated core area; (b) conservation of linkage areas identified by the MHCP as critical to regional gnatcatcher population connectivity (whether or not such areas are currently occupied by gnatcatchers or vegetated with coastal sage scrub); or (c) restoration of gnatcatcher habitat within critical breeding or linkage areas identified by the MHCP.

Suitable habitat for Coastal California gnatcatcher is not present within the direct impact areas; therefore, the proposed project will not result in take of any occupied gnatcatcher habitat.

3. Oceanside—Conserve at least 664 acres of existing coastal sage scrub in the city, and restore or enhance at least 164 additional acres of coastal sage scrub. Within the city's designated Wildlife Corridor Planning Zone, conserve at least 480 acres of biological open space in a configuration that accommodates continued movement by California gnatcatchers between State Route 78 and the San Luis Rey River. Of this 480-acre total, conserve at least 210 acres of existing gnatcatcher breeding habitat (coastal sage scrub), and increase the net amount of viable breeding habitat within the zone by at least 145 acres through restoration of disturbed, developed, or annual grassland habitats to coastal sage scrub in key locations (Note: Acreages conserved and restored within the Wildlife Corridor Planning Zone count towards the 664 total coastal sage scrub and 164 total restoration acreage requirements for the city.) Conserve 120 acres of contiguous biological open space on the western portion of the city-owned El Corazon property, including at least 45 acres west of the San Diego Gas and Electric transmission easement and 75 acres along Garrison Creek on the northern portion of the property, as detailed in the Oceanside Subarea Plan.

The study area is not within the Wildlife Corridor Planning Zone.

Conditions of Coverage for Least Bell's Vireo

Conditions of coverage for least Bell's vireo from the Oceanside Subarea Plan are as follows (City of Oceanside 2010):

1. As part of the project review process (e.g., CEQA) for individual projects within the MHCP area, a qualified biologist possessing a Section 10(a)1(A) research permit for this species must survey all areas containing potentially suitable habitat (riparian vegetation communities) using approved survey protocols. Surveys shall occur prior to any proposed impact regardless of location inside or outside of the FPA [Focused Planning Area]. Surveys shall be conducted when impacts could occur as a result of indirect impacts by placement of the project in or adjacent to suitable habitat or through creation of suitable conditions for brown-headed cowbirds (e.g., agricultural fields, livestock presence, woodland parks, and roadsides).
2. Any take, both inside and outside of the FPA, shall be consistent with the conditions outlined herein. Projects that impact least Bell's vireo populations outside the FPA shall be required to ensure sufficient management to maintain these populations.
3. Occupied habitat within the FPA shall be managed to restrict activities that could degrade least Bell's vireo habitat, including livestock grazing, human disturbance, clearing or alteration of riparian vegetation, brown-headed cowbird parasitism, and insufficient water levels leading to loss of riparian habitat and surface water. Area-specific management directives shall include measures to provide appropriate successional habitat, cowbird control, and specific measures to protect against detrimental edge effects, and will remove invasive exotic species (e.g., *Arundo donax*). Initiate cowbird trapping when cowbird parasitism rates exceed 10% or as recommended by monitoring results. Restrict human access to vireo-occupied habitat during the breeding season (March 15 to September 15) except for qualified researchers or land managers performing essential preserve management, monitoring, or research functions.
4. Projects having direct or indirect impacts to the least Bell's vireo within the MHCP planning area shall adhere to the following measures to avoid or reduce impacts:

a) The removal of native vegetation and habitat shall be avoided and minimized to the maximum extent practicable. Determination of adequate avoidance and minimization of impacts shall be consistent with Sections 3.6 and 3.7 of the MHCP plan. Deviations from these guidelines shall require written concurrence of the USFWS and CDFG [now CDFW]. For temporary impacts, the work site shall be returned to preexisting contours and revegetated with appropriate native species. All revegetation for temporary and permanent impacts shall occur at the ratios specified in Section 4.3 of the MHCP plan, with a minimum 3:1 ratio for recreation of occupied or potential vireo habitat. Revegetation specifications shall ensure creation and restoration of riparian woodland vegetation to vireo quality. All revegetation plans shall be prepared and implemented consistent with Appendix C (Revegetation Guidelines) and shall require written concurrence of the USFWS and CDFG. If written objections are not provided by the wildlife agencies within 30 days of receipt of written request for concurrence by the local jurisdiction, then the deviation may proceed as approved by the local agency. The wildlife agencies shall provide written comments specifying wildlife agency concerns.

b) Projects shall be carried out consistent with Appendix B (Standard Best Management Practices).

c) Projects shall to the maximum extent practicable avoid impacts during the breeding season of the least Bell's vireo (generally March 15–September 15). Projects that cannot be conducted without placing equipment or personnel in or adjacent to sensitive habitats shall be timed to ensure that habitat is removed prior to the initiation of the breeding season (generally before March 15).

d) Construction noise levels at the riparian canopy edge shall be kept below 60 dBA L_{eq} (Measured as Equivalent Sound Level) from 5 a.m. to 11 a.m. during the peak nesting period of March 15 to July 15. For the balance of the day/season, the noise levels shall not exceed 60 decibels, averaged over a 1-hour period on an A-weighted decibel (dBA) (i.e., 1 hour L_{eq}/dBA). Noise levels shall be monitored and monitoring reports shall be provided to the jurisdictional city, the USFWS, and the CDFG. Noise levels in excess of this threshold shall require written concurrence from the USFWS and CDFG and may require additional minimization/mitigation measures.

e) Brown-headed cowbirds and other exotic species detrimental to least Bell's vireo shall be removed from the site. For new developments adjacent to preserve areas that create conditions attractive to brown-headed cowbirds, jurisdictions shall require monitoring and control of cowbirds.

f) Biological buffers of at least 100 feet shall be maintained adjacent to occupied least Bell's vireo habitat, measured from the outer edge of riparian vegetation. Within this 100-foot buffer, no new development shall be allowed, and the area shall be managed for natural biological values as part of the preserve system. Buffers less than 100 feet shall require written concurrence of the USFWS and CDFG within 30 days of receipt of written request for concurrence by the local jurisdiction.

5. Suitable unoccupied habitat preserved within the FPA shall be managed to maintain or mimic effects of natural fluvial processes (e.g., periodic substrate scouring and deposition).

6. Natural riparian connections with upstream riparian habitat shall be maintained to ensure linkage to suitable occupied and unoccupied habitat within the County [of San Diego] MSCP [Multiple Species Conservation Program Plan] and City of San Diego MSCP Subarea Plan [areas].

Suitable nesting habitat for least Bell's vireo is present within the San Luis Rey River riparian corridor in the southern part of the impact area. Furthermore, this species was documented within the study area in 2013, and USFWS-designated Critical Habitat for this species overlaps the study area. As such, there is high potential for this species to occur within the study area. Direct impacts to all nesting birds, which would include least Bell's vireo if the species were present, would be avoided through implementation of MM-BIO-1 (Minimize Construction-Related Indirect Impacts to Biological Resources), MM-BIO-2 (Biological Monitoring), and MM-BIO-3 (Nesting Bird Surveys).

Conditions of Coverage for Southwestern Willow Flycatcher

Conditions of coverage for southwestern willow flycatcher from the Oceanside Subarea Plan are as follows (City of Oceanside 2010):

1. As part of the project review process (e.g., CEQA) for individual projects within the MHCP area, a qualified biologist possessing a Section 10(a)1(A) research permit for this species must survey all areas containing suitable habitat (riparian woodlands and forests) using approved survey protocols. Surveys shall be conducted when impacts could occur as a result of indirect impacts by placement of the project in or adjacent to potential habitat or through creation of suitable conditions for brown-headed cowbirds (e.g., agricultural fields, livestock presence, woodland parks, roadsides). Surveys shall occur prior to any proposed impact regardless of location inside or outside of the FPA.
2. Nesting southwestern willow flycatchers shall be treated consistent with the Critical Population Policy (Appendix D) and impacts totally avoided. Although southwestern willow flycatcher is not an MHCP Narrow Endemic, wintering localities and confirmed vagrants shall be treated consistent with the Narrow Endemic Species Policy (Appendix D), including the following: (a) maximum avoidance of impacts, to the degree feasible while maintaining reasonable use of the property; (b) for unavoidable impacts, species-specific mitigation designed to minimize adverse effects to species viability and to contribute to species recovery; and (c) no more than 5% gross cumulative loss of suitable habitat inside the FPA or 20% gross cumulative loss outside the FPA.
3. Occupied habitat within the FPA shall be managed to restrict activities that could degrade willow flycatcher habitat, including livestock grazing, human disturbance, clearing or alteration of riparian vegetation, brown-headed cowbird parasitism, and insufficient water levels leading to loss of riparian habitat and surface water. Area-specific management directives shall include measures to provide appropriate successional habitat, cowbird control, and specific measures to protect against detrimental edge effects, and will remove invasive exotic species (e.g., *Arundo donax*). Human access to flycatcher-occupied habitat will be restricted during the breeding season (May 1–September 15) except for qualified researchers or land managers performing essential preserve management, monitoring, or research functions.
4. Projects having direct or indirect impacts to the southwestern willow flycatcher shall adhere to the following measures to avoid or reduce impacts:

a) The removal of native vegetation and habitat shall be avoided and minimized to the maximum extent practicable. Determination of adequate avoidance and minimization of impacts shall be consistent with Sections 3.6 and 3.7 of the MHCP plan. Deviations from these guidelines shall require written concurrence of the USFWS and CDFG. For temporary impacts, the work site shall be returned to preexisting contours and revegetated with appropriate native species. All revegetation for temporary and permanent impacts shall occur at the ratios specified in Section 4.3 of the MHCP plan, with a minimum 3:1 ratio for creation of occupied or potential willow flycatcher habitat. Revegetation specifications shall ensure creation and restoration of riparian woodland vegetation to a quality that eventually is expected to support nesting southwestern willow flycatchers, in the opinion of experts on this species, recognizing that it may take decades to achieve this state. All revegetation plans shall be prepared and implemented consistent with Appendix C (Revegetation Guidelines) and shall require written concurrence of the USFWS and CDFG. If written objections are not provided by the wildlife agencies within 30 days of receipt of written request for concurrence by the local jurisdiction, then the deviation may proceed as approved by the local agency. The wildlife agencies shall provide written comments specifying wildlife agency concerns.

b) Projects shall be carried out consistent with Appendix B (Standard Best Management Practices).

c) Projects shall to the maximum extent practicable avoid impacts during the breeding season of the flycatcher (May 1 to September 15). Projects that cannot be conducted without placing equipment or personnel in or adjacent to sensitive habitats shall be timed to ensure that habitat is removed prior to the initiation of the breeding season.

d) Construction noise levels at the riparian canopy edge shall be kept below 60 dBA L_{eq} (measured as equivalent sound level) from 5 a.m. to 11 a.m. during the peak nesting period of May 1 to September 15. For the balance of the day/season, the noise levels shall not exceed 60 decibels, averaged over a 1-hour period on an A-weighted decibel (dBA) (i.e., 1 hour L_{eq}/dBA). Noise levels shall be monitored, and monitoring reports shall be provided to the jurisdictional city, the USFWS, and the CDFG. Noise levels in excess of this threshold shall require written concurrence from the USFWS and CDFG within 30 days of receipt of request for written concurrence from the local jurisdiction and may require additional minimization/mitigation measures.

e) Brown-headed cowbirds and other exotic species that prey upon the flycatcher shall be removed from the site. For new developments adjacent to preserve areas that create conditions attractive to brown-headed cowbirds, jurisdictions shall require monitoring and control of cowbirds.

f) Biological buffers of at least 100 feet shall be maintained adjacent to occupied flycatcher habitat, measured from the outer edge of riparian vegetation. Within this 100-foot buffer, no new development shall be allowed, and the area shall be managed for natural biological values as part of the preserve system. Buffers less than 100 feet shall require written concurrence of the USFWS and CDFG within 30 days of receipt of request for written concurrence from the local jurisdiction.

5. Suitable unoccupied habitat preserved within the FPA shall be managed to maintain or mimic effects of natural fluvial processes (e.g., periodic substrate scouring and deposition).

6. Natural riparian connections with upstream riparian habitat shall be maintained to ensure linkage to suitable occupied and unoccupied habitat within the County MSCP and City of San Diego MSCP Subarea Plans.

Suitable nesting habitat for southwestern willow flycatcher is present within the San Luis Rey River riparian corridor in the southern part of the study area, and species was documented less than 0.25 miles from the study area in 2008. USFWS-designated Critical Habitat for the species is present within the San Luis Rey River corridor within the study area. This species has a high potential to occur within the riparian vegetation in the study area. Direct impacts to all nesting birds, which would include least Bell's vireo if the species were present, would be avoided through implementation of MM-BIO-1 (Minimize Construction-Related Indirect Impacts to Biological Resources), MM-BIO-2 (Biological Monitoring), and MM-BIO-3 (Nesting Bird Surveys).

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8 References

AOU (American Ornithologists' Union). 2018. *Checklist of North and Middle American Birds*. Accessed January 2025. http://checklist.aou.org/taxa/.

City of Oceanside, Planning Department. 2010. *Final Oceanside Subarea Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP)*. Accessed January 2025. https://www.ci.oceanside.ca.us/government/development-services/planning/codes-regulations-maps/subarea-plan.

CDFW (California Department of Fish and Wildlife). 2025a. California Natural Diversity Database (CNDDB). RareFind 5.0 (Commercial Subscription). Sacramento, California: CDFW, Biogeographic Data Branch. Accessed January 2025. https://nrmsecure.dfg.ca.gov/cnddb/Default.aspx.

CDFW. 2025b. "Biogeographic Information and Observation System (BIOS)" [online viewer]. Accessed January 2025. https://wildlife.ca.gov/Data/BIOS.

CDFW. 2025c. "California Natural Community List," February 27, 2025. Accessed February 2025. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153398&inline.

CDFW. 2025d. *State and Federally Listed Endangered, Threatened, and Rare Plants of California*. California Natural Diversity Database (CNDDB). Sacramento: CDFW, Biogeographic Data Branch. April 2025. Accessed January 2025. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109390&inline.

CDFW. 2025e. *State and Federally Listed Endangered and Threatened Animals of California*. California Natural Diversity Database (CNDDB). Sacramento: CDFW, Biogeographic Data Branch. April 2025. Accessed January 2025. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109405&inline.

CDFW. 2025f. " California's Wildlife: Life History Accounts and Range Maps." Accessed January 2025. https://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range.

CDFW. 2025g. "Species of Special Concern." Accessed January 2025. https://www.wildlife.ca.gov/Conservation/SSC.

CDFW. 2025h. "Fully Protected Animals." Accessed January 2025. https://wildlife.ca.gov/Conservation/Fully-Protected.

CNPS (California Native Plant Society). 2025a. *Inventory of Rare and Endangered Plants*. Online edition, v8-03. Accessed January 2025. http://www.rareplants.cnps.org.

CNPS. 2025b. *A Manual of California Vegetation.* Online Edition. Accessed January 2025. https://www.cnps.org/vegetation.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. FWS/OBS-79/31. Prepared for U.S. Fish and Wildlife Service. December 1979; reprinted 1992. https://www.nrc.gov/docs/ML1801/ML18019A904.pdf.

Crother, B.I. 2017. *Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in our Understanding*. 8th ed. Herpetological Circular No. 43, edited by J.J. Moriarty. Shoreview, Minnesota: Society for the Study of Amphibians and Reptiles.

Google Earth. 2025. Aerials centered on the project site. Accessed January 2024. https://www.google.com/earth/.

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

Jepson Flora Project. 2025. Jepson eFlora. Berkeley, California: University of California. Accessed January 2025. http://ucjeps.berkeley.edu/interchange/.

Mock, P.J. 2004. "California Gnatcatcher (*Polioptila californica*)." In *The Coastal Scrub and Chaparral Bird Conservation Plan: A Strategy for Protecting and Managing Coastal Scrub and Chaparral Habitats and Associated Birds in California*. California Partners in Flight. https://sdplantatlas.org/BirdAtlas/pdf/California%20Gnatcatcher.pdf.

Moyle, P.B. 2002. *Inland Fishes of California*. Berkeley and Los Angeles, California: University of California Press.

NETR (Nationwide Environmental Title Research). 2025. Historic aerials of the project site [online viewer]. Accessed January 2025. https://www.historicaerials.com/viewer.

Oberbauer, T., M. Kelly, and J. Buegge. 2008. *Draft Vegetation Communities of San Diego County*. March 2008. Accessed April 2025. https://www.sandiegocounty.gov/content/dam/sdc/pds/ceqa/Soitec-Documents/Final-EIR-Files/references/rtcref/ch9.0/rtcrefaletters/014%202014-12-19_OberbauerTM2008.pdf.

SANDAG (San Diego Association of Governments). 2003. *Final MHCP Plan.* Vol. 1.

South Coast Wildlands. 2008. *South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion*. Accessed April 2025. http://www.scwildlands.org/reports/SCMLRegionalReport.pdf.

Spencer, W.D., P. Beier, K. Penrod, K. Winters, C. Paulman, H. Rustigian-Romsos, J. Strittholt, M. Parisi, and A. Pettler. 2010. *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California*. February 2010. Prepared for California Department of Transportation, California Department of Fish and Game, and Federal Highways Administration. Accessed February 2025. http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18366.

USACE (U.S. Army Corps of Engineers). 2025. "Cowardin Codes for ORM Data Entry." Accessed January 2025. https://www.spa.usace.army.mil/Portals/16/docs/civilworks/regulatory/Bulk%20Upload/Bulk%20Data%20Cowardin.pdf.

USDA (U.S. Department of Agriculture). 2025a. "Web Soil Survey." USDA, Natural Resources Conservation Service. Accessed January 2025. http://websoilsurvey.nrcs.usda.gov.

USDA. 2025b. "California." State PLANTS Checklist. Accessed January 2025. https://plants.usda.gov/downloads.

USFWS (U.S. Fish and Wildlife Service). 2025a. Information for Planning and Consultation (IPaC). Environmental Conservation Online System. Accessed January 2025. https://ecos.fws.gov/ipac/.

USFWS. 2025b. "National Wetlands Inventory." Accessed January 2025. https://www.fws.gov/wetlands/.

USGS (U.S. Geological Survey). 2018. "Morro Hill, California Quadrangle" [map]. 1:24,000. 7.5-minute Series. Washington, D.C.

USGS. 2025. "National Hydrography and Watershed Boundary Dataset." USGS National Hydrography Products. Accessed January 2025. https://www.usgs.gov/national-hydrography.

Wilson, D.E., and D.M. Reeder, eds. 2005. *Mammal Species of the World: A Taxonomic and Geographic Reference*. 3rd ed. Baltimore, Maryland: Johns Hopkins University Press.

WRCC (Western Regional Climate Center). 2025. "Cooperative Climatological Data Summaries." NOAA Cooperative Stations – Temperature and Precipitation. Accessed January 2025. https://wrcc.dri.edu/summary/Climsmsca.html.

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Appendix A
Study Area Photos

Appendix B
Plant and Wildlife Compendia

Appendix C

Assessment of Special-Status Plant Species Potentially Occurring in the Study Area

Appendix D

Assessment of Special-Status Wildlife Species Potentially Occurring in the Study Area

Appendix E

Aquatic Resources Delineation Report

SOURCE: Esri World Imagery; Open Street Map 2023

DUDEK

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FIGURE 7a

Impacts to Jurisdictional Resources - Culvert #1

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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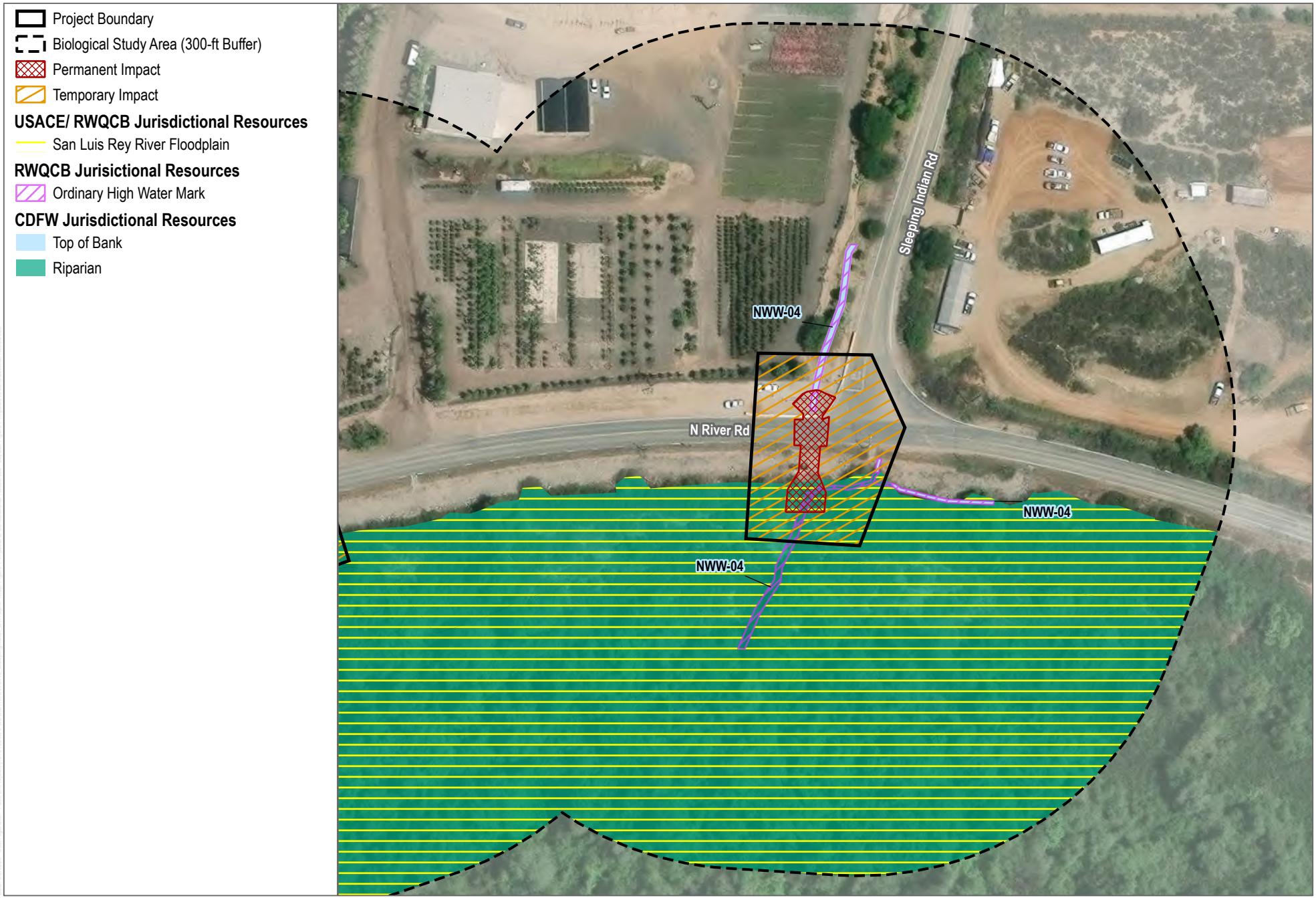

SOURCE: Esri World Imagery; Open Street Map 2023

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FIGURE 7b

Impacts to Jurisdictional Resources - Culvert #2

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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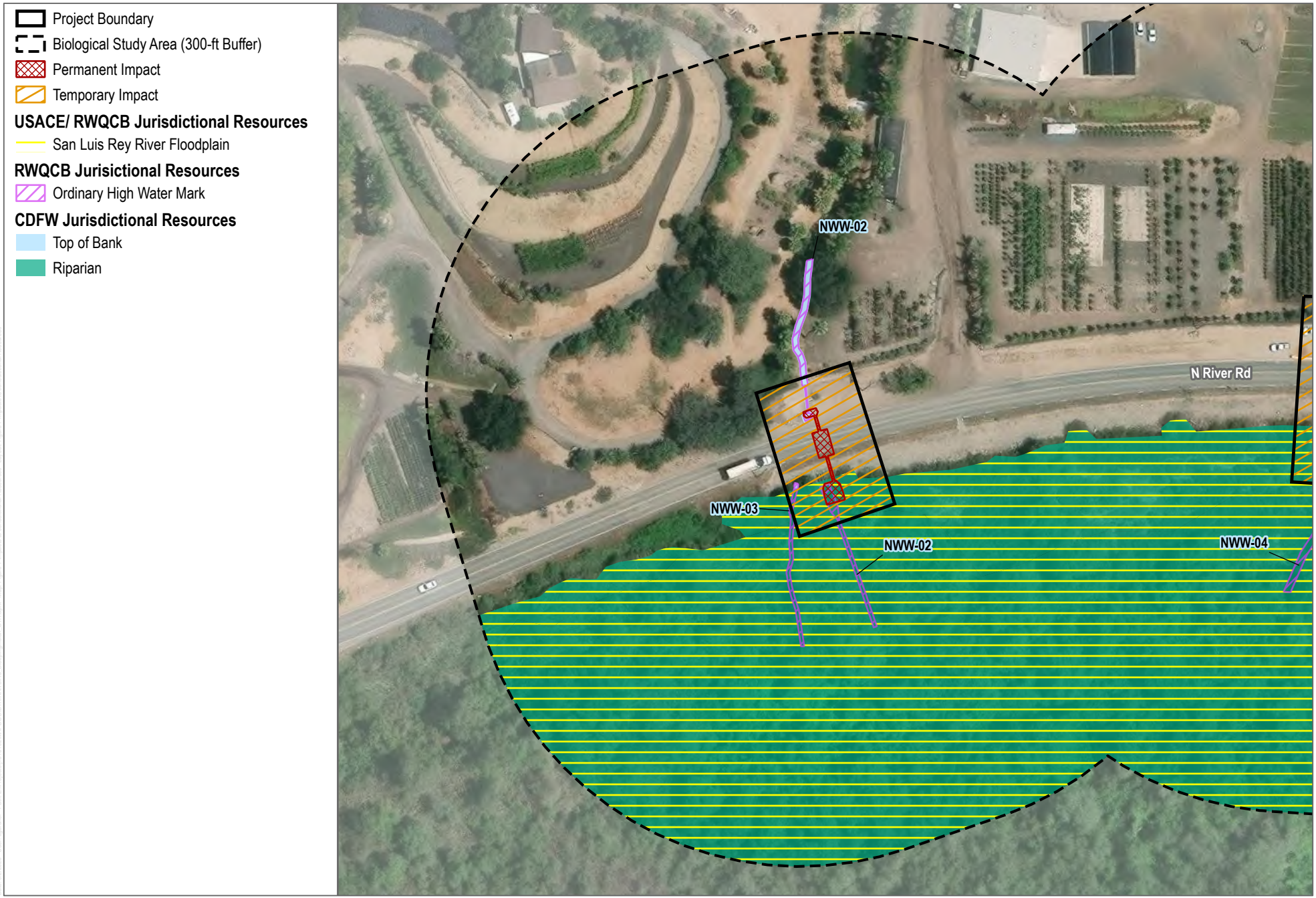

SOURCE: Esri World Imagery; Open Street Map 2023

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FIGURE 7c

Impacts to Jurisdictional Resources - Culvert #3

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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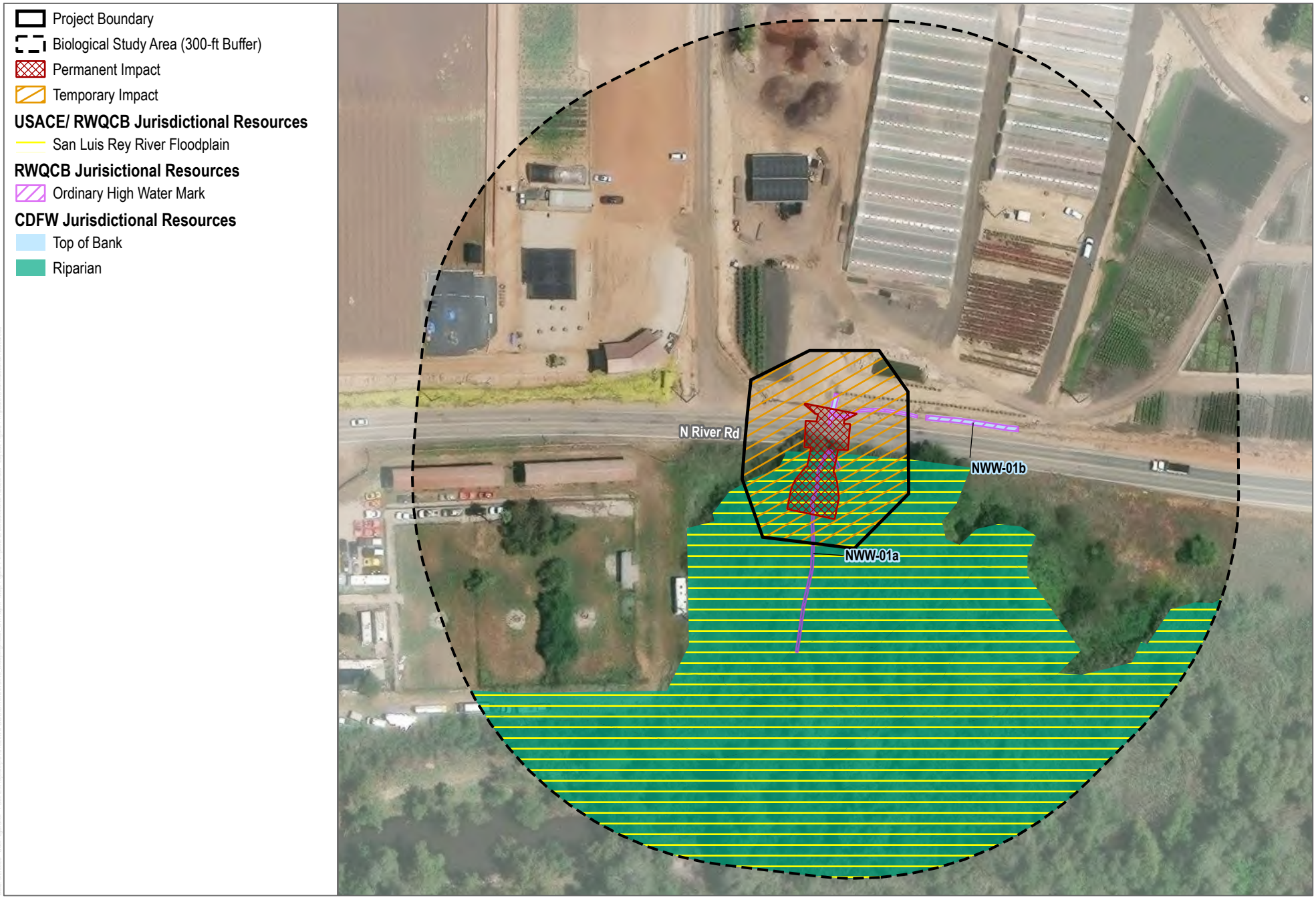

SOURCE: Esri World Imagery; Open Street Map 2023

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FIGURE 7d

Impacts to Jurisdictional Resources - Culvert #4

North River Rd and Sleeping Indian Rd Drainage Improvements Project

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Indirect Impacts

Potential temporary indirect impacts could result from construction activities and would include impacts from the generation of fugitive dust and the potential introduction of chemical pollutants (including herbicides). Excessive dust can decrease the vigor and productivity of vegetation through effects on light, penetration, photosynthesis, respiration, and transpiration; increased penetration of phytotoxic gaseous pollutants; and increased incidence of pests and diseases. Erosion and chemical pollution (releases of fuel, oil, lubricants, paints, release agents, and other construction materials) may affect wetlands/jurisdictional waters. The release of chemical pollutants can reduce the water quality downstream and degrade adjacent habitats. However, during construction, erosion-control measures would be implemented as part of the stormwater pollution prevention plan for the project. Prior to the start of construction activities, the contractor is required to file a Permit Registration Document with the State Water Resources Control Board in order to obtain coverage under the National Pollutant Discharge Elimination System General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2022-0057-DWQ, NPDES No. CAS000002) or the latest approved general permit. This permit is required for earthwork that results in the disturbance of 1 acre or more of total land area. The required stormwater pollution prevention plan will mandate the implementation of best management practices to reduce or eliminate construction-related pollutants in the runoff, including sediment. Therefore, temporary indirect impacts would be less than significant due to compliance with regulations.

6.5 Impact BIO-4: Wildlife Corridors and Nurseries

While the study area does not occur within any designated wildlife corridors or habitat linkages identified in the South Coast Missing Linkages analysis conducted by South Coast Wildlands (2008) or CDFW's California Essential Habitat Connectivity Project (Spencer et al. 2010), the San Luis Rey River riparian corridor present in the southern portion of the study area provides for wildlife movement. The area has the potential to provide foraging and nesting habitat for raptors and special-status birds. However, only a very small portion of the project site is associated with natural habitats within the San Luis Rey River (0.08 acres of mulefat scrub). Additionally, this impacted portion of the San Luis Rey River is located on the outer edge of the river channel directly adjacent to North River Road and it is anticipated that wildlife using this corridor would easily be able to avoid this small area by moving farther into the riparian vegetation present. Furthermore, project work is anticipated to take place during the daytime, while most potential wildlife movement within the riparian corridor would be expected to take place during the nighttime. Direct or indirect impacts to wildlife corridors and habitat connectivity would be **less than significant**.

The project would be required to comply with the MBTA and Sections 3503, 3503.5, and 3513 of the California Fish and Game Code by preventing the disturbance of nesting birds during construction activities. This would generally involve clearing a project site of all vegetation outside the nesting season (from September 1 through January 31), or if construction would commence within the nesting season (which generally runs from February 1 through August 31 and as early as February 1 for raptors), conducting a pre-construction nesting bird survey to determine the presence of nesting birds or active nests at a construction site. Any active nests and nesting birds must be protected from disturbance by construction activities through buffers between nest sites and construction activities. The buffer areas may be removed only after the birds have fledged. These requirements are outlined in MM-BIO-3. Compliance with the MBTA and implementation of MM-BIO-2 would ensure that the implementation of the project would not interfere with the nesting of any native bird species. Direct and indirect impacts to nurseries would be **less than significant with mitigation incorporated.**

6.6 Impact BIO-5: Local Policies or Ordinances

City of Oceanside Policy 400-02, Removal of Publicly Owned Trees

The project does not involve removal of publicly owned trees. Therefore, no impact would occur.

6.7 Impact BIO-6: HCP/NCCP

The proposed project is consistent with the requirements of the draft Oceanside Subarea Plan. Specifically, as required in Section 5.3.4 of the Oceanside Subarea Plan, the project will mitigate for impacts to special-status biological resources with mitigation within the Wildlife Corridor Planning Zone or pre-approved Mitigation Areas (City of Oceanside 2010). The proposed project will directly impact 0.08 acres of vegetation communities that would require mitigation under the plan.

These vegetation communities function as a small piece of a larger habitat corridor along the San Luis Rey River. Therefore, mitigation occurring within the riparian corridor of the San Luis Rey River would provide preservation of biologically equivalent or superior habitat, as well as fulfilling the requirements of the Oceanside Subarea Plan for habitat in the Off-Site Mitigation Zone.

Although impacts will occur within the buffer of the San Luis Rey River and the general creek/tributary buffer proposed by the Oceanside Subarea Plan, impacts will occur primarily within agricultural land (0.58 acres), developed land (0.36 acres), and disturbed habitat (0.31 acres). The remaining impacts are to 0.08 acres of mulefat scrub. Impacts within the buffer are required for necessary improvements to City stormwater infrastructure, which is an allowable use and does not fall under one of the three prohibited uses within the buffer (see Section 5.2.4 of the Oceanside Subarea Plan). Because the proposed project would mitigate these direct impacts, the proposed project would not result in a loss of vegetation that is regionally significant; therefore, it would not contribute to a cumulative impact.

A small portion of the project site is within the Agricultural Exclusion Zone north of the San Luis Rey River as defined in Section 5.3.3 of the Oceanside Subarea Plan. Discretionary actions, conversions to nonagricultural uses, or removal of habitat within the Agricultural Exclusion Zone will be subject to the conservation guidelines listed in Section 5.3.3, and to the Citywide conservation policies presented in Section 5.2, of the Oceanside Subarea Plan. Land use within the Agricultural Exclusion Zone will not change as a result of the proposed project. Impacts within the Agricultural Exclusion Zone are limited to a strip of disturbed habitat along the northern shoulder of North River Road and will not disturb or remove any wildlife habitat.

7 Mitigation Measures

There would be potential direct and indirect significant impacts to sensitive vegetation communities, special-status wildlife species, and jurisdictional resources with implementation of the project.

7.1 Minimization and Mitigation Measures

The following mitigation measures shall be implemented during the proposed project to reduce the significant impacts identified in Chapter 6, Project Impacts, to a less-than-significant level. Significant direct and indirect impacts to special-status species, sensitive vegetation communities and jurisdictional resources can be mitigated to less than significant with implementation of the following measures:

MM-BIO-1 Minimize Construction-Related Indirect Impacts to Biological Resources. Prior to issuance of a grading permit, the Project's Applicant/Developer shall include the following in the construction contractor's plans and specifications to address indirect construction-related impacts to special-status species:

- **Delineation of Property Boundaries.** Before beginning activities that would cause impacts, the contractor shall, in consultation with the biological monitor, clearly delineate the boundaries with fencing, stakes, or flags, consistent with the grading plan, within which the impacts will take place. All impacts outside the fenced, staked, or flagged areas shall be avoided, and all fencing, stakes, and flags shall be maintained until the completion of impacts in that area. In addition, any avoided environmental resources shall be clearly delineated. Prior to implementing construction activities, the biological monitor shall verify that the flagging clearly delineates the construction limits and any sensitive environmental resources to be avoided.
- **Standard Dust Control Measures.** Standard dust control measures as per the South Coast Air Quality Management District shall be implemented to reduce dust impacts on nearby conserved lands, plants, and wildlife. Measures include controlling speed to 15 mph or less on unpaved roads, replacing ground cover in disturbed areas as quickly as possible, frequently watering active work sites, installing shaker plates, and suspending excavation and grading operations during periods of high winds.
- **Stormwater Pollution Prevention Plan.** Prior to issuance of a grading permit for construction, the applicant shall submit a stormwater pollution prevention plan (SWPPP) to the City of Oceanside that specifies best management practices to prevent all construction pollutants from contacting stormwater, with the intent of keeping sedimentation or any other pollutants from moving off site and into receiving waters. The requirements of the SWPPP shall be incorporated into design specifications and construction contracts. Best management practices categories employed on site would include erosion control, sediment control, and non-stormwater (good housekeeping).
- **Minimize Spills of Hazardous Materials.** All vehicles and equipment shall be maintained in proper condition to minimize the potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. Hazardous spills and contaminated soil shall be immediately cleaned up and the contaminated soil shall be properly handled or

disposed of at a licensed facility. Servicing of construction equipment shall take place only at a designated staging area.

- **Wildlife Hazards.** The following measures shall be implemented to ensure that wildlife do not become trapped, entangled, injured, or poisoned by construction activities:
  - Structures in which wildlife may become trapped (e.g., open pipes, pits, trenches) shall be tightly covered at the end of each work day. If covering the structure is not possible, an escape ramp shall be provided to allow any wildlife that falls in to safely escape.
  - Debris piles, construction materials, equipment, and other items that may be used as wildlife refuge shall be inspected for wildlife at the start of each work day and prior to disturbance. If wildlife is discovered, it shall either be moved out of harm's way by a qualified biologist or allowed to move off of the study area on its own.
  - Nets and mesh shall be made of loose-weave material that is not fused at the intersections of the weave, as nets with welded weaves present an entanglement risk.
  - Toxic materials and garbage shall be removed from the work site and safely stored or disposed of at the end of each work day.

  Night Work. All short-term construction lighting shall be facing active work areas only and shall be shielded to avoid light spillover and shall be directed away from adjacent open space areas to protect native wildlife from direct lighting. If lighting is required during construction activities that would occur during or after sunset, the lighting fixtures shall be located on the interior of work areas with a minimum of 50-foot buffer from the edge of adjacent open space.

MM-BIO-2 Biological Monitoring. To prevent inadvertent disturbance to areas outside the limits of grading, all project activities with the potential to impact native vegetation shall be monitored by a biologist. The biological monitor(s) shall be contracted to perform biological monitoring during all vegetation removal activities and periodic monitoring during and after vegetation removal when recommended by a Qualified Biologist. The project biologist(s) also shall do the following:

a. Attend the pre-construction meeting with the contractor and other key construction personnel prior to construction activities to reduce conflict between the timing and location of construction activities with other mitigation requirements (e.g., seasonal surveys for nesting birds).
b. The Qualified Biologist shall conduct a training session for all project personnel prior to any construction activities. At a minimum the training shall include a description of the target species of concern, its habitats, the general provisions of the Endangered Species Act (Act) and the MHCP, the need to adhere to the provision of the Act and the MHCP, the penalties associated with violating the provisions of the Act, the general measures that are being implemented to conserve the target species of concern as they relate to the project, and the access routes to and project site boundaries within which the project activities must be accomplished. Prior to clearing and grubbing, the project biologist shall conduct meetings with the contractor and other key construction personnel each morning prior to construction activities to go over the proposed activities for the day, and for the monitor(s) to describe the importance of restricting work to designated areas and of minimizing harm to or harassment of wildlife.

c. Review and/or designate the construction area in the field with the contractor in accordance with the final grading plan prior to activities.

d. Supervise and monitor construction activities weekly to ensure against direct and indirect impacts to biological resources that are intended to be protected and preserved and to document that protective fencing is intact.

e. Flush wildlife species (e.g., reptiles, mammals, avian, and other mobile species) from occupied habitat areas immediately prior to brush-clearing activities. This does not include disturbance to nesting birds (see MM-BIO-3) or "flushing" of federally listed species (i.e., coastal California gnatcatcher).

f. Periodically monitor the construction site to verify that the project is implementing the following stormwater pollution prevention plan best management practices: dust control, silt fencing, removal of construction debris and a clean work area, covered trash receptacles that are animal-proof and weather-proof, prohibition of pets on the construction site, and a speed limit of 15 miles per hour.

g. Periodically monitor the construction site after grading is completed and during the construction phase to see that artificial security light fixtures are directed away from open space and are shielded, and to document that no unauthorized impacts have occurred.

h. If dead or injured federally and/or state-listed species are found on site, the City, CDFW, and/or USFWS will be notified in compliance with applicable laws and regulations.

i. Keep monitoring notes for the duration of project construction for submittal in a final report to substantiate the biological supervision of the vegetation clearing and grading activities and the protection of biological resources.

j. Prepare a monitoring report after construction activities are completed that describes the biological monitoring activities, including a monitoring log; photos of the site before, during, and after the grading and clearing activities; and a list of special-status species observed.

k. Halt work, if necessary, and confer with the City of Oceanside to ensure the proper implementation of special-status species and sensitive resource protection measures.

l. Submit a final report to the City of Oceanside within 60 days of project completion that includes as-built construction drawings with an overlay of habitat that was impacted and avoided, photographs of habitat areas that were to be avoided, and other relevant summary information documenting that authorized impacts were not exceeded and that compliance with all measures was achieved.

DOCUMENTATION: The applicant shall provide a letter of agreement with this condition to the City of Oceanside. **TIMING:** Prior to final grading release. **MONITORING:** The City of Oceanside shall review the concurrence letter.

MM-BIO-3 Nesting Bird Surveys. Construction-related ground-disturbing activities (e.g., clearing/grubbing, grading, and other intensive activities) that occur during the avian breeding season (typically February 1 through September 15) shall require a one-time biological survey for nesting bird species to be conducted within the limits of grading and a 500-foot buffer (where feasible) within 72 hours prior to construction. This survey is necessary to ensure avoidance of impacts to nesting raptors and other birds protected by the federal Migratory Bird Treaty Act and California Fish and

Game Code Sections 3503 and 3513. If any active nests are detected, the area shall be flagged and mapped on the construction plans or a biological resources figure, and the information provided to the construction supervisor and any personnel working near the nest buffer. Active nests shall have avoidance buffers established around them (e.g., 250 feet for passerines to 500 feet for raptors) by the project biologist in the field with brightly colored flagging tape, conspicuous fencing, or other appropriate barriers or signage. The project biologist shall serve as a construction monitor during those periods when construction activities occur near active nest areas to avoid inadvertent impacts to these nests. The project biologist may adjust the 250-foot or 500-foot buffer at their discretion depending on the species and the location of the nest (e.g., if the nest is well protected in an area buffered by dense vegetation). However, if needed, additional qualified monitor(s) shall be provided to monitor active nest(s) or other project activities in order to ensure all of the project biologist's duties are completed. Once the nest is determined by a qualified monitor to be no longer occupied for the season, construction may proceed in the buffer areas.

If construction activities, particularly clearing/grubbing, grading, and other intensive activities, stop for more than 3 days, an additional nesting bird survey shall be conducted within the proposed work area and a 500-foot buffer, where feasible.

DOCUMENTATION: The applicant shall provide a letter of agreement with this condition to the City of Oceanside. **TIMING:** Prior to pre-construction conference and prior to any clearing, grubbing, trenching, grading, or any land disturbances and throughout the duration of the grading, compliance with this condition is mandatory unless the requirement is waived by the City of Oceanside upon receipt of concurrence from the Wildlife Agencies. **MONITORING:** The City of Oceanside shall review the concurrence letter.

MM-BIO-4 Compensation for Unavoidable Loss of Aquatic Resources. If temporary or permanent loss of protected wetlands and other aquatic resources cannot feasibly be avoided, the project proponent will implement the following actions:

- Prior to project activities, the project proponent will coordinate with the USACE Los Angeles District and San Diego RWQCB staff to assure conformance with permitting requirements of Section 401 and 404 of the Clean Water Act and the Porter–Cologne Water Quality Control Act. Prior to activity within CDFW-jurisdictional lake or streambed or associated riparian habitat, the project proponent will coordinate with the appropriate CDFW South Coast Region staff to assure conformance with California Fish and Game Code Section 1600 permitting requirements.
- As part of the permit application process, the project proponent will sufficiently mitigate to ensure no-net-loss of waters at a minimum of 1:1 with establishment or re-establishment for impacts on aquatic resources as a part of an overall strategy to ensure no net loss. If establishment or re-establishment mitigation is not available, a higher ratio may be needed to achieve no net loss. Final mitigation ratios and credits will be a minimum of 1:1 and determined in consultation with USACE, RWQCB and/or CDFW based on agency evaluation of current resource functions and values and through each agency's respective permitting process.
- Should applicant-sponsored mitigation be implemented, a mitigation and monitoring plan (Plan) will be prepared in accordance with resource agency guidelines and approved by the agencies in accordance with the proposed permits. The Plan will include but is not limited to a

conceptual planting plan including planting zones, grading, and irrigation, as applicable; a conceptual planting plant palette; a long-term maintenance and monitoring plan; annual reporting requirements; proposed success criteria; legal and funding mechanisms; and parties responsible for long-term management and monitoring of the restored or enhanced habitat. Any off-site applicant-sponsored mitigation shall be conserved and managed in perpetuity

- As part of the permit application process, the project proponent will mitigate impacts to sensitive riparian vegetation communities to a less than significant level through preservation of the requisite habitat in perpetuity. Final mitigation ratios and credits will be a minimum of 1:1 and determined in consultation with USACE, RWQCB and/or CDFW based on agency evaluation of current resource functions and values and through each agency's respective permitting process.
- Best management practices shall be implemented to avoid any indirect impacts to jurisdictional waters, as follows:
    1. Vehicles and equipment shall not be operated in ponded or flowing water except as described in permits.
    2. Water containing mud, silt, or other pollutants from grading or other activities shall not be allowed to enter jurisdictional waters or be placed in locations that may be subjected to high storm flows.
    3. Spoil sites shall not be located within 30 feet from the boundaries of jurisdictional waters or in locations that may be subject to high storm flows where spoils might be washed back into drainages.
    4. Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to vegetation or wildlife resources resulting from Proposed Project-related activities shall be prevented from contaminating the soil and/or entering avoided jurisdictional waters.
    5. No equipment maintenance shall be performed within 100 feet of jurisdictional waters, including wetlands and riparian areas, where petroleum products or other pollutants from the equipment may enter these areas. Fueling of equipment shall not occur on the project site.

7.2 Regional Resource Planning Context – Compliance Review

City of Oceanside MHCP Subarea Plan

The proposed project is consistent with the requirements of the draft Oceanside Subarea Plan. Specifically, as required in Section 5.3.4 of the Oceanside Subarea Plan, the project will mitigate for impacts to special-status biological resources with mitigation within the Wildlife Corridor Planning Zone or pre-approved Mitigation Areas (City of Oceanside 2010). The proposed project will directly impact 0.08 acres of vegetation communities that would require mitigation under the plan.

These vegetation communities function as a small piece of a larger habitat corridor along the San Luis Rey River. Therefore, mitigation occurring within the riparian corridor of the San Luis Rey River would provide preservation of

biologically equivalent or superior habitat, as well as fulfilling the requirements of the Oceanside Subarea Plan for habitat in the Off-Site Mitigation Zone.

Project Implementation Guidelines

Section 5.2.8 of the Oceanside MHCP Subarea Plan contains minimization measures and best management practices that shall be implemented by projects that may impact biological resources within the City of Oceanside.

Conditions of Coverage for Cooper's Hawk

As part of the project review process (e.g., CEQA) for individual projects within the MHCP area, qualified biologists must survey all potential nesting areas during the nesting season. Surveys must be conducted when impacts could occur as a result of direct or indirect impacts from a project in or adjacent to suitable habitat. Preserve/open space areas must include 300-foot biological buffers around nest sites where feasible. No direct impact to active nests are allowed during the nesting season (City of Oceanside 2010).

Avoiding tree pruning activities in or near preserve areas during the breeding season (March 1 through July 31) will not be feasible if the work activities take place during breeding season (City of Oceanside 2010).

Nesting bird surveys are included as a mitigation measure for the project and include surveying for Cooper's hawk and other raptor nests. A 300-foot buffer would be established around any active nests detected during these surveys.

Conditions of Coverage for Coastal California Gnatcatcher

In addition to minimum conservation requirements, all of the following conditions must be met for California gnatcatcher to be adequately conserved (City of Oceanside 2010):

1. Implement an adaptive management program to comprehensively monitor and manage gnatcatcher habitat and populations throughout the preserve system. Increased coordination of monitoring and management may improve knowledge of species' requirements and habitat quality in the study area.

Coastal California gnatcatcher was determined to have low potential to occur in the study area adjacent to direct impacts, but does not have potential to occur within the direct impact areas due to lack of suitable habitat.

2. Take of occupied gnatcatcher habitat must be mitigated according to approved MHCP (Volume I, Section 4.3) or subarea plan ratios using one or more of the following measures: (a) conservation of occupied gnatcatcher habitat inside the BCLA [Biological Core and Linkage Area] or in the unincorporated core area; (b) conservation of linkage areas identified by the MHCP as critical to regional gnatcatcher population connectivity (whether or not such areas are currently occupied by gnatcatchers or vegetated with coastal sage scrub); or (c) restoration of gnatcatcher habitat within critical breeding or linkage areas identified by the MHCP.

Suitable habitat for Coastal California gnatcatcher is not present within the direct impact areas; therefore, the proposed project will not result in take of any occupied gnatcatcher habitat.

3. Oceanside—Conserve at least 664 acres of existing coastal sage scrub in the city, and restore or enhance at least 164 additional acres of coastal sage scrub. Within the city's designated Wildlife Corridor Planning Zone, conserve at least 480 acres of biological open space in a configuration that accommodates continued movement by California gnatcatchers between State Route 78 and the San Luis Rey River. Of this 480-acre total, conserve at least 210 acres of existing gnatcatcher breeding habitat (coastal sage scrub), and increase the net amount of viable breeding habitat within the zone by at least 145 acres through restoration of disturbed, developed, or annual grassland habitats to coastal sage scrub in key locations (Note: Acreages conserved and restored within the Wildlife Corridor Planning Zone count towards the 664 total coastal sage scrub and 164 total restoration acreage requirements for the city.) Conserve 120 acres of contiguous biological open space on the western portion of the city-owned El Corazon property, including at least 45 acres west of the San Diego Gas and Electric transmission easement and 75 acres along Garrison Creek on the northern portion of the property, as detailed in the Oceanside Subarea Plan.

The study area is not within the Wildlife Corridor Planning Zone.

Conditions of Coverage for Least Bell's Vireo

Conditions of coverage for least Bell's vireo from the Oceanside Subarea Plan are as follows (City of Oceanside 2010):

1. As part of the project review process (e.g., CEQA) for individual projects within the MHCP area, a qualified biologist possessing a Section 10(a)1(A) research permit for this species must survey all areas containing potentially suitable habitat (riparian vegetation communities) using approved survey protocols. Surveys shall occur prior to any proposed impact regardless of location inside or outside of the FPA [Focused Planning Area]. Surveys shall be conducted when impacts could occur as a result of indirect impacts by placement of the project in or adjacent to suitable habitat or through creation of suitable conditions for brown-headed cowbirds (e.g., agricultural fields, livestock presence, woodland parks, and roadsides).
2. Any take, both inside and outside of the FPA, shall be consistent with the conditions outlined herein. Projects that impact least Bell's vireo populations outside the FPA shall be required to ensure sufficient management to maintain these populations.
3. Occupied habitat within the FPA shall be managed to restrict activities that could degrade least Bell's vireo habitat, including livestock grazing, human disturbance, clearing or alteration of riparian vegetation, brown-headed cowbird parasitism, and insufficient water levels leading to loss of riparian habitat and surface water. Area-specific management directives shall include measures to provide appropriate successional habitat, cowbird control, and specific measures to protect against detrimental edge effects, and will remove invasive exotic species (e.g., *Arundo donax*). Initiate cowbird trapping when cowbird parasitism rates exceed 10% or as recommended by monitoring results. Restrict human access to vireo-occupied habitat during the breeding season (March 15 to September 15) except for qualified researchers or land managers performing essential preserve management, monitoring, or research functions.
4. Projects having direct or indirect impacts to the least Bell's vireo within the MHCP planning area shall adhere to the following measures to avoid or reduce impacts:

a) The removal of native vegetation and habitat shall be avoided and minimized to the maximum extent practicable. Determination of adequate avoidance and minimization of impacts shall be consistent with Sections 3.6 and 3.7 of the MHCP plan. Deviations from these guidelines shall require written concurrence of the USFWS and CDFG [now CDFW]. For temporary impacts, the work site shall be returned to preexisting contours and revegetated with appropriate native species. All revegetation for temporary and permanent impacts shall occur at the ratios specified in Section 4.3 of the MHCP plan, with a minimum 3:1 ratio for recreation of occupied or potential vireo habitat. Revegetation specifications shall ensure creation and restoration of riparian woodland vegetation to vireo quality. All revegetation plans shall be prepared and implemented consistent with Appendix C (Revegetation Guidelines) and shall require written concurrence of the USFWS and CDFG. If written objections are not provided by the wildlife agencies within 30 days of receipt of written request for concurrence by the local jurisdiction, then the deviation may proceed as approved by the local agency. The wildlife agencies shall provide written comments specifying wildlife agency concerns.

b) Projects shall be carried out consistent with Appendix B (Standard Best Management Practices).

c) Projects shall to the maximum extent practicable avoid impacts during the breeding season of the least Bell's vireo (generally March 15–September 15). Projects that cannot be conducted without placing equipment or personnel in or adjacent to sensitive habitats shall be timed to ensure that habitat is removed prior to the initiation of the breeding season (generally before March 15).

d) Construction noise levels at the riparian canopy edge shall be kept below 60 dBA L_{eq} (Measured as Equivalent Sound Level) from 5 a.m. to 11 a.m. during the peak nesting period of March 15 to July 15. For the balance of the day/season, the noise levels shall not exceed 60 decibels, averaged over a 1-hour period on an A-weighted decibel (dBA) (i.e., 1 hour L_{eq}/dBA). Noise levels shall be monitored and monitoring reports shall be provided to the jurisdictional city, the USFWS, and the CDFG. Noise levels in excess of this threshold shall require written concurrence from the USFWS and CDFG and may require additional minimization/mitigation measures.

e) Brown-headed cowbirds and other exotic species detrimental to least Bell's vireo shall be removed from the site. For new developments adjacent to preserve areas that create conditions attractive to brown-headed cowbirds, jurisdictions shall require monitoring and control of cowbirds.

f) Biological buffers of at least 100 feet shall be maintained adjacent to occupied least Bell's vireo habitat, measured from the outer edge of riparian vegetation. Within this 100-foot buffer, no new development shall be allowed, and the area shall be managed for natural biological values as part of the preserve system. Buffers less than 100 feet shall require written concurrence of the USFWS and CDFG within 30 days of receipt of written request for concurrence by the local jurisdiction.

5. Suitable unoccupied habitat preserved within the FPA shall be managed to maintain or mimic effects of natural fluvial processes (e.g., periodic substrate scouring and deposition).

6. Natural riparian connections with upstream riparian habitat shall be maintained to ensure linkage to suitable occupied and unoccupied habitat within the County [of San Diego] MSCP [Multiple Species Conservation Program Plan] and City of San Diego MSCP Subarea Plan [areas].

Suitable nesting habitat for least Bell's vireo is present within the San Luis Rey River riparian corridor in the southern part of the impact area. Furthermore, this species was documented within the study area in 2013, and USFWS-designated Critical Habitat for this species overlaps the study area. As such, there is high potential for this species to occur within the study area. Direct impacts to all nesting birds, which would include least Bell's vireo if the species were present, would be avoided through implementation of MM-BIO-1 (Minimize Construction-Related Indirect Impacts to Biological Resources), MM-BIO-2 (Biological Monitoring), and MM-BIO-3 (Nesting Bird Surveys).

Conditions of Coverage for Southwestern Willow Flycatcher

Conditions of coverage for southwestern willow flycatcher from the Oceanside Subarea Plan are as follows (City of Oceanside 2010):

1. As part of the project review process (e.g., CEQA) for individual projects within the MHCP area, a qualified biologist possessing a Section 10(a)1(A) research permit for this species must survey all areas containing suitable habitat (riparian woodlands and forests) using approved survey protocols. Surveys shall be conducted when impacts could occur as a result of indirect impacts by placement of the project in or adjacent to potential habitat or through creation of suitable conditions for brown-headed cowbirds (e.g., agricultural fields, livestock presence, woodland parks, roadsides). Surveys shall occur prior to any proposed impact regardless of location inside or outside of the FPA.
2. Nesting southwestern willow flycatchers shall be treated consistent with the Critical Population Policy (Appendix D) and impacts totally avoided. Although southwestern willow flycatcher is not an MHCP Narrow Endemic, wintering localities and confirmed vagrants shall be treated consistent with the Narrow Endemic Species Policy (Appendix D), including the following: (a) maximum avoidance of impacts, to the degree feasible while maintaining reasonable use of the property; (b) for unavoidable impacts, species-specific mitigation designed to minimize adverse effects to species viability and to contribute to species recovery; and (c) no more than 5% gross cumulative loss of suitable habitat inside the FPA or 20% gross cumulative loss outside the FPA.
3. Occupied habitat within the FPA shall be managed to restrict activities that could degrade willow flycatcher habitat, including livestock grazing, human disturbance, clearing or alteration of riparian vegetation, brown-headed cowbird parasitism, and insufficient water levels leading to loss of riparian habitat and surface water. Area-specific management directives shall include measures to provide appropriate successional habitat, cowbird control, and specific measures to protect against detrimental edge effects, and will remove invasive exotic species (e.g., *Arundo donax*). Human access to flycatcher-occupied habitat will be restricted during the breeding season (May 1–September 15) except for qualified researchers or land managers performing essential preserve management, monitoring, or research functions.
4. Projects having direct or indirect impacts to the southwestern willow flycatcher shall adhere to the following measures to avoid or reduce impacts:

a) The removal of native vegetation and habitat shall be avoided and minimized to the maximum extent practicable. Determination of adequate avoidance and minimization of impacts shall be consistent with Sections 3.6 and 3.7 of the MHCP plan. Deviations from these guidelines shall require written concurrence of the USFWS and CDFG. For temporary impacts, the work site shall be returned to preexisting contours and revegetated with appropriate native species. All revegetation for temporary and permanent impacts shall occur at the ratios specified in Section 4.3 of the MHCP plan, with a minimum 3:1 ratio for creation of occupied or potential willow flycatcher habitat. Revegetation specifications shall ensure creation and restoration of riparian woodland vegetation to a quality that eventually is expected to support nesting southwestern willow flycatchers, in the opinion of experts on this species, recognizing that it may take decades to achieve this state. All revegetation plans shall be prepared and implemented consistent with Appendix C (Revegetation Guidelines) and shall require written concurrence of the USFWS and CDFG. If written objections are not provided by the wildlife agencies within 30 days of receipt of written request for concurrence by the local jurisdiction, then the deviation may proceed as approved by the local agency. The wildlife agencies shall provide written comments specifying wildlife agency concerns.

b) Projects shall be carried out consistent with Appendix B (Standard Best Management Practices).

c) Projects shall to the maximum extent practicable avoid impacts during the breeding season of the flycatcher (May 1 to September 15). Projects that cannot be conducted without placing equipment or personnel in or adjacent to sensitive habitats shall be timed to ensure that habitat is removed prior to the initiation of the breeding season.

d) Construction noise levels at the riparian canopy edge shall be kept below 60 dBA L_{eq} (measured as equivalent sound level) from 5 a.m. to 11 a.m. during the peak nesting period of May 1 to September 15. For the balance of the day/season, the noise levels shall not exceed 60 decibels, averaged over a 1-hour period on an A-weighted decibel (dBA) (i.e., 1 hour L_{eq}/dBA). Noise levels shall be monitored, and monitoring reports shall be provided to the jurisdictional city, the USFWS, and the CDFG. Noise levels in excess of this threshold shall require written concurrence from the USFWS and CDFG within 30 days of receipt of request for written concurrence from the local jurisdiction and may require additional minimization/mitigation measures.

e) Brown-headed cowbirds and other exotic species that prey upon the flycatcher shall be removed from the site. For new developments adjacent to preserve areas that create conditions attractive to brown-headed cowbirds, jurisdictions shall require monitoring and control of cowbirds.

f) Biological buffers of at least 100 feet shall be maintained adjacent to occupied flycatcher habitat, measured from the outer edge of riparian vegetation. Within this 100-foot buffer, no new development shall be allowed, and the area shall be managed for natural biological values as part of the preserve system. Buffers less than 100 feet shall require written concurrence of the USFWS and CDFG within 30 days of receipt of request for written concurrence from the local jurisdiction.

5. Suitable unoccupied habitat preserved within the FPA shall be managed to maintain or mimic effects of natural fluvial processes (e.g., periodic substrate scouring and deposition).

6. Natural riparian connections with upstream riparian habitat shall be maintained to ensure linkage to suitable occupied and unoccupied habitat within the County MSCP and City of San Diego MSCP Subarea Plans.

Suitable nesting habitat for southwestern willow flycatcher is present within the San Luis Rey River riparian corridor in the southern part of the study area, and species was documented less than 0.25 miles from the study area in 2008. USFWS-designated Critical Habitat for the species is present within the San Luis Rey River corridor within the study area. This species has a high potential to occur within the riparian vegetation in the study area. Direct impacts to all nesting birds, which would include least Bell's vireo if the species were present, would be avoided through implementation of MM-BIO-1 (Minimize Construction-Related Indirect Impacts to Biological Resources), MM-BIO-2 (Biological Monitoring), and MM-BIO-3 (Nesting Bird Surveys).

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8 References

AOU (American Ornithologists' Union). 2018. *Checklist of North and Middle American Birds*. Accessed January 2025. http://checklist.aou.org/taxa/.

City of Oceanside, Planning Department. 2010. *Final Oceanside Subarea Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP)*. Accessed January 2025. https://www.ci.oceanside.ca.us/government/development-services/planning/codes-regulations-maps/subarea-plan.

CDFW (California Department of Fish and Wildlife). 2025a. California Natural Diversity Database (CNDDB). RareFind 5.0 (Commercial Subscription). Sacramento, California: CDFW, Biogeographic Data Branch. Accessed January 2025. https://nrmsecure.dfg.ca.gov/cnddb/Default.aspx.

CDFW. 2025b. "Biogeographic Information and Observation System (BIOS)" [online viewer]. Accessed January 2025. https://wildlife.ca.gov/Data/BIOS.

CDFW. 2025c. "California Natural Community List," February 27, 2025. Accessed February 2025. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153398&inline.

CDFW. 2025d. *State and Federally Listed Endangered, Threatened, and Rare Plants of California*. California Natural Diversity Database (CNDDB). Sacramento: CDFW, Biogeographic Data Branch. April 2025. Accessed January 2025. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109390&inline.

CDFW. 2025e. *State and Federally Listed Endangered and Threatened Animals of California*. California Natural Diversity Database (CNDDB). Sacramento: CDFW, Biogeographic Data Branch. April 2025. Accessed January 2025. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109405&inline.

CDFW. 2025f. " California's Wildlife: Life History Accounts and Range Maps." Accessed January 2025. https://www.wildlife.ca.gov/Data/CWHR/Life-History-and-Range.

CDFW. 2025g. "Species of Special Concern." Accessed January 2025. https://www.wildlife.ca.gov/Conservation/SSC.

CDFW. 2025h. "Fully Protected Animals." Accessed January 2025. https://wildlife.ca.gov/Conservation/Fully-Protected.

CNPS (California Native Plant Society). 2025a. *Inventory of Rare and Endangered Plants*. Online edition, v8-03. Accessed January 2025. http://www.rareplants.cnps.org.

CNPS. 2025b. *A Manual of California Vegetation.* Online Edition. Accessed January 2025. https://www.cnps.org/vegetation.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. FWS/OBS-79/31. Prepared for U.S. Fish and Wildlife Service. December 1979; reprinted 1992. https://www.nrc.gov/docs/ML1801/ML18019A904.pdf.

Crother, B.I. 2017. *Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in our Understanding*. 8th ed. Herpetological Circular No. 43, edited by J.J. Moriarty. Shoreview, Minnesota: Society for the Study of Amphibians and Reptiles.

Google Earth. 2025. Aerials centered on the project site. Accessed January 2024. https://www.google.com/earth/.

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

Jepson Flora Project. 2025. Jepson eFlora. Berkeley, California: University of California. Accessed January 2025. http://ucjeps.berkeley.edu/interchange/.

Mock, P.J. 2004. "California Gnatcatcher (*Polioptila californica*)." In *The Coastal Scrub and Chaparral Bird Conservation Plan: A Strategy for Protecting and Managing Coastal Scrub and Chaparral Habitats and Associated Birds in California*. California Partners in Flight. https://sdplantatlas.org/BirdAtlas/pdf/California%20Gnatcatcher.pdf.

Moyle, P.B. 2002. *Inland Fishes of California*. Berkeley and Los Angeles, California: University of California Press.

NETR (Nationwide Environmental Title Research). 2025. Historic aerials of the project site [online viewer]. Accessed January 2025. https://www.historicaerials.com/viewer.

Oberbauer, T., M. Kelly, and J. Buegge. 2008. *Draft Vegetation Communities of San Diego County*. March 2008. Accessed April 2025. https://www.sandiegocounty.gov/content/dam/sdc/pds/ceqa/Soitec-Documents/Final-EIR-Files/references/rtcref/ch9.0/rtcrefaletters/014%202014-12-19_OberbauerTM2008.pdf.

SANDAG (San Diego Association of Governments). 2003. *Final MHCP Plan.* Vol. 1.

South Coast Wildlands. 2008. *South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion*. Accessed April 2025. http://www.scwildlands.org/reports/SCMLRegionalReport.pdf.

Spencer, W.D., P. Beier, K. Penrod, K. Winters, C. Paulman, H. Rustigian-Romsos, J. Strittholt, M. Parisi, and A. Pettler. 2010. *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California*. February 2010. Prepared for California Department of Transportation, California Department of Fish and Game, and Federal Highways Administration. Accessed February 2025. http://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18366.

USACE (U.S. Army Corps of Engineers). 2025. "Cowardin Codes for ORM Data Entry." Accessed January 2025. https://www.spa.usace.army.mil/Portals/16/docs/civilworks/regulatory/Bulk%20Upload/Bulk%20Data%20Cowardin.pdf.

USDA (U.S. Department of Agriculture). 2025a. "Web Soil Survey." USDA, Natural Resources Conservation Service. Accessed January 2025. http://websoilsurvey.nrcs.usda.gov.

USDA. 2025b. "California." State PLANTS Checklist. Accessed January 2025. https://plants.usda.gov/downloads.

USFWS (U.S. Fish and Wildlife Service). 2025a. Information for Planning and Consultation (IPaC). Environmental Conservation Online System. Accessed January 2025. https://ecos.fws.gov/ipac/.

USFWS. 2025b. "National Wetlands Inventory." Accessed January 2025. https://www.fws.gov/wetlands/.

USGS (U.S. Geological Survey). 2018. "Morro Hill, California Quadrangle" [map]. 1:24,000. 7.5-minute Series. Washington, D.C.

USGS. 2025. "National Hydrography and Watershed Boundary Dataset." USGS National Hydrography Products. Accessed January 2025. https://www.usgs.gov/national-hydrography.

Wilson, D.E., and D.M. Reeder, eds. 2005. *Mammal Species of the World: A Taxonomic and Geographic Reference*. 3rd ed. Baltimore, Maryland: Johns Hopkins University Press.

WRCC (Western Regional Climate Center). 2025. "Cooperative Climatological Data Summaries." NOAA Cooperative Stations – Temperature and Precipitation. Accessed January 2025. https://wrcc.dri.edu/summary/Climsmsca.html.

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Appendix A
Study Area Photos

Photo 1. Overview of agricultural habitat surrounding Non-Wetland Water (NWW)-1.

Photo 2. View facing east of agricultural ditch (NWW-01b) from the east (Photo Point 1).

Photo 3. NWW-1 south of North River Road. Habitat surrounding this consists of dense mulefat.

Photo 4. NWW-1 south of North River Road. Habitat surrounding this consists of dense mulefat.

Photo 5. Agricultural habitat surrounding NWW-01. Photo facing northeast.

Photo 6. NWW-02, north of North River Road, facing north.

Photo 7. Developed habitat surrounding NWW-02 on the north side of North River Road. Photo facing southwest.

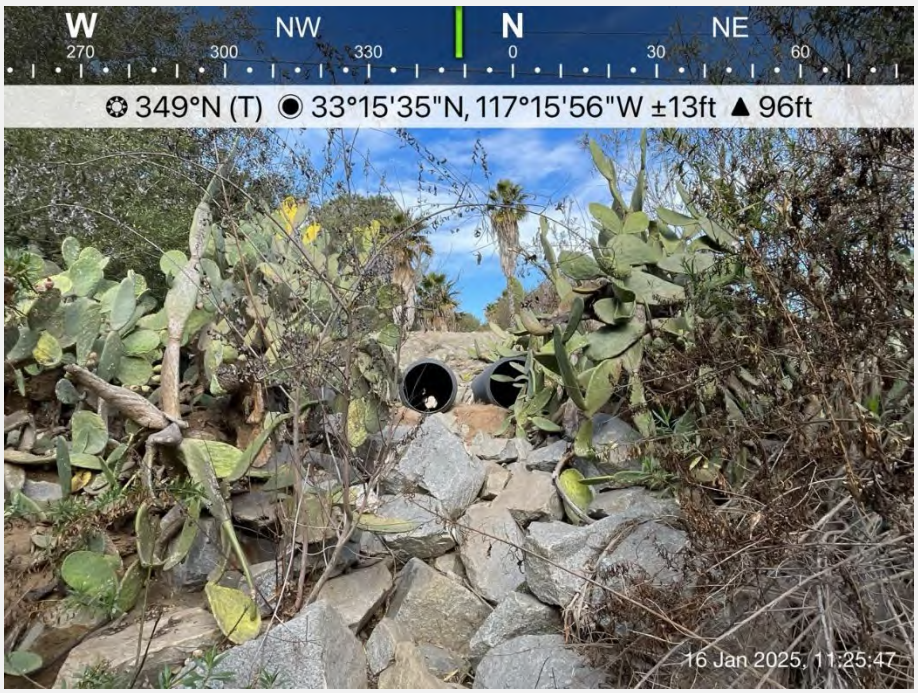

Photo 8. Culvert outlets and riprap of NWW-02 south of North River Road, facing north.

Photo 9. Habitat surrounding NWW-02 south of North River Road, facing southeast.

Photo 10. Beginning of NWW-3, south of North River Road, facing north.

Photo 11. NWW-04 south of North River Road, facing south into dense mulefat scrub.

Photo 12. NWW-04 south of North River Road, facing south by southwest, taken from within channel and dense mulefat scrub.

Photo 13. Disturbed habitat surrounding NWW-05 southwest of Sleeping Indian Road, facing northeast.

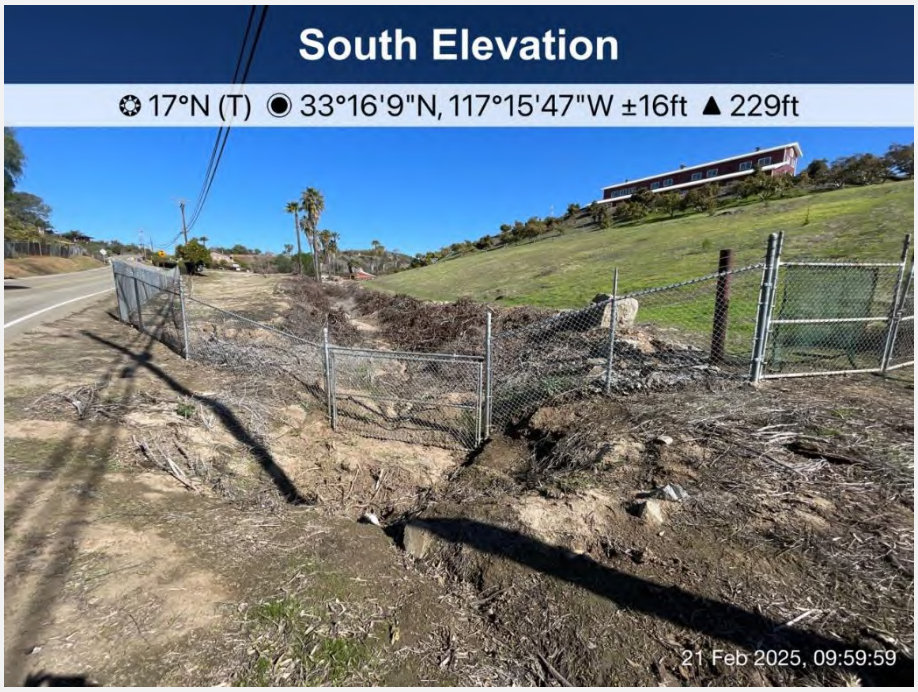

Photo 14. NWW-05 northeast of Sleeping Indian Road, facing south. Overview of disturbed habitat.

Appendix B
Plant and Wildlife Compendia

Plant Species

Angiosperms: Eudicots

ADOXACEAE—ADOXA FAMILY

Sambucus nigra ssp. *caerulea*—blue elderberry

AIZOACEAE—FIG-MARIGOLD FAMILY

* *Mesembryanthemum crystallinum*—crystalline iceplant

AMARANTHACEAE—AMARANTH FAMILY

Malosma laurina—laurel sumac

APIACEAE—CARROT FAMILY

* *Foeniculum vulgare*—sweet fennel*

ASTERACEAE—SUNFLOWER FAMILY

Ambrosia psilostachya—western ragweed

Artemisia californica—coastal sagebrush

Baccharis salicifolia ssp. *salicifolia*—mule-fat, seep-willow

Baccharis sarothroides—broom baccharis

Erigeron canadensis—horseweed

BRASSICACEAE—MUSTARD FAMILY

* *Hirschfeldia incana*—short-pod mustard

CHENOPODIACEAE—GOOSEFOOT FAMILY

* *Salsola tragus*—prickly russian-thistle, tumbleweed

EUPHORBIACEAE—SPURGE FAMILY

* *Ricinus communis*—castor bean

FAGACEAE—OAK FAMILY

Quercus agrifolia—coast live oak, encina

LAMIACEAE—MINT FAMILY

Salvia mellifera—black sage

ROSACEAE—ROSE FAMILY

Heteromeles arbutifolia—toyon, Christmas berry

SALICACEAE—WILLOW FAMILY

Salix laevigata—red willow

SOLANACEAE—NIGHTSHADE FAMILY

* *Nicotiana glauca*—tree tobacco

TAMARICACEAE—TAMARISK FAMILY

* *Tamarix ramosissima*—saltcedar

Angiosperms: Monocots

ARECACEAE—PALM FAMILY

* *Washingtonia robusta*—Mexican fan palm

POACEAE—GRASS FAMILY

* *Arundo donax*—giant reed

Wildlife Species

Birds

Bushtits

AEGITHALIDAE—LONG-TAILED TITS AND BUSHTITS

Psaltriparus minimus—bushtit

Finches

FRINGILLIDAE—FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorhous mexicanus—house finch

Spinus psaltria—lesser goldfinch

Flycatchers

TYRANNIDAE—TYRANT FLYCATCHERS

Sayornis nigricans—black phoebe

Hawks

ACCIPITRIDAE—HAWKS, KITES, EAGLES, AND ALLIES

Buteo jamaicensis—red-tailed hawk

Hummingbirds

TROCHILIDAE—HUMMINGBIRDS

calypte anna—Anna's hummingbird

Jays, Magpies and Crows

CORVIDAE—CROWS AND JAYS

Aphelocoma californica—California scrub-jay

New World Vultures

CATHARTIDAE—NEW WORLD VULTURES

Cathartes aura—turkey vulture

Pigeons and Doves

COLUMBIDAE—PIGEONS AND DOVES

Zenaida macroura—mourning dove

Wood Warblers and Allies

PARULIDAE—WOOD-WARBLERS

Setophaga coronata—yellow-rumped warbler

Wrens

TROGLODYTIDAE—WRENS

Thryomanes bewickii—Bewick's wren

New World Sparrows

PASSERELLIDAE—NEW WORLD SPARROWS

Melozone crissalis—California towhee

Zonotrichia leucophrys—white-crowned sparrow

* signifies introduced (non-native) species

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Appendix C

Assessment of Special-Status Plant Species Potentially Occurring in the Study Area

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	San Diego MHCP Oceanside Subarea Plan	Potential to Occur
Abronia villosa var. *aurita*	chaparral sand-verbena	None/None/ 1B.1	Chaparral, Coastal scrub, Desert dunes; Sandy/annual herb/(Jan)Mar–Sep/245–5,250	None	**Not expected to occur within the project area; low potential to occur within the study area.** Coastal sage scrub habitat is present within the study area; however, this species usually prefers sandier soils than those that are present within the study area.
Acanthomintha ilicifolia	San Diego thorn-mint	FT/SE/1B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools; Clay, Openings/annual herb/Apr–June/ 35–3,150	Covered	Not expected to occur. No vernal pools or clay soils are present within the study area.
Acmispon prostratus	Nuttall's acmispon	None/None/ 1B.1	Coastal dunes, Coastal scrub (sandy)/annual herb/Mar–June(July)/0–35	Covered	Not expected to occur. The site is outside of the species' known elevation range.
Adolphia californica	California adolphia	None/None/ 2B.1	Chaparral, Coastal scrub, Valley and foothill grassland; Clay/perennial deciduous shrub/Dec–May/35–2,430	None	**Not expected to occur within the project area; moderate potential to occur within the study area.** Coastal sage scrub habitat is present within the study area.
Agave shawii var. *shawii*	Shaw's agave	None/None/ 2B.1	Coastal bluff scrub, Coastal scrub/perennial leaf/Sep–May/ 10–395	None	**Not expected to occur within the project area; moderate potential to occur within the study area.** Coastal sage scrub habitat is present within the study area.
Allium marvinii	Yucaipa onion	None/None/ 1B.2	Chaparral (clay, openings)/perennial bulbiferous herb/Apr–May/ 2,495–3,495	None	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	San Diego MHCP Oceanside Subarea Plan	Potential to Occur
Ambrosia pumila	San Diego ambrosia	FE/None/1B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools; Alkaline (sometimes), Clay (sometimes), Disturbed areas (often), Loam (sometimes), Sandy (sometimes)/perennial rhizomatous herb/Apr–Oct/65–1,360	Covered	Not expected to occur. Coastal sage scrub habitat and disturbed areas are present within the study area. However, this species was not observed during the biological reconnaissance survey, and no CNDDB records other than those within management preserves are present within 5 miles of the study area.
Aphanisma blitoides	aphanisma	None/None/ 1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub; Gravelly (sometimes), Sandy (sometimes)/annual herb/Feb–June/5–1,000	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Arctostaphylos glandulosa ssp. *crassifolia*	Del Mar manzanita	FE/None/1B.1	Chaparral (maritime, sandy)/perennial evergreen shrub/June–Apr/0–1,200	None	Not expected to occur. No suitable vegetation present.
Arctostaphylos rainbowensis	Rainbow manzanita	None/None/ 1B.1	Chaparral/perennial evergreen shrub/Dec–Mar/675–2,200	None	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Astragalus tener var. *titi*	coastal dunes milk-vetch	FE/SE/1B.1	Coastal bluff scrub (sandy), Coastal dunes, Coastal prairie (mesic); Mesic (often), Vernally Mesic (often)/annual herb/Mar–May/5–165	None	Not expected to occur. No suitable vegetation present.
Atriplex coulteri	Coulter's saltbush	None/None/ 1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Valley and foothill grassland; Alkaline (sometimes), Clay (sometimes)/perennial herb/Mar–Oct/10–1,510	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	San Diego MHCP Oceanside Subarea Plan	Potential to Occur
Atriplex pacifica	south coast saltscale	None/None/ 1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Playas/annual herb/Mar–Oct/0–460	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Baccharis vanessae	Encinitas baccharis	FT/SE/1B.1	Chaparral (maritime), Cismontane woodland; Sandstone/perennial deciduous shrub/Aug–Nov/195–2,360	None	Not expected to occur. No suitable vegetation present.
Berberis nevinii	Nevin's barberry	FE/SE/1B.1	Chaparral (maritime), Cismontane woodland, Coastal scrub, Riparian scrub; Gravelly (sometimes), Sandy (sometimes)/perennial evergreen shrub/(Feb)Mar–June/230-2,705	None	**Not expected to occur within the project area; low potential to occur within the study area**. Riparian habitat is present within the study area, and within a small portion of the project area. The areas of riparian habitat which may be directly impacted by the project were assessed during the biological reconnaissance survey, and this species was not detected.
Bloomeria clevelandii	San Diego goldenstar	None/None/ 1B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools; Clay/perennial bulbiferous herb/Apr–May/165–1,525	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Brodiaea filifolia	thread-leaved brodiaea	FT/SE/1B.1	Chaparral (openings), Cismontane woodland, Coastal scrub, Playas, Valley and foothill grassland, Vernal pools; Clay (often)/perennial bulbiferous herb/Mar–June/80–3,675	Covered	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	San Diego MHCP Oceanside Subarea Plan	Potential to Occur
Brodiaea orcuttii	Orcutt's brodiaea	None/None/ 1B.1	Chaparral, Cismontane woodland, Closed-cone coniferous forest, Meadows and seeps, Valley and foothill grassland, Vernal pools; Clay, Mesic/perennial bulbiferous herb/ May–July/100–5,550	None	Not expected to occur. No suitable vegetation present.
Ceanothus cyaneus	Lakeside ceanothus	None/None/ 1B.2	Chaparral, Closed-cone coniferous forest/perennial evergreen shrub/ Apr–June/770–2,475	None	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Ceanothus verrucosus	wart-stemmed ceanothus	None/None/ 2B.2	Chaparral/perennial evergreen shrub/Dec–May/5–1,245	None	Not expected to occur. No suitable vegetation present.
Centromadia parryi ssp. *australis*	southern tarplant	None/None/ 1B.1	Marshes and swamps (margins), Valley and foothill grassland (vernally mesic), Vernal pools/annual herb/May–Nov/ 0–1,575	None	Not expected to occur. No suitable vegetation present.
Centromadia pungens ssp. *laevis*	smooth tarplant	None/None/ 1B.1	Chenopod scrub, Meadows and seeps, Playas, Riparian woodland, Valley and foothill grassland; Alkaline/annual herb/Apr–Sep/0–2,100	None	Not expected to occur. No suitable vegetation present.
Chaenactis glabriuscula var. *orcuttiana*	Orcutt's pincushion	None/None/1 B.1	Coastal bluff scrub (sandy), Coastal dunes/annual herb/Jan–Aug/0–330	None	Not expected to occur. No suitable vegetation present.
Chorizanthe orcuttiana	Orcutt's spineflower	FE/SE/1B.1	Chaparral (maritime), Closed-cone coniferous forest, Coastal scrub; Openings, Sandy/annual herb/Mar–May/10–410	None	**Not expected to occur within the project area; moderate potential to occur within the study area.** Coastal sage scrub habitat is present within the study area.

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	San Diego MHCP Oceanside Subarea Plan	Potential to Occur
Chorizanthe polygonoides var. *longispina*	long-spined spineflower	None/None/ 1B.2	Chaparral, Coastal scrub, Meadows and seeps, Valley and foothill grassland, Vernal pools; Clay (often)/annual herb/Apr–July/100–5,020	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Comarostaphylis diversifolia ssp. *diversifolia*	summer holly	None/None/ 1B.2	Chaparral, Cismontane woodland/perennial evergreen shrub/Apr–June/100–2,590	None	Not expected to occur. No suitable vegetation present.
Corethrogyne filaginifolia var. *linifolia*	Del Mar Mesa sand aster	None/None/ 1B.1	Chaparral (maritime, openings), Coastal bluff scrub, Coastal scrub; Sandy/perennial herb/May–Sep/ 15–490	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Cryptantha wigginsii	Wiggins' cryptantha	None/None/ 1B.2	Coastal scrub; Clay (often)/annual herb/Feb–June/65–900	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Dudleya blochmaniae ssp. *blochmaniae*	Blochman's dudleya	None/None/ 1B.1	Chaparral, Coastal bluff scrub, Coastal scrub, Valley and foothill grassland; Clay (often), Rocky, Serpentinite/perennial herb/Apr–June/15–1,475	Covered	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Dudleya multicaulis	many-stemmed dudleya	None/None/ 1B.2	Chaparral, Coastal scrub, Valley and foothill grassland; Clay (often)/perennial herb/Apr–July/50–2,590	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	San Diego MHCP Oceanside Subarea Plan	Potential to Occur
Dudleya variegata	variegated dudleya	None/None/ 1B.2	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland, Vernal pools; Clay/perennial herb/Apr–June/10–1,905	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Dudleya viscida	sticky dudleya	None/None/ 1B.2	Chaparral, Cismontane woodland, Coastal bluff scrub, Coastal scrub; Rocky/perennial herb/May–June/35–1,805	Covered	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Ericameria palmeri var. *palmeri*	Palmer's goldenbush	None/None/ 1B.1	Chaparral, Coastal scrub; Mesic/perennial evergreen shrub/(July)Sep–Nov/100–1,970	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Eryngium aristulatum var. *parishii*	San Diego button-celery	FE/SE/1B.1	Coastal scrub, Valley and foothill grassland, Vernal pools; Mesic/annual/perennial herb/Apr–June/65–2,035	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Eryngium pendletonense	Pendleton button-celery	None/None/ 1B.1	Coastal bluff scrub, Valley and foothill grassland, Vernal pools; Clay, Vernally Mesic/perennial herb/Apr–June(July)/50–360	None	Not expected to occur. No suitable vegetation present.
Erysimum ammophilum	sand-loving wallflower	None/None/ 1B.2	Chaparral (maritime), Coastal dunes, Coastal scrub; Openings, Sandy/perennial herb/Feb–June(July–Aug)/0–195	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	San Diego MHCP Oceanside Subarea Plan	Potential to Occur
Euphorbia misera	cliff spurge	None/None/ 2B.2	Coastal bluff scrub, Coastal scrub, Mojavean desert scrub; Rocky/perennial shrub/(Oct)Dec–Aug/35–1,640	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Ferocactus viridescens	San Diego barrel cactus	None/None/ 2B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools/perennial stem/May–June/ 10–1,475	Covered	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Hazardia orcuttii	Orcutt's hazardia	None/ST/1B.1	Chaparral (maritime), Coastal scrub; Clay (often)/perennial evergreen shrub/Aug–Oct/260–280	Covered	Not expected to occur. The site is outside of the species' known elevation range.
Heterotheca sessiliflora ssp. *sessiliflora*	beach goldenaster	None/None/ 1B.1	Chaparral (coastal), Coastal dunes, Coastal scrub/perennial herb/Mar–Dec/0–4,020	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Horkelia truncata	Ramona horkelia	None/None/ 1B.3	Chaparral, Cismontane woodland; Clay, Gabbroic/perennial herb/May–June/1,310–4,265	None	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Isocoma menziesii var. *decumbens*	decumbent goldenbush	None/None/ 1B.2	Chaparral, Coastal scrub (often disturbed areas, sandy)/perennial shrub/Apr–Nov/35–820	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Iva hayesiana	San Diego marsh-elder	None/None/ 2B.2	Marshes and swamps, Playas/perennial herb/Apr–Oct/0–1,640	Covered	Not expected to occur. No suitable vegetation present.

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	San Diego MHCP Oceanside Subarea Plan	Potential to Occur
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	None/None/ 1B.1	Marshes and swamps (coastal salt), Playas, Vernal pools/annual herb/Feb–June/5–4,005	None	Not expected to occur. No suitable vegetation present.
Leptosyne maritima	sea dahlia	None/None/ 2B.2	Coastal bluff scrub, Coastal scrub/perennial herb/Mar–May/ 15–490	None	**Not expected to occur within the project area; moderate potential to occur within the study area.** Coastal sage scrub habitat is present within the study area.
Monardella hypoleuca ssp. *lanata*	felt-leaved monardella	None/None/ 1B.2	Chaparral, Cismontane woodland/perennial rhizomatous herb/June–Aug/985–5,170	None	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Nama stenocarpa	mud nama	None/None/ 2B.2	Marshes and swamps (lake margins, riverbanks)/annual/perennial herb/Jan–July/15–1,640	None	Not expected to occur. No suitable vegetation present.
Navarretia fossalis	spreading navarretia	FT/None/1B.1	Chenopod scrub, Marshes and swamps (shallow freshwater), Playas, Vernal pools/annual herb/Apr–June/ 100–2,150	None	Not expected to occur. No suitable vegetation present.
Nemacaulis denudata var. *denudata*	coast woolly-heads	None/None/ 1B.2	Coastal dunes/annual herb/Apr–Sep/0–330	None	Not expected to occur. No suitable vegetation present.
Nemacaulis denudata var. *gracilis*	slender cottonheads	None/None/ 2B.2	Coastal dunes, Desert dunes, Sonoran desert scrub/annual herb/(Mar)Apr–May/-165–1,310	None	Not expected to occur. No suitable vegetation present.
Nolina cismontana	chaparral nolina	None/None/ 1B.2	Chaparral, Coastal scrub; Gabbroic (sometimes), Sandstone (sometimes)/perennial evergreen shrub/(Mar)May–July/460–4,185	None	Not expected to occur. The site is outside of the species' known elevation range.
Orcuttia californica	California Orcutt grass	FE/SE/1B.1	Vernal pools/annual herb/Apr–Aug/ 50–2,165	None	Not expected to occur. No suitable vegetation present.

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	San Diego MHCP Oceanside Subarea Plan	Potential to Occur
Phacelia stellaris	Brand's star phacelia	None/None/ 1B.1	Coastal dunes, Coastal scrub/annual herb/Mar–June/5–1,310	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Pogogyne abramsii	San Diego mesa mint	FE/SE/1B.1	Vernal pools/annual herb/Mar–July/ 295–655	None	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Pseudognaphalium leucocephalum	white rabbit-tobacco	None/None/ 2B.2	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland; Gravelly, Sandy/perennial herb/(July)Aug–Nov(Dec)/0–6,890	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Quercus dumosa	Nuttall's scrub oak	None/None/ 1B.1	Chaparral, Closed-cone coniferous forest, Coastal scrub; Clay, Loam, Sandy/perennial evergreen shrub/ Feb–Apr(May–Aug)/50–1,310	Covered	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Salvia munzii	Munz's sage	None/None/ 2B.2	Chaparral, Coastal scrub/perennial evergreen shrub/Feb–Apr/375–3,495	None	Not expected to occur. The site is outside of the species' known elevation range.
Senecio aphanactis	chaparral ragwort	None/None/ 2B.2	Chaparral, Cismontane woodland, Coastal scrub; Alkaline (sometimes)/annual herb/ Jan–Apr(May)/50–2,625	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.
Sidalcea neomexicana	salt spring checkerbloom	None/None/ 2B.2	Chaparral, Coastal scrub, Lower montane coniferous forest, Mojavean desert scrub, Playas; Alkaline, Mesic/perennial herb/Mar–June/ 50–5,020	None	**Not expected to occur within the project area; moderate potential to occur within the study area**. Coastal sage scrub habitat is present within the study area.

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	San Diego MHCP Oceanside Subarea Plan	Potential to Occur
Sphaerocarpos drewiae	bottle liverwort	None/None/ 1B.1	Chaparral, Coastal scrub; Openings/ephemeral liverwort/N.A./295–1,970	None	Not expected to occur. The site is outside of the species' known elevation range.
Sphenopholis interrupta ssp. *californica*	prairie false oat	None/None/ 1B.1	Chaparral (coastal); Clay/annual herb/Apr/50–50	None	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Stemodia durantifolia	purple stemodia	None/None/ 2B.1	Sonoran desert scrub (often mesic, sandy)/perennial herb/(Jan)Apr–Dec/590–985	None	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Suaeda esteroa	estuary seablite	None/None/ 1B.2	Marshes and swamps (coastal salt)/perennial herb/(Jan–May)July–Oct/0–15	None	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Tetracoccus dioicus	Parry's tetracoccus	None/None/ 1B.2	Chaparral, Coastal scrub/perennial deciduous shrub/Apr–May/540–3,280	None	Not expected to occur. The site is outside of the species' known elevation range.

Notes:
Status Legend
Federal
FE: Federally listed endangered
FT: Federally listed as threatened
State
SE: State listed as endangered
ST: State listed as threatened
California Rare Plant Ranking (CRPR)
1B: Plants rare, threatened, or endangered in California and elsewhere
2B: Plants rare, threatened, or endangered in California but more common elsewhere
Threat Rank
.1 – Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
.2 – Moderately threatened in California (20% to 80% of occurrences threatened/moderate degree and immediacy of threat)
.3 – Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known)

Appendix D

Assessment of Special-Status Wildlife Species Potentially Occurring in the Study Area

Scientific Name	Common Name	Status (Federal/State)	Habitat	San Diego MHCP Oceanside Subarea	Potential to Occur
Amphibians					
Anaxyrus californicus	arroyo toad	FE/SSC	Semi-arid areas near washes, sandy riverbanks, riparian areas, palm oasis, Joshua tree, mixed chaparral and sagebrush; stream channels for breeding (typically third order); adjacent stream terraces and uplands for foraging and wintering	Covered	**Not expected to occur.** While riparian habitat is present within the study area, it is too thick with vegetation and lacks open sandbars, making it unsuitable for this species.
Spea hammondii	western spadefoot	FPT/SSC	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley–foothill woodlands, pastures, and other agriculture	Covered	**Low potential to occur.** The U.S. Fish and Wildlife Service's National Wetlands Inventory mapper (USFWS 2025) displays a freshwater pond in the vicinity of the study area, and so marginal pond habitat may be present. However, there is no suitable upland estivation habitat within the study area.
Reptiles					
Anniella stebbinsi	southern California legless lizard	None/SSC	Coastal dunes, stabilized dunes, beaches, dry washes, valley–foothill, chaparral, and scrubs; pine, oak, and riparian woodlands; associated with sparse vegetation	None	**Low potential to occur.** While coastal sage scrub habitat is present within the study area, it is marginal and isolated from larger continuous blocks of habitat.

Scientific Name	Common Name	Status (Federal/State)	Habitat	San Diego MHCP Oceanside Subarea	Potential to Occur
			and moist sandy or loose, loamy soils		
Arizona elegans occidentalis	California glossy snake	None/SSC	Arid scrub, rocky washes, grasslands, chaparral, open areas with loose soil	None	**Low potential to occur**. While coastal sage scrub habitat is present within the study area, it is marginal and isolated from larger continuous blocks of habitat.
Aspidoscelis hyperythra	orange-throated whiptail	None/WL	Low-elevation coastal scrub, chaparral, and valley–foothill hardwood	Covered	**Low potential to occur**. While coastal sage scrub habitat is present within the study area, it is marginal and isolated from larger continuous blocks of habitat.
Aspidoscelis tigris stejnegeri	San Diegan tiger whiptail	None/SSC	Hot and dry areas with sparse foliage, including chaparral, woodland, and riparian areas.	None	**Not expected to occur**. No suitable habitat is present.
Crotalus ruber	red diamondback rattlesnake	None/SSC	Coastal scrub, chaparral, oak and pine woodlands, rocky grasslands, cultivated areas, and desert flats	None	**Low potential to occur**. While coastal sage scrub habitat is present within the study area, it is marginal and isolated from larger continuous blocks of habitat.
Phrynosoma blainvillii	Blainville's horned lizard	None/SSC	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley–foothill hardwood, conifer, riparian, pine–cypress, juniper, and	None	**Low potential to occur**. While coastal sage scrub habitat is present within the study area, it is marginal and isolated from larger continuous blocks of habitat.

Scientific Name	Common Name	Status (Federal/State)	Habitat	San Diego MHCP Oceanside Subarea	Potential to Occur
			annual grassland habitats		
Salvadora hexalepis virgultea	coast patch-nosed snake	None/SSC	Brushy or shrubby vegetation; requires small mammal burrows for refuge and overwintering sites	None	**Low potential to occur**. While coastal sage scrub habitat is present within the study area, it is marginal and isolated from larger continuous blocks of habitat.
Thamnophis hammondii	two-striped gartersnake	None/SSC	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	None	**High potential to occur**. Suitable habitat is present within the San Luis Rey River corridor in the southern part of the study area.
Thamnophis sirtalis ssp. (Southern California coastal plain from Ventura County to San Diego County, and from sea level to about 850 meters)	south coast garter snake	None/SSC	Marsh and upland habitats near permanent water and riparian vegetation	None	**High potential to occur**. Suitable habitat is present within the San Luis Rey River corridor in the southern part of the study area.
Actinemys pallida	southwestern pond turtle	FPT/SSC	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter	Covered	**High potential to occur**. Suitable habitat is present within the San Luis Rey River corridor in the southern part of the study area.
Birds					
Accipiter cooperii (nesting)	Cooper's hawk	None/WL	Nests and forages in dense stands of live oak, riparian woodlands, or other	Covered	**High potential to occur**. Suitable nesting and foraging habitat is present within the San Luis Rey River corridor in the southern part of the study area.

Scientific Name	Common Name	Status (Federal/State)	Habitat	San Diego MHCP Oceanside Subarea	Potential to Occur
			woodland habitats often near water		
Agelaius tricolor (nesting colony)	tricolored blackbird	BCC/SSC, ST	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberrry; forages in grasslands, woodland, and agriculture	None	**Low potential to occur**. Marginal nesting habitat is present within riparian scrub in the study area.
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	None/WL	Nests and forages in open coastal scrub and chaparral with low cover of scattered scrub interspersed with rocky and grassy patches	Covered	**Moderate potential to occur**. Suitable coastal sage scrub habitat is present within the study area.
Aquila chrysaetos (nesting and wintering)	golden eagle	None/FP, WL	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats	Covered	**Not expected to occur**. No suitable vegetation present.
Artemisiospiza belli belli	Bell's sage sparrow	None/WL	Nests and forages in coastal scrub and dry chaparral; typically in large, unfragmented patches dominated by chamise; nests in more dense patches but uses	Covered	**Low potential to occur**. While coastal sage scrub habitat is present within the study area, this species prefers larger unfragmented patches of sage scrub than the isolated habitat present on site. Additionally, no

Scientific Name	Common Name	Status (Federal/State)	Habitat	San Diego MHCP Oceanside Subarea	Potential to Occur
			more open habitat in winter		chamise, a plant prevalent in this bird's preferred habitat, is present within the study area.
Buteo swainsoni (nesting)	Swainson's hawk	None/ST	Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture	None	**Not expected to occur**. Study area is outside of species' range.
Campylorhynchus brunneicapillus sandiegensis (San Diego and Orange Counties only)	coastal cactus wren	None/SSC	Southern cactus scrub patches	None	**Low potential to occur**. While scattered *Opuntia* cactus species are present within the study area, they are not present to a degree that they provide quality habitat for this species.
Charadrius nivosus nivosus (nesting)	western snowy plover	FT, BCC/SSC	On coasts nests on sandy marine and estuarine shores; in the interior nests on sandy, barren or sparsely vegetated flats near saline or alkaline lakes, reservoirs, and ponds	Covered	**Not expected to occur**. No suitable vegetation present.
Circus hudsonius (nesting)	northern harrier	BCC/SSC	Nests in open wetlands (marshy meadows, wet lightly-grazed pastures, old fields, freshwater and brackish marshes); also in drier habitats (grassland and grain fields); forages in grassland, scrubs, rangelands, emergent	None	**Not expected to occur**. No suitable nesting habitat is present.

Scientific Name	Common Name	Status (Federal/State)	Habitat	San Diego MHCP Oceanside Subarea	Potential to Occur
			wetlands, and other open habitats		
Coccyzus americanus occidentalis (nesting)	western yellow-billed cuckoo	FT/SE	Nests in dense, wide riparian woodlands and forest with well-developed understories	None	**Moderate potential to occur.** Potentially suitable riparian habitat is present and the species was documented approximately 5.25 miles to the northwest within the San Luis Rey River riparian corridor in 2011.
Elanus leucurus (nesting)	white-tailed kite	None/FP	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands	None	**Not expected to occur.** No suitable vegetation present.
Empidonax traillii extimus (nesting)	southwestern willow flycatcher	FE/SE	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration	Covered	**High potential to occur.** Suitable nesting habitat is present within the San Luis Rey River riparian corridor in the southern part of the study area, and species was documented less than 0.25 miles from the study area in 2008 (CDFW 2025).
Icteria virens (nesting)	yellow-breasted chat	None/SSC	Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush	Covered	**High potential to occur.** Suitable nesting habitat is present within the San Luis Rey River riparian corridor in the southern part of the study area, and species was documented within the study area in 2003 (CDFW 2025).

Scientific Name	Common Name	Status (Federal/State)	Habitat	San Diego MHCP Oceanside Subarea	Potential to Occur
Ixobrychus exilis (nesting)	least bittern	None/SSC	Nests in freshwater and brackish marshes with dense, tall growth of aquatic and semi-aquatic vegetation	None	**Not expected to occur**. No suitable vegetation present.
Laterallus jamaicensis coturniculus	California black rail	None/FP, ST	Tidal marshes, shallow freshwater margins, wet meadows, and flooded grassy vegetation; suitable habitats are often supplied by canal leakage in Sierra Nevada foothill populations	None	**Not expected to occur**. Study area is outside of species' range.
Passerculus sandwichensis beldingi	Belding's savannah sparrow	BCC/SE	Nests and forages in coastal saltmarsh dominated by pickleweed (*Salicornia* spp.)	Covered	**Not expected to occur**. No suitable habitat is present within the study area.
Plegadis chihi (nesting colony)	white-faced ibis	None/WL	Nests in shallow marshes with areas of emergent vegetation; winter foraging in shallow lacustrine waters, flooded agricultural fields, muddy ground of wet meadows, marshes, ponds, lakes, rivers, flooded fields, and estuaries	Covered	**Not expected to occur**. No suitable vegetation present.
Polioptila californica californica	coastal California gnatcatcher	FT/SSC	Nests and forages in various sage scrub communities, often	Covered	**Low potential to occur**. While coastal sage scrub habitat is present, it is marginal and

Scientific Name	Common Name	Status (Federal/State)	Habitat	San Diego MHCP Oceanside Subarea	Potential to Occur
			dominated by California sagebrush and buckwheat; generally avoids nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 feet above mean sea level		isolated from larger blocks of continuous habitat needed by this species. CNDDB records are present within the vicinity of the study area, but are generally from over 20 years ago and appear to be documented before these areas were developed.
Rallus obsoletus levipes	light-footed Ridgway's rail	FE/FP, SE	Coastal wetlands, brackish areas, coastal saline emergent wetlands	Covered	**Not expected to occur.** No suitable vegetation present.
Riparia riparia (nesting)	bank swallow	None/ST	Nests in riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with sandy soils; open country and water during migration	None	**Not expected to occur.** No suitable nesting habitat is present within the study area.
Setophaga petechia (nesting)	yellow warbler	None/SSC	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats	None	**Moderate potential to occur.** Suitable nesting habitat is present and species was documented within study area in 2003 (CDFW 2025).
Sternula antillarum browni (nesting colony)	California least tern	FE/FP, SE	Forages in shallow estuaries and lagoons; nests on sandy beaches or exposed tidal flats	Covered	**Not expected to occur.** No suitable habitat is present within the study area.
Vireo bellii pusillus (nesting)	least Bell's vireo	FE/SE	Nests and forages in low, dense riparian thickets along water or along dry parts of	Covered	**High potential to occur.** Suitable habitat is present within the study area and the species was

Scientific Name	Common Name	Status (Federal/State)	Habitat	San Diego MHCP Oceanside Subarea	Potential to Occur
			intermittent streams; forages in riparian and adjacent shrubland late in nesting season		documented within the study area in 2013 (CDFW 2025).
Fish					
Eucyclogobius newberryi	tidewater goby	FE/SSC	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County, to the mouth of the Smith River	None	**Not expected to occur**. No suitable vegetation present.
Gila orcuttii	arroyo chub	None/SSC	Warm, fluctuating streams with slow-moving or backwater sections of warm to cool streams at depths >40 centimeters (16 inches); substrates of sand or mud	None	**Not expected to occur**. No suitable vegetation present.
Mammals					
Antrozous pallidus	pallid bat	None/SSC	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees	None	**Moderate potential to occur**. Trees and man-made structures for roosting are present within the study area. However, no trees or structures are expected to be felled within the project area.
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	None/None	Coastal scrub, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent	Covered	**Low potential to occur**. While coastal sage scrub habitat is present within the study area, it is marginal and isolated from

Scientific Name	Common Name	Status (Federal/State)	Habitat	San Diego MHCP Oceanside Subarea	Potential to Occur
			shrub, pinyon–juniper, and annual grassland		larger continuous blocks of habitat.
Choeronycteris mexicana	Mexican long-tongued bat	None/SSC	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon–juniper woodland; roosts in caves, mines, and buildings	None	**Not expected to occur.** No suitable habitat is present within the study area.
Corynorhinus townsendii	Townsend's big-eared bat	None/SSC	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, man-made structures, and tunnels	None	**Moderate potential to occur.** Trees and man-made structures for roosting, as well as riparian habitat, are present within the study area. However, no trees or roosting structures are expected to be felled within the project area.
Dasypterus xanthinus	western yellow bat	None/SSC	Valley–foothill riparian, desert riparian, desert wash, and palm oasis habitats; below 2,000 feet above mean sea level; roosts in riparian and palms	None	**Low potential to occur.** Riparian habitat is present within the study area.
Dipodomys stephensi	Stephens' kangaroo rat	FT/ST	Annual and perennial grassland habitats, coastal scrub or sagebrush with sparse canopy cover, or in disturbed areas	Covered	**Low potential to occur.** While coastal sage scrub habitat is present within the study area, it is marginal and isolated from larger continuous blocks of habitat.
Eumops perotis californicus	western mastiff bat	None/SSC	Chaparral, coastal and desert scrub, coniferous and deciduous forest and	None	**Moderate potential to occur.** Trees and man-made structures for roosting are present within the study area. However, no

Scientific Name	Common Name	Status (Federal/State)	Habitat	San Diego MHCP Oceanside Subarea	Potential to Occur
			woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels		trees or roosting structures are expected to be felled within the project area.
Leptonycteris yerbabuenae	lesser long-nosed bat	FPD/SSC	Sonoran desert scrub, semi-desert grasslands, lower oak woodlands	None	**Not expected to occur**. No suitable vegetation present.
Lepus californicus bennettii	San Diego black-tailed jackrabbit	None/None	Arid habitats with open ground; grasslands, coastal scrub, agriculture, disturbed areas, and rangelands	Covered	**Moderate potential to occur**. Suitable habitat is present within the study area.
Neotoma lepida intermedia	San Diego desert woodrat	None/SSC	Coastal scrub, desert scrub, chaparral, cacti, rocky areas	None	**Low potential to occur**. While coastal sage scrub habitat is present within the study area, it is marginal and isolated from larger continuous blocks of habitat.
Nyctinomops femorosaccus	pocketed free-tailed bat	None/SSC	Pinyon–juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oases; roosts in high cliffs or rock outcrops with drop-offs, caverns, and buildings	None	**Not expected to occur**. No suitable habitat is present.

Scientific Name	Common Name	Status (Federal/State)	Habitat	San Diego MHCP Oceanside Subarea	Potential to Occur
Perognathus longimembris pacificus	Pacific pocket mouse	FE/SSC	fine-grained sandy substrates in open coastal strand, coastal dunes, and river alluvium	None	**Not expected to occur**. No suitable habitat is present.
Taxidea taxus	American badger	None/SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	None	**Not expected to occur**. Vegetated areas within the study area are too dense for this species, in addition to preferred vegetation communities for this species within the study area being isolated.
Invertebrates					
Bombus crotchii	Crotch's bumble bee	None/SCE	Open grassland and scrub communities supporting suitable floral resources.	None	**Moderate potential to occur**. Suitable foraging habitat is present within the study area.
Branchinecta sandiegonensis	San Diego fairy shrimp	FE/None	Vernal pools, non-vegetated ephemeral pools	None	**Not expected to occur**. No vernal pools are present in the study area.
Streptocephalus woottoni	Riverside fairy shrimp	FE/None	Vernal pools, non-vegetated ephemeral pools	None	**Not expected to occur**. No vernal pools are present in the study area.
Danaus plexippus plexippus pop. 1	monarch - California overwintering population	FC/None	Wind-protected tree groves with nectar sources and nearby water sources	None	**Not expected to occur**. No suitable vegetation is present within the study area.

Notes:
Status Designations
Federal
BCC: USFWS—Birds of Conservation Concern
FC: Candidate for federal listing as threatened or endangered
FE: Federally listed as endangered
FPD: Federally proposed for delisting
FPT: Federally proposed for listing as threatened

FT: Federally listed as threatened
State
FP: California Fully Protected species
SCE: State candidate for listing as endangered
SE: State listed as endangered
SSC: California Species of Special Concern
ST: State listed as threatened
WL: CDFW Watch List species

References

CDFW (California Department of Fish and Wildlife). 2025. California Natural Diversity Database (CNDDB). RareFind 5.0 (Commercial Subscription). Sacramento, California: CDFW, Biogeographic Data Branch. Accessed January 2025. https://nrmsecure.dfg.ca.gov/cnddb/Default.aspx.

USFWS (U.S. Fish and Wildlife Service). 2025. "National Wetlands Inventory." Accessed January 2025. https://www.fws.gov/wetlands/.

Appendix E

Aquatic Resources Delineation Report

DRAFT

Aquatic Resources Delineation Report

North River Road and Sleeping Indian Road Drainage Improvements

APRIL 2025

Prepared for:

CITY OF OCEANSIDE
300 North Coast Highway
Oceanside, California 92054
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San Diego, California 92106
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Printed on 30% post-consumer recycled material.

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
APT	Antecedent Precipitation Tool
ARC	antecedent runoff condition
ARDR	Aquatic Resources Delineation Report
CDFW	California Department of Fish and Wildlife
NWW	non-wetland water
OHWM	ordinary high-water mark
PDSI	Palmer Drought Severity Index
Project	North River Road and Sleeping Indian Road Drainage Improvements Project
RWQCB	Regional Water Quality Control Board
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Services

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1 Introduction

This Aquatic Resources Delineation Report (ARDR) was prepared in accordance with the U.S. Army Corps of Engineers' (USACE) Minimum Standards for Acceptance of Aquatic Resources Delineation Reports (USACE 2017). This ARDR and supporting appendices provide the 20 items listed in the Minimum Standards. This report presents the results of the jurisdictional aquatic resource delineation conducted by Dudek staff for the North River Road and Sleeping Indian Road Drainage Improvements Project (Project) in Oceanside, San Diego County, California. The delineation was conducted to identify and map existing aquatic resources potentially subject to the regulatory jurisdiction of the USACE pursuant to Section 404 of the Clean Water Act (33 USC 1344), waters of the state potentially subject to the regulatory jurisdiction of the Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the Clean Water Act and the Porter–Cologne Water Quality Control Act, and stream and riparian habitats potentially subject to the jurisdiction of the California Department of Fish and Wildlife (CDFW) pursuant to Section 1602 of the California Fish and Game Code (collectively defined as jurisdictional aquatic resources).

1.1 Disclaimer Statement

This ARDR presents Dudek's best effort to quantify the extent of aquatic resources potentially regulated by USACE, RWQCB, and CDFW (i.e., regulatory agencies) within the identified review area using current regulations, written policies, and guidance from these regulatory agencies. The potential jurisdictional boundaries described in this ARDR are subject to verification by the regulatory agencies. Only the regulatory agencies can make a final determination on whether the features present are subject to USACE, RWQCB, and/or CDFW regulation.

1.2 Contact Information

Contact information for the Project applicant and agent are provided in Table 1.[1] Access to the review area is not restricted, but if a site visit is requested, the project applicant or agent will accompany regulatory staff to the review area.[2] The City of Oceanside is the project applicant and landowner.

Table 1. Contact Information

Project Applicant	City of Oceanside	**Agent**	Dudek
Contact Name	Edwin Medina	**Contact Name**	Alex Hardy
Address	300 North Coast Highway, Oceanside, California 92054	**Address**	605 Third Street, Encinitas, California 92024
Phone	760-435-5086	**Phone**	442-232-7822
Email	emedina@oceansideca.org	**Email**	ahardy@dudek.com

1 Minimum Standards Item 2 (Contact Information)
2 Minimum Standards Item 3 (Site Access Statement)

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2 Review Area Description and Landscape Setting

The approximately 9-acre review area for the proposed Project is in the City of Oceanside in northern San Diego County, California (Figure 1, Project Location). The review area consists of portions of eight parcels: Assessor's Parcel Numbers 12210040, 12209056, 12210059, 12210034, 12210012, 12210008, 12209054, and 12210053. It is located on North River Road between North Wilshire Road and Sleeping Indian Road, as well as on Sleeping Indian Road between North River Road and Las Tunas Drive. The review area is surrounded by low-intensity agricultural operations and low-density residential development in a semi-rural setting. The San Luis Rey River runs parallel to the review area to its south. The Project site can be found on the U.S. Geologic Survey Morro Hill 7.5-minute topographic quadrangle (see Figure 1).[3,4]

The Project site can be accessed from California Highway 76 west by taking a left onto College Boulevard, travelling approximately 0.9 miles northwest, taking a right onto North River Road/Vandegrift Boulevard, taking a right onto North River Road, turning left onto CA-246, and travelling 2.1 miles east (Figure 2, Review Area).[5]

2.1 Geology and Topography

The review area is in the Diegan Coastal Hills and Valleys region of the Southern California/Northern Baja coast. Geology at the site is classified as alluvium derived from granitic sources. Site geology is associated with alluvial fan, terraces, floodplains, hills, and mountainous uplands. Elevations within the review area range from approximately 102 to 266 feet above mean sea level. The review area is generally sloped north to south, with elevation dropping as it approaches the San Luis Rey River.

2.2 Soils

Soil types within the review area[6] are shown in Table 2 and Figure 3, Soils. According to the U.S. Department of Agriculture's Natural Resources Conservation Service, there are seven soil types mapped in the review area (USDA 2025a): Cieneba very rocky coarse sandy loam, 30% to 75% slopes; Fallbrook sandy loam, 9% to 15% slopes, eroded; Placentia sandy loam, 5% to 9% slopes, eroded; Tujunga sand, 0% to 5% slopes; Visalia sandy loam, 2% to 5% slopes; Vista coarse sandy loam, 15% to 30% slopes, eroded; and steep gullied land. Table 2 provides a summary of the soil mapped in the review area.

Table 2. Soils in the Review Area

Soil Type	Hydric Rating	Acreage
Cieneba very rocky coarse sandy loam, 30% to 75% slopes	Not Hydric	2.68
Fallbrook sandy loam, 9% to 15% slopes, eroded	Not Hydric	0.003
Placentia sandy loam, 5% to 9% slopes, eroded	Predominantly Non-Hydric	1.18

3 Minimum Standards Item 10 (Description of Existing Field Conditions)
4 Minimum Standard Item 14 (Site Location Map)
5 Minimum Standards Item 4 (Directions)
6 Minimum Standards Item 13 (Soil Descriptions)

Table 2. Soils in the Review Area

Soil Type	Hydric Rating	Acreage
Tujunga sand, 0% to 5% slopes	Predominantly Non-Hydric	4.26
Visalia sandy loam, 2% to 5% slopes	Predominantly Non-Hydric	0.52
Vista coarse sandy loam, 15% to 30% slopes, eroded	Not Hydric	0.21
Steep gullied land	Not Hydric	0.02

Sources: USDA 2025a, 2025b

The Cieneba series are somewhat excessively drained soils that occur on hills and mountains and are formed in material weathered from granitic rock (USDA 2025a). The Fallbrook series are well drained soils that occur on rolling hills are formed in residuum weathered from granitic rock (USDA 2025a). The Placentia series are well to moderately well drained soils that occur on fans and terraces and are formed in alluvium from granite and other rocks of similar composition and texture (USDA 2025a). The Tujunga series are somewhat excessively drained soils that occur on alluvial fans and floodplains and are formed in alluvium from granitic sources (USDA 2025a). The Visalia series are somewhat poorly drained soils that occur on alluvial fans and flood plains and are formed from alluvial outwash from granitic sources (USDA 2025a). The Vista series are well drained soils that occur on hills and mountainous uplands and are formed in material weathered from decomposed granitic rocks (USDA 2025a). None of the soil types mapped within the review area are considered hydric (USDA 2025a, 2025b).

2.3 Vegetation

A total of 20 species of native or naturalized plants, 11 native (55%) and 9 non-native (45%), were recorded in the review area. Land cover in the review area consists of mulefat scrub, giant reed (*Arundo donax*)-dominated riparian vegetation, southern arroyo willow riparian forest, southern riparian scrub, non-native riparian, non-native grassland, and disturbed/developed land covers in the form of asphalt and dirt roads, agriculture, and ornamental plantings.

2.4 Watershed

The review area occurs within the San Luis Rey River watershed (Hydrologic Unit Code [HUC] 18070303). The San Luis Rey River watershed is 359,000 acres, originating in the Palomar Mountains and reaching the ocean at the City of Oceanside.

2.5 Review Area Alterations, Current and Past Land Use

Data from the USACE-developed Antecedent Precipitation Tool (APT), discussed in further detail below, was assessed for this jurisdictional delineation and indicated that the survey took place in a drier than normal period. No water was observed within any of the aquatic features on site, except for the agricultural ditches in the far western portion of the review area, which contained pooled water at the time of the visit.

Within the review area, there are several agricultural operations ranging from nursery operations to the cultivation of crops such as avocados, as well as sections of residential property. Review of aerial imagery indicates that this is the only land use which has taken place in the review area. It is presumed that the water present within the agricultural ditches at the time of the survey was the result of irrigation associated with the agricultural operation to which the features were connected.

3 Precipitation Data and Analysis

The USACE-developed APT was used to assess whether the delineation date occurred in a drier, average, or wetter than normal period (USACE 2025).[7] To determine what constitutes a "typical year," USACE developed the APT. The information generated from the APT can help to determine whether normal hydrologic and/or climatic conditions were present during the site visit, and to assist with completing the Wetland Determination Data Form.

The APT provides three climatological parameters: Palmer Drought Severity Index (PDSI), season, and antecedent precipitation condition. The PDSI is a standardized index calculated on a monthly basis, with PDSI value outputs ranging from -4 (extreme drought) to +4 (very wet) (NOAA 2025) to assess drought conditions (i.e., PDSI Class). The APT determines wet vs. dry season based on related procedures provided in the applicable USACE regional supplement for the review area (in this case, the Arid West Supplement [USACE 2008a]). If the antecedent runoff condition (ARC) score is less than 10, then the antecedent precipitation condition is classified as drier than normal; if the ARC score is 10 to 14 then conditions are normal; if the ARC score is greater than 14 then conditions are wetter than normal (USACE 2025).

Table 3 summarizes the key data extrapolated from the APT output: estimated drought conditions (PDSI Class), wet or dry season determination, ARC score, and antecedent precipitation condition. Based on the APT output provided in Appendix A and summarized in Table 3, the precipitation and climatic conditions for the review area were drier than normal during the time of the delineation.

Table 3. Antecedent Precipitation Tool Data for the Review Area

Main Field Survey Date	PDSI Class	Season	ARC Score	Antecedent Precipitation Condition
1/16/2025	Severe Drought	Wet Season	7	Drier than Normal
2/21/2025	Severe drought	Wet Season	9	Drier than Normal

Notes: PDSI = Palmer Drought Severity Index; ARC = antecedent runoff condition

Additionally, according to the Western Regional Climate Center (WRCC 2025), the area around the review area receives an average of 13.1 inches of precipitation annually.

[7] Minimum Standards Item 11 (Discussion of Hydrology)

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4 Investigation Methods

This chapter describes the investigation methods for this jurisdictional delineation[8] conducted by Dudek biologists Josh Elson, Eilleen Salas, and Kimberly Narel on January 16, 2025, and February 21, 2025 (Table 4).[9] Prior to conducting the jurisdictional delineation, the U.S. Fish and Wildlife Services' (USFWS) National Wetlands Inventory data was reviewed to determine if the review area contains any features mapped by USFWS (2025). Site-specific topographical data was reviewed in conjunction with aerials, both current and historical, to determine the potential presence of non-wetland waters. Current vegetation mapping was reviewed to assess whether the review area supports hydrophytic vegetation and potential wetlands; one area supporting hydrophytic vegetation was also assessed for the presence of wetland hydrology and hydric soils to determine whether it was a three-parameter wetland. Jurisdictional boundaries were mapped in the field using ESRI Collector on a mobile device. Remote sensing was not used for the delineation.[10]

Table 4. Schedule of the Aquatic Resources Delineation

Date	Hours	Personnel	Conditions (temperature, skies, wind)
1/16/2025	0845–1430	Josh Elson, Eilleen Salas	52°F–68°F, 0%–50% cloud cover, no wind
2/21/2025	0800–1200	Kimberly Narel	60°F –72°F, 0%–100% cloud cover, 1–3 mph wind

4.1 U.S. Army Corps of Engineers

The USACE wetlands delineation was conducted in accordance with the 1987 USACE Wetlands Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008a). 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 (USACE 2008b) was used to determine the limits of non-wetland waters. Non-wetland waters were delineated on topographical maps in conjunction with ESRI Collector on a mobile device. The widths of each non-wetland water were determined in the field according to the OHWM Manual.[11]

Wetland Determination Forms were completed for certain points within drainages or vegetation communities where a predominance of hydrophytic vegetation was present; hydrology, vegetation, and soils were assessed to determine whether USACE three-parameter wetlands were present. USACE OHWM Forms were completed at representative cross-sections of non-wetland waters to capture their characteristics and widths. Streamflow Duration Assessment Method (SDAM) forms were also completed to determine the flow duration of features on site. All data forms can be found in Appendix B.[12]

8 Minimum Standards Item 19 (Methods)
9 Minimum Standards Item 8 (Dates of Field Work)
10 Minimum Standards Item 12 (Statement Regarding Use of Remote Sensing)
11 Minimum Standards Item 5 (Use of 1987 Manual, Regional Supplement, and OHWM guide)
12 Minimum Standards Item 18 (Data Forms)

4.2 Regional Water Quality Control Board

Waters of the state regulated by the RWQCB were mapped in accordance with the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (SWRCB 2021). As described in these procedures, wetland waters of the state are mapped based on the procedures in USACE's 1987 Corps of Engineers Wetlands Delineation Manual (USACE 1987) and its 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008a). Non-wetland waters are mapped at the OHWM based on the procedures defined in USACE's 2008 A Field Guide to Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (USACE 2008b).

4.3 California Department of Fish and Wildlife

CDFW jurisdictional areas were mapped to include the bank of the stream/channel and outer dripline of adjacent riparian vegetation, as set forth under California Fish and Game Code Section 1602. Streambeds under the jurisdiction of CDFW were delineated using the Cowardin method of waters classification, which defines waters boundaries by a single parameter (i.e., hydric soils, hydrophytic vegetation, or hydrology) (Cowardin et al. 1979).

5 Aquatic Resource Narrative

This chapter describes the aquatic resources that occur in the review area.[13] A description of these features and their observed OHWM indicators is provided below. Appendix B contains the data forms completed during the site visits, which are also summarized below. Photos of the potential aquatic features delineated within the review area and additional areas reviewed for the presence of these resources are provided in Appendix C.[14]

Non-Wetland Water (NNW-)-1, NWW-2, and NWW-3 receive flows from unnamed drainages to the north and enter the San Luis Rey River via culverts from the north side of North River Road. NWW-4 enters a set of culverts and flows south under North River Road, and discharges into the San Luis Rey River. In the northern part of the review area, NWW-5 conveys water from northeast to southwest after which NWW-5 exits the review area and flows for approximately 0.5 miles before re-entering the review area as NWW-4.

The USFWS National Wetlands Inventory identifies the drainage that NWW-4 and NWW-5 are part of as a riverine feature (Cowardin Code R4SBC) (USFWS 2025). Portions of the southern part of the review are within the 100-year flood zone according to the Federal Emergency Management Agency (FEMA 2024), as shown in Figures 4a–4c, Hydrologic Setting.

Non-Wetland Water-01

NWW-01 is a feature composed of two drainages (NWW-01a, NWW-01b) located in the western portion of the review area. Cross-section T-01 recorded the following indicators of an OHWM: a break in bank slope and a change in vegetation cover (see Appendix B). NWW-01a is a drainage with flows originating from the agricultural pond immediately north of the review area, entering the review area in a culvert, passing across an agricultural ditch for approximately 20 feet, entering another culvert under North River Road, and then flowing into the San Luis Rey River riparian corridor (outside of the OHWM of the river) where it branches. One branch continues for approximately 20 feet before dissipating, while the other branch continues southward towards the San Luis Rey River main channel and exits the review area. NWW-01b is an agricultural ditch that enters the review area from the east and moves flows from east to west, draining into NWW-01a. This drainage also receives flows from the pond to the north but via a different system of culverts.

NWW-01 did not contain invertebrates, algae, fish, and/or other aquatic taxa that could indicate consistent and/or permanent flows on site. Standing water was observed within NWW-01b but is presumed to originate from irrigation associated with the nursery operation within which it occurs, given that the region had not received any significant rainfall since the spring of 2024. As such, it appears NWW-01 only conveys ephemeral flows associated with overflow from the agricultural pond to the north, excess irrigation, or for short durations in direct response to precipitation or rainfall events.

Non-Wetland Water-02

NWW-02 is a drainage in the central portion of the review area. Cross-section T-02 recorded the following indicators of an OHWM: a change in vegetation cover and a break in bank slope (see Appendix B). This drainage enters the review area from the north and flows as a channel for approximately 100 feet before crossing over a concrete

13 Minimum Standards Item 6 (Aquatic Resource Narrative)
14 Minimum Standards Item 17 (Ground Photos)

Arizona crossing, entering a concrete basin, continuing through culverts under North River Road, exiting the culverts onto riprap, entering the San Luis Rey River riparian corridor (outside of the OHWM of the river), and then flowing approximately 85 feet south before exiting the review area. NWW-02 did not contain invertebrates, algae, fish, and/or other aquatic taxa that could indicate consistent and/or permanent flows on site. No standing or flowing water was observed. As such, it appears that NWW-02 only conveys ephemeral flows that only drain for short durations in response to precipitation or rainfall events.

Non-Wetland Water-03

NWW-03 is a drainage located in the central portion of the review area. Cross-section T-04 recorded the following indicators of an OHWM: a change in vegetation cover and a break in bank slope (see Appendix B). This drainage enters the review area where a broken culvert outlets into the San Luis Rey River riparian corridor (outside of the OHWM of the river) and directs water south. The culvert inlet was unable to be located and it is presumed that it is within the adjacent property to the north. NWW-03 continues southward until exiting the review area. NWW-03 did not contain invertebrates, algae, fish, and/or other aquatic taxa that could indicate consistent and/or permanent flows on site. As such, it appears that NWW-03 only conveys ephemeral flows that only drain for short durations in response to precipitation or rainfall events.

Non-Wetland Water-04

NWW-04 is a drainage in the eastern portion of the review area. Cross-section T-03 recorded the following indicators of an OHWM: a change in average sediment texture, a change in vegetation cover, and a break in bank slope (see Appendix B). This drainage enters the review area from the north via a channel bordering the eastern side of the adjacent agricultural property to the north, flows into a concrete basin, enters three culverts below North River Road, and outlets into the San Luis Rey River riparian corridor (outside of the OHWM of the river), continuing via a natural channel and exiting the review area. This drainage also receives flows from a V ditch east of the main branch, which directs runoff from the road over riprap, draining from east to west into the feature.

NWW-04 did not contain invertebrates, algae, fish, and/or other aquatic taxa that could indicate consistent and/or permanent flows on site. As such, it appears that NWW-04 only conveys ephemeral flows that only drain for short durations in response to precipitation or rainfall events.

Non-Wetland Water-05

NWW-05 is a drainage located in the northern portion of the review area. Cross-section T-05 recorded the following indicators of an OHWM: drift deposits, presence of bed and bank, and soil development (see Appendix B). This drainage enters the review area from the north as a channel flowing south across the adjacent property, enters a culvert on the northeast side of Sleeping Indian Road, outlets on the southwestern side of the road, and continues flowing south until it exits the review area. NWW-05 did not contain invertebrates, algae, fish, and/or other aquatic taxa that could indicate consistent and/or permanent flows on site. No standing or flowing water was observed within the feature. As such, it appears NWW-05 only conveys ephemeral flows that only drain for short durations in response to precipitation or rainfall events.

5.1 Waters of the United States (USACE)

On August 29, 2023, the U.S. Environmental Protection Agency and USACE issued a final rule to amend the final Revised Definition of "Waters of the United States" rule (88 CFR 3004–3144; published in the Federal Register on January 18, 2023, and effective on March 20, 2023) to conform with the Sackett v. U.S. Environmental Protection Agency decision. Some of the key changes to the rule included the removal of the significant nexus test from consideration when identifying tributaries and other waters as federally protected and the revision of the adjacency test when identifying federally jurisdictional wetlands. Under the U.S. Environmental Protection Agency's new definition, a "waters of the United States" is a relatively permanent, standing, or continuously flowing body of water that has an apparent surface connection to a traditional navigable water.

The five ephemeral drainages present within the review area did not appear to meet the definition of a "waters of United States," specifically 33 CFR 328.3(a)(3), as the features do not appear to be "relatively permanent, standing or continuously flowing bodies of water." As previously discussed, the features throughout the review area appear to convey ephemeral flows that only drain for short durations in direct response to precipitation or rainfall events, and permanent or consistent flow was not distinguishable during field observation or in a review of recent and historic aerials (Google Earth 2025). Therefore, all features present are not anticipated to be subject to USACE jurisdiction because these features do not meet the relatively permanent standard as a water of the United States.

5.2 Waters of the State (RWQCB)

All of the features described in this chapter have been identified as waters of the state. Approximately 0.12 acres of non-wetland waters potentially regulated by the RWQCB are present within the review area. These features are subject to regulation by the RWQCB under the Porter–Cologne Water Quality Control Act. (Figures 5a–5d, Potential Jurisdictional Aquatic Resources – RWQCB/CDFW). Table 5 lists all features within the review area that are subject to RWQCB regulation.

Table 5. RWQCB Aquatic Resource Summary for the Review Area

Feature Name	Location (Latitude/Longitude; Decimal Degrees)	Acreage/Linear Feet[1]
Non-Wetland Waters		
NWW-01	33.25909561, -117.2703598	0.02 / 373
NWW-02	33.25960771, -117.2657312	0.03 / 275
NWW-03	33.25964266, -117.2659161	0.01 / 153
NWW-04	33.2599545, -117.2641418	0.05 / 503
NWW-05	33.26893324, -117.2631853	0.03 / 305
	Total	**0.14 / 1,610**

Notes: RWQCB = Regional Water Quality Control Board; NWW = non-wetland water

[1] Totals may not sum due to rounding.

5.3 CDFW Jurisdiction

All of the features described in Section 5.1, Waters of the United States, were identified as streambed potentially regulated by CDFW. Because CDFW regulates from bank to bank, certain portions of the review area where the top

of a channel bank extended beyond the OHWM are subject to regulation by CDFW as streambed. Additionally, CDFW jurisdiction continues outside of the top of bank if there is adjacent riparian vegetation. CDFW jurisdiction is shown in Figures 5a–5d. The full extent of CDFW jurisdictional areas is described in Table 6. A description of the riparian vegetation follows the table.

Table 6. CDFW Aquatic Resource Summary for the Review Area

Feature Name	Location (Latitude/Longitude; Decimal Degrees)	Acreage
Streambed and Bank		
NWW-01	33.25909561, -117.2703598	0.04
NWW-02	33.25960771, -117.2657312	0.05
NWW-03	33.25964266, -117.2659161	0.01
NWW-04	33.2599545, -117.2641418	0.08
NWW-05	33.26893324, -117.2631853	0.04
	Streambed and Bank Subtotal	*0.22*
Riparian		
Mule Fat Scrub	33.25909629, -117.2703182	1.59
Southern Riparian Scrub	33.26883944, -117.2632229	0.12
Southern Arroyo Willow Riparian Forest	33.25961941, -117.2657727	1.02
Non-Native Riparian	33.26900083, -117.2631734	0.24
	Riparian Subtotal	*2.96*
	Grand Total	**3.18**

Notes: CDFW = California Department of Fish and Wildlife; NWW = non-wetland water
Totals may not sum due to rounding.

Mulefat Scrub

This vegetation community was evaluated to determine if it meets USACE three-parameter criteria for wetlands. An evaluation of this area indicated the presence of hydrophytic vegetation, but an absence of hydric soils, wetland hydrology and/or indictors of OHWM and is therefore not considered USACE wetlands.

Southern Riparian Scrub

This vegetation community was evaluated to determine if it meets USACE three-parameter criteria for wetlands. An evaluation of this area indicated the presence of hydrophytic vegetation, but an absence of hydric soils, wetland hydrology and/or indictors of OHWM and is therefore not considered USACE wetlands.

Southern Arroyo Willow Riparian Forest

This vegetation community was evaluated to determine if it meets USACE three-parameter criteria for wetlands. An evaluation of this area indicated the presence of hydrophytic vegetation, but an absence of hydric soils, wetland hydrology and/or indictors of OHWM and is therefore not considered USACE wetlands.

5.4 National Wetlands Inventory

The review area contains one resource from the USFWS' National Wetlands Inventory database mapped as intermittent riverine (USFWS 2025) (Figures 4a–4c). This feature is generally contiguous with the mapped areas of NWW-3 in the eastern and northern portions of the review area. The review area contains two resources from the U.S. Geological Survey's National Hydrography Dataset database mapped as ephemeral stream/river features (overlapping with NWW-2 and NWW-3), one resource mapped as an artificial path (overlapping with NWW-1), and one resource mapped as an intermittent stream/river feature within the San Luis Rey River riparian corridor (USGS 2023) (Figures 4a–4c).

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6 Results and Conclusions

Based on the jurisdictional delineation and review of relevant information provided in this ARDR, five non-wetland water features were delineated within the review area. These features may be regulated by RWQCB and CDFW. In total, 0.14 acres of non-wetland waters (below OHWM) fall under RWQCB jurisdiction and 3.18 acres of CDFW Streambed (below and above OHWM, to top of bank) occurs in the review area. As noted in Chapter 5, Aquatic Resource Narrative, all the features within the review area do not appear to meet the definition of a waters of the United States, specifically 33 CFR 328.3(a)(3), as the features do not appear to be "relatively permanent, standing or continuously flowing bodies of water." This ARDR can be used by the regulatory agencies to determine if they would regulate the features described herein. The GIS data for the delineation is provided digitally.[15]

[15] Minimum Standards Item 20 (Digital Data)

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7 References

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. FWS/OBS-79/31. Prepared for U.S. Fish and Wildlife Service. December 1979. Reprinted 1992. http://www.fws.gov/wetlands/documents/classification-of-wetlands-and-deepwater-habitats-of-the-united-states.pdf.

FEMA (Federal Emergency Management Agency). 2024. FEMA Flood Map Service Center: Search By Address; search of review area. Flood map effective May 16, 2012; data last refreshed June 2024. Accessed April 2025. https://msc.fema.gov/portal/search?AddressQuery=North%20River%20Road%2FVandegrift%20Boulevard%2C%20oceanside%2C%20ca.

Google Earth. 2025. Overview of Review Area. Accessed April 2025. https://earth.google.com/web.

NOAA (National Oceanic and Atmospheric Administration). 2025. Climate Division Scale Palmer Drought Severity Index (PDSI) dataset. Accessed February 2025. https://www.ncei.noaa.gov/access/monitoring/weekly-palmers/.

SWRCB (State Water Resources Control Board). 2021. *State Policy for Water Quality Control: State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*. Adopted April 2, 2019; revised April 6, 2021. https://www.waterboards.ca.gov/press_room/press_releases/2021/procedures.pdf.

USACE (U.S. Army Corps of Engineers). 1987. *Corps of Engineers Wetlands Delineation Manual*. Online ed. Environmental Laboratory, Wetlands Research Program Technical Report Y-87-1. Vicksburg, Mississippi: U.S. Army Engineer Waterways Experiment Station. January 1987. http://www.cpe.rutgers.edu/Wetlands/1987-Army-Corps-Wetlands-Delineation-Manual.pdf.

USACE. 2008a. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0). Environmental Laboratory, ERDC/EL TR-08-28. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center. September 2008. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1046489.pdf.

USACE. 2008b. *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. Prepared by R.W. Lichvar and S.M. McColley. Hanover, New Hampshire: U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory. August 2008. https://apps.dtic.mil/dtic/tr/fulltext/u2/a486603.pdf.

USACE. 2017. *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports*. U.S. Army Corps of Engineers, Los Angeles District. March 16, 2017. https://www.spl.usace.army.mil/Portals/17/Users/251/43/2043/Final%20Delin%20report%20standards%203-16-2017.pdf?ver=2017-03-16-170513-523.

USACE. 2025. Antecedent Precipitation Tool (APT) - v1.0.13. Accessed February 2025. https://github.com/jDeters-USACE/Antecedent-Precipitation-Tool/releases/tag/v1.0.13.

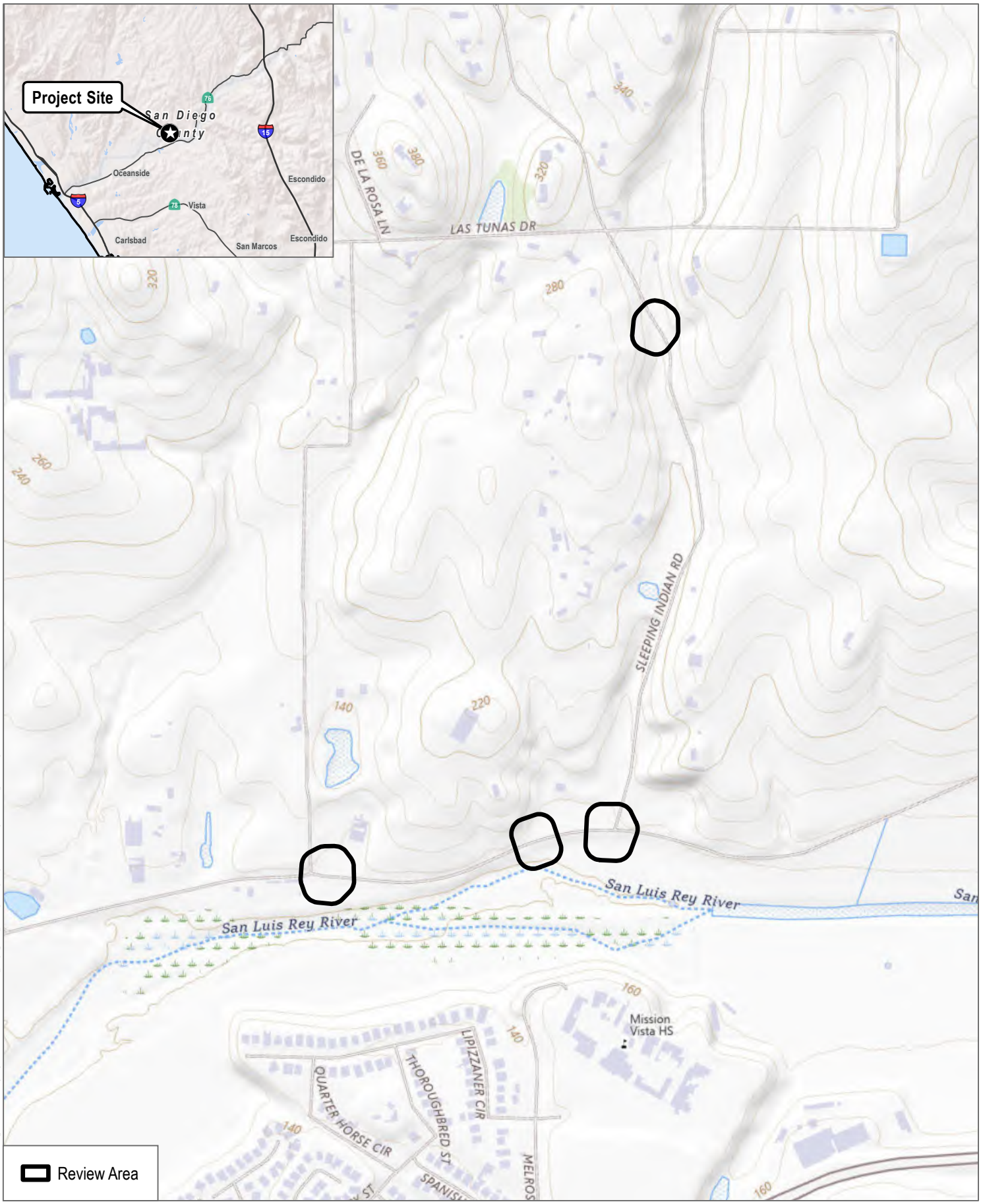
USDA (U.S. Department of Agriculture). 2025a. Web Soil Survey. USDA Natural Resources Conservation Service, Soil Survey Staff. Accessed February 2025. https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm.

USDA. 2025b. "State Soil Data Access (SDA) Hydric Soils List." Accessed February 2025. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1389479.html#reportref.

USFWS (U.S. Fish and Wildlife Service). 2025. "National Wetlands Inventory" [map]. Accessed February 2025. http://www.fws.gov/data.

USGS (U.S. Geological Survey). 2023. National Hydrography Dataset (NHD). Last updated October 1, 2023. https://www.usgs.gov/national-hydrography/national-hydrography-dataset.

WRCC (Western Regional Climate Center). 2025. "Cooperative Climatological Data Summaries." NOAA Cooperative Stations – Temperature and Precipitation. Accessed March 2025. https://wrcc.dri.edu/summary/Climsmsca.html.



SOURCE: USGS National Map 2025

DUDEK

0 460 920 Feet

FIGURE 1

Project Location

North River Road and Sleeping Indian Road Culverts Project

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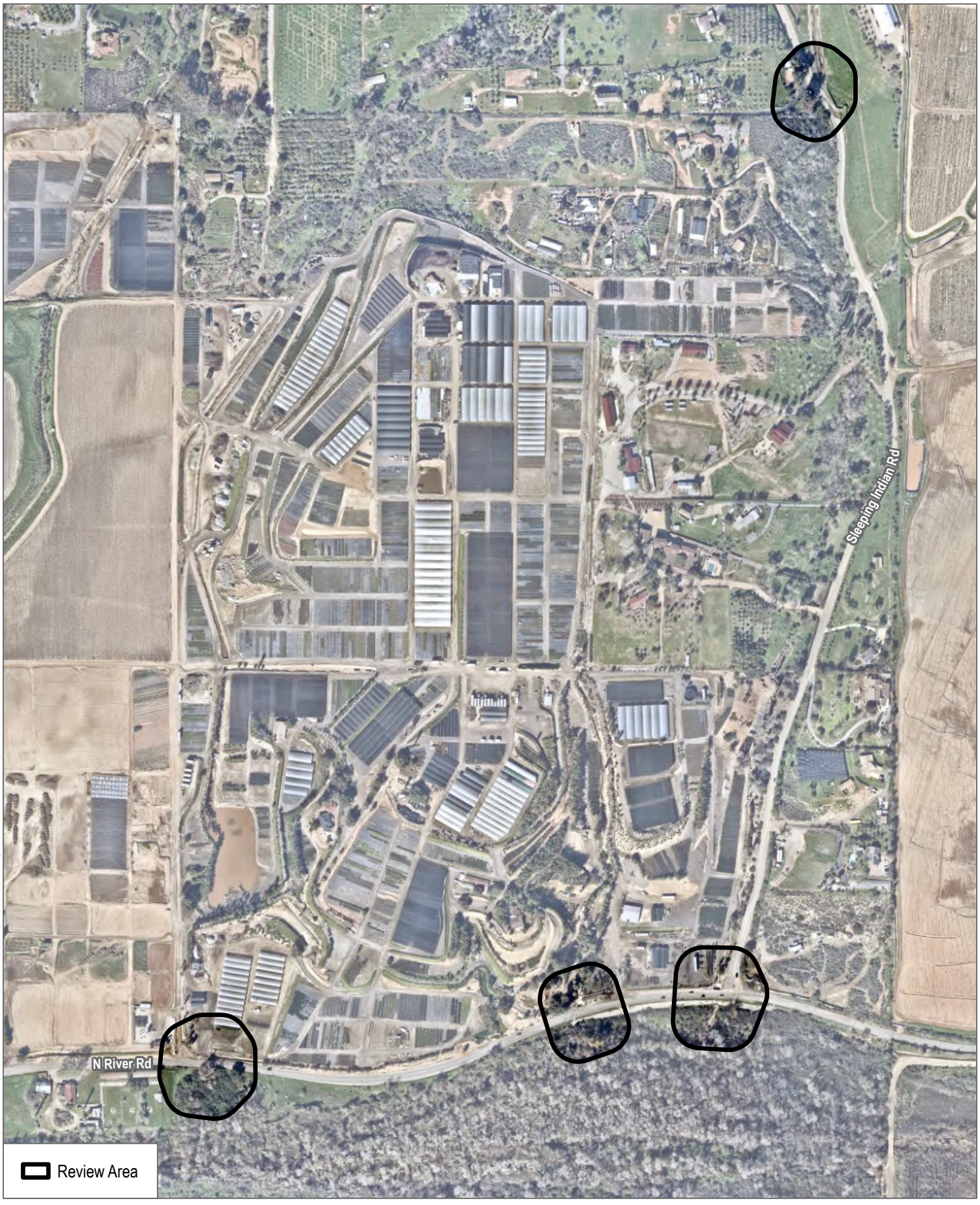

SOURCE: SANGIS 2024

FIGURE 2

Review Area

North River Road and Sleeping Indian Road Culverts Project

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0 230 460 Feet

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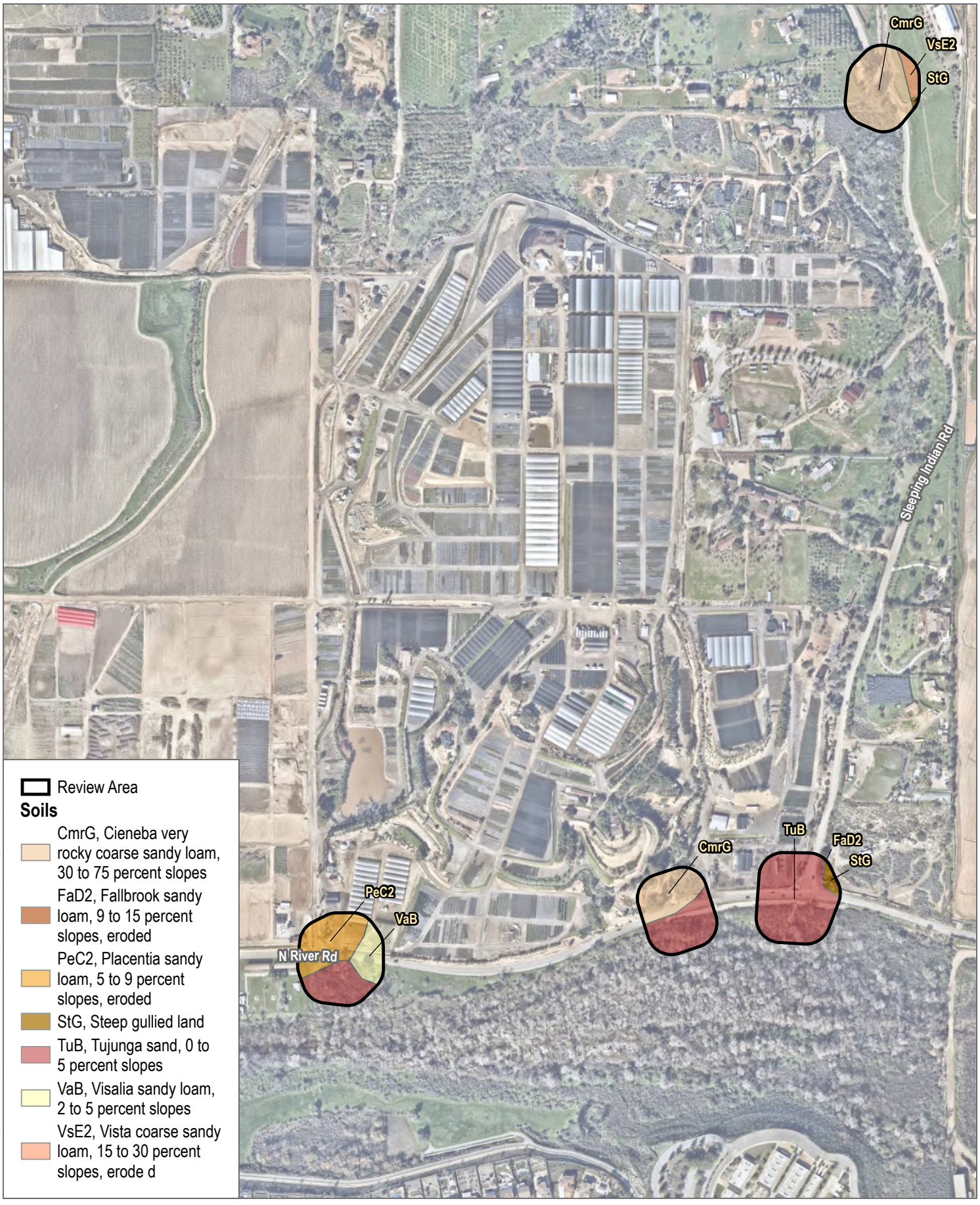

SOURCE: SANGIS 2024

DUDEK

0 260 520 Feet

FIGURE 3

Soils

North River Road and Sleeping Indian Road Culverts Project

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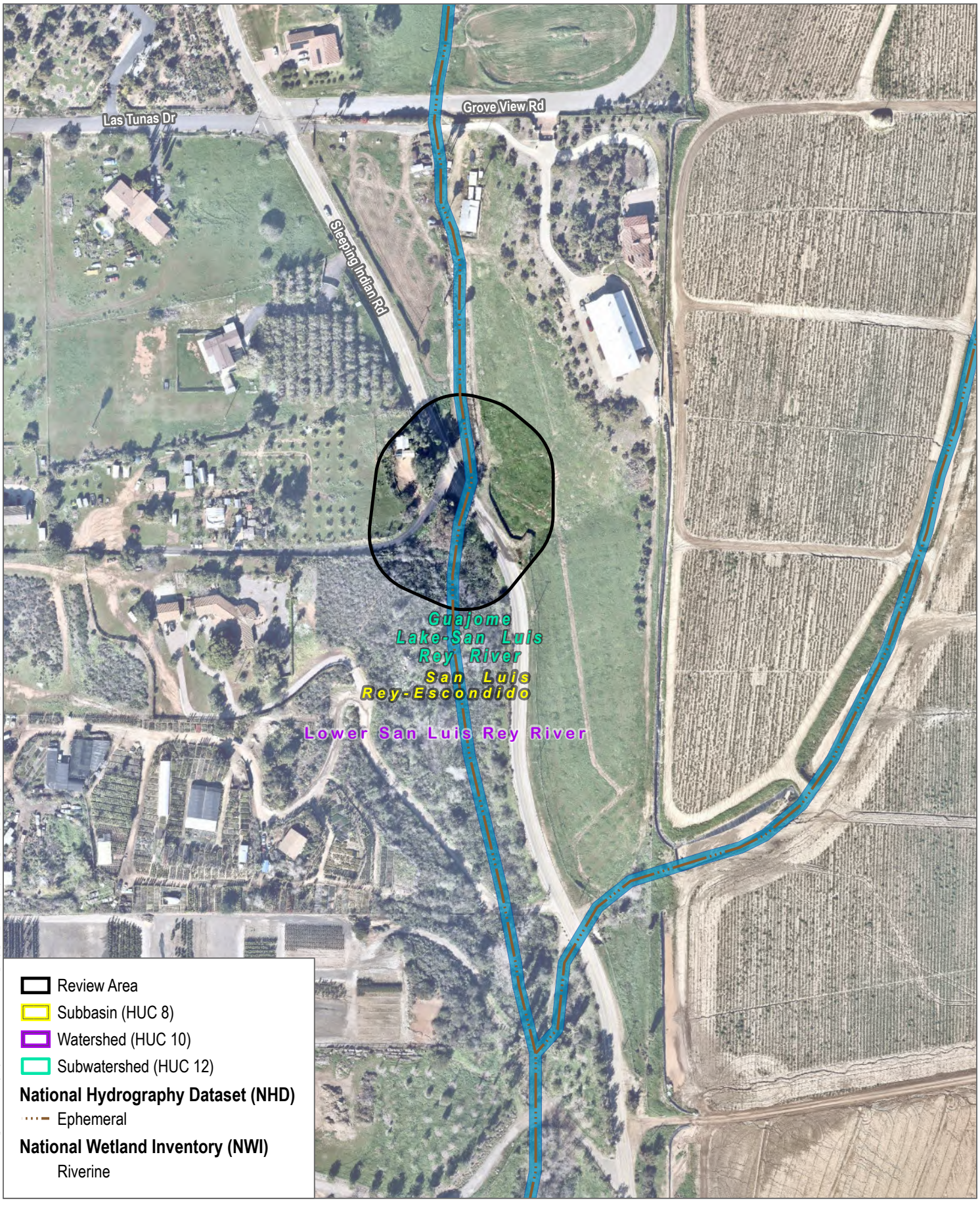

SOURCE: SANGIS 2024; Open Street Map 2024; USGS NHD 2025; USFWS NWI 2024

DUDEK

0 105 210 Feet

FIGURE 4a

Hydrologic Setting

North River Road and Sleeping Indian Road Culverts Project

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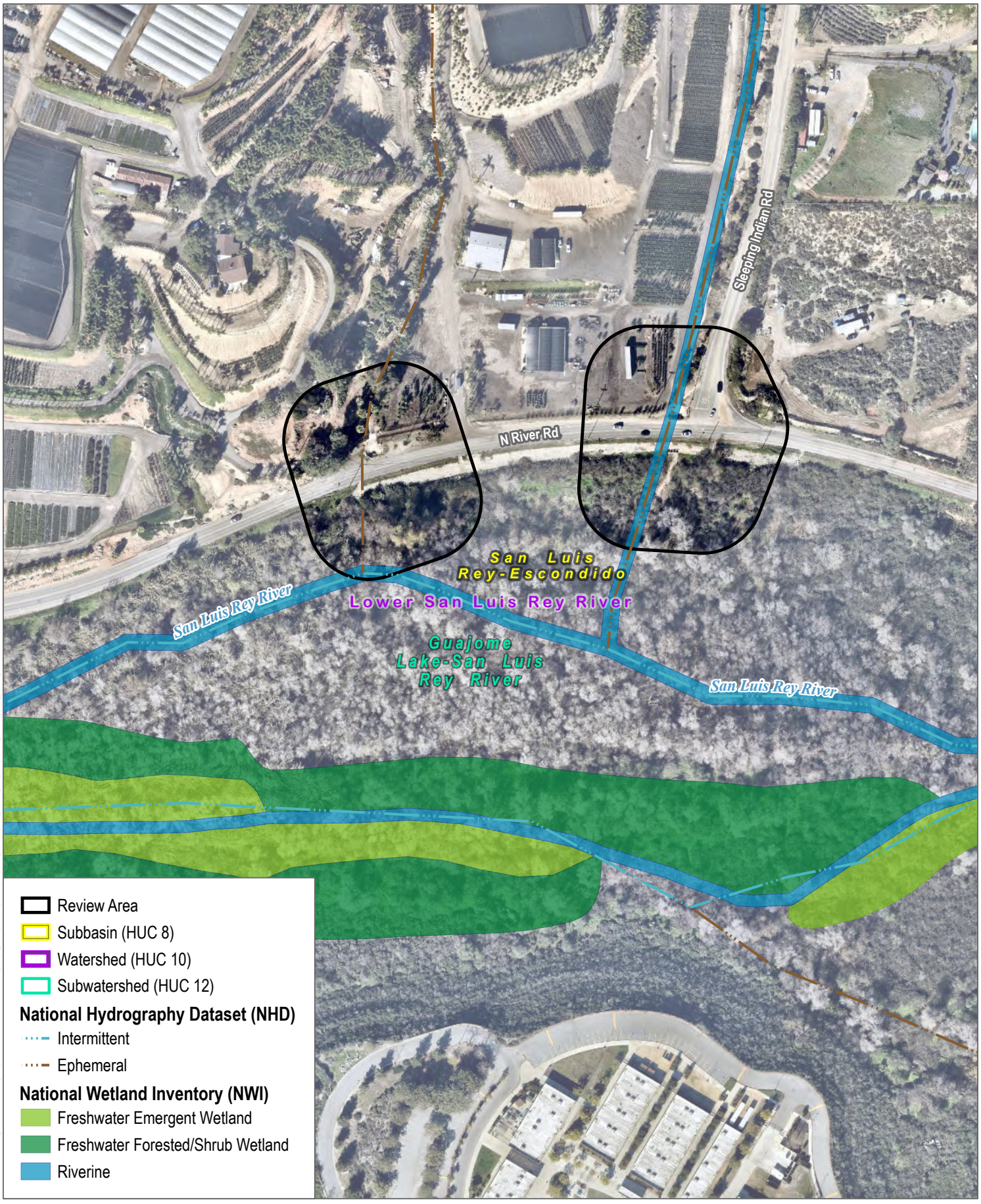

SOURCE: SANGIS 2024; Open Street Map 2024; USGS NHD 2025; USFWS NWI 2024

DUDEK

0 105 210 Feet

FIGURE 4b

Hydrologic Setting

North River Road and Sleeping Indian Road Culverts Project

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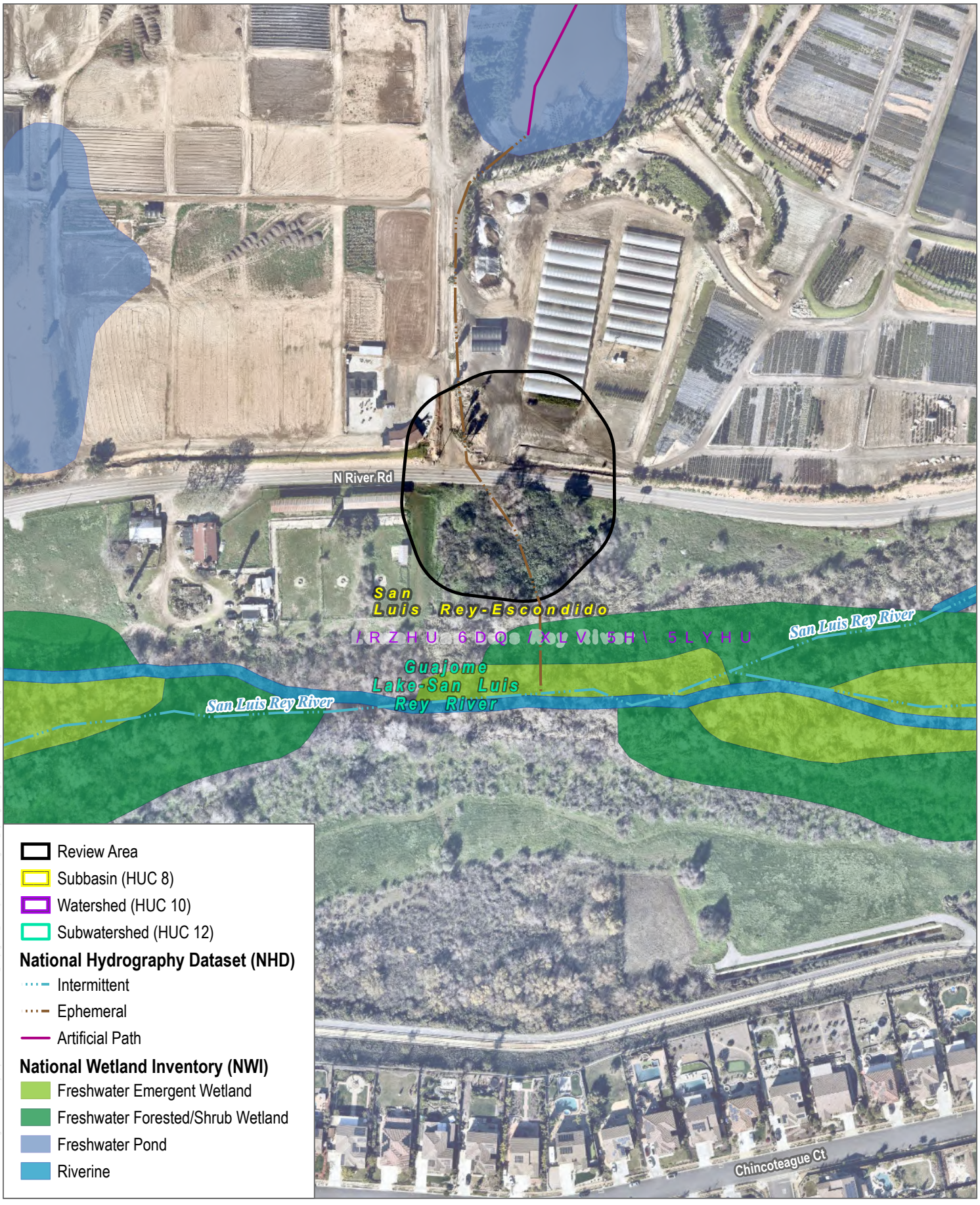

SOURCE: SANGIS 2024; Open Street Map 2024; USGS NHD 2025; USFWS NWI 2024

DUDEK

0 105 210 Feet

FIGURE 4c

Hydrologic Setting

North River Road and Sleeping Indian Road Culverts Project

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SOURCE: SANGIS 2024

DUDEK

0 25 50 Feet

FIGURE 5a

Potential Jurisdictional Aquatic Resources - RWQCB/CDFW

North River Road and Sleeping Indian Road Culverts Project

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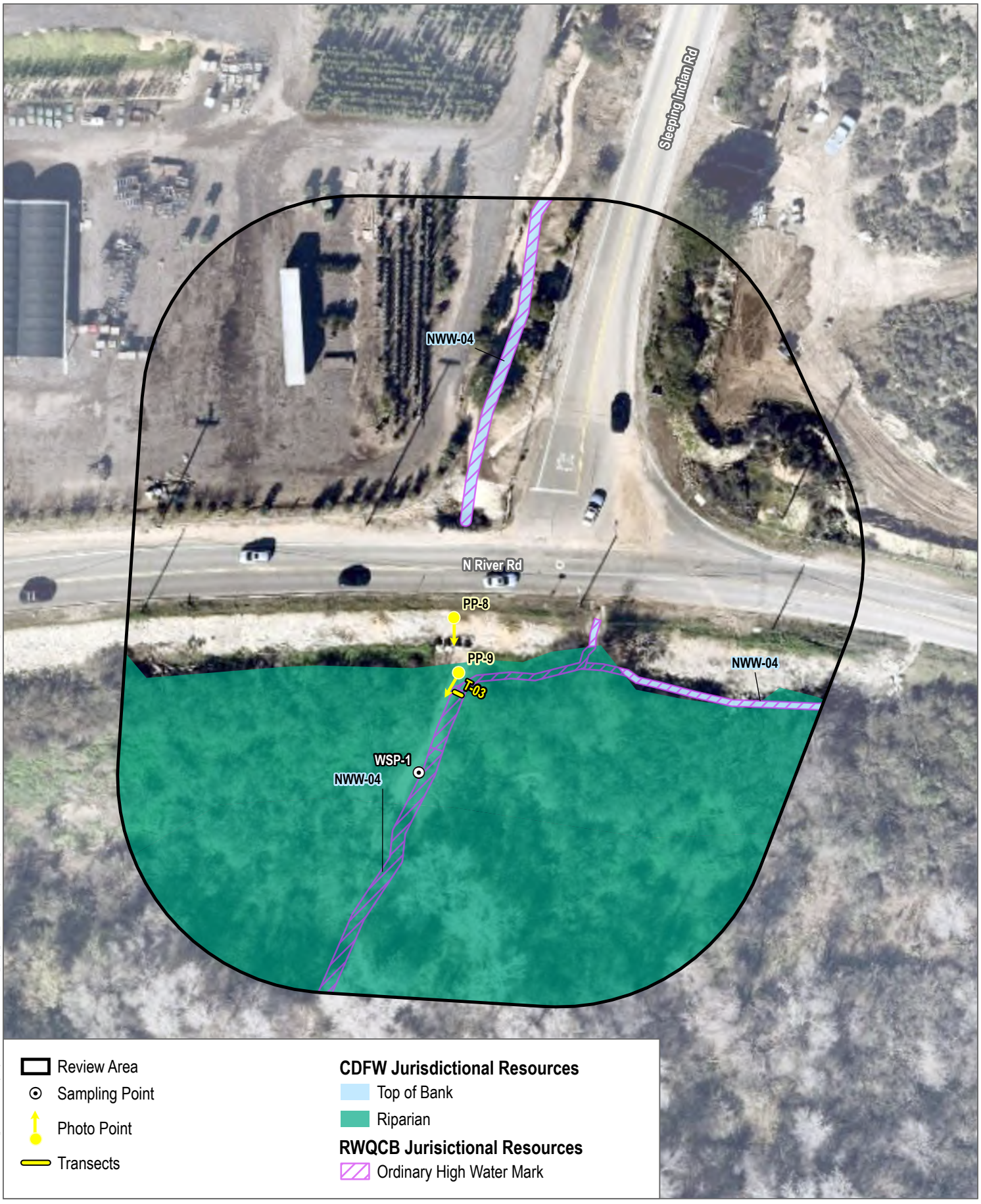

SOURCE: SANGIS 2024

DUDEK

0 25 50 Feet

FIGURE 5b

Potential Jurisdictional Aquatic Resources - RWQCB/CDFW

North River Road and Sleeping Indian Road Culverts Project

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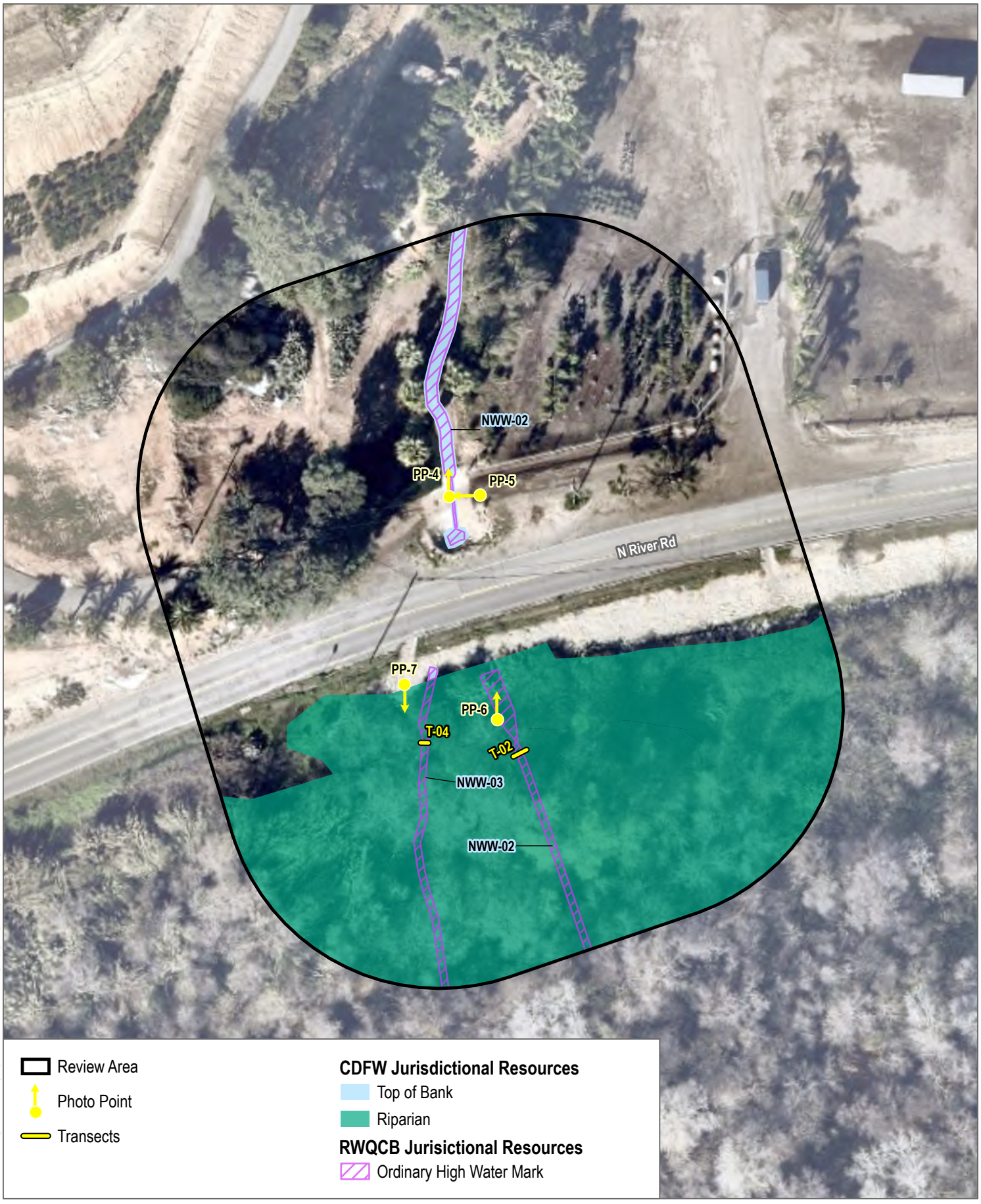

SOURCE: SANGIS 2024

DUDEK

0 25 50 Feet

FIGURE 5c

Potential Jurisdictional Aquatic Resources - RWQCB/CDFW

North River Road and Sleeping Indian Road Culverts Project

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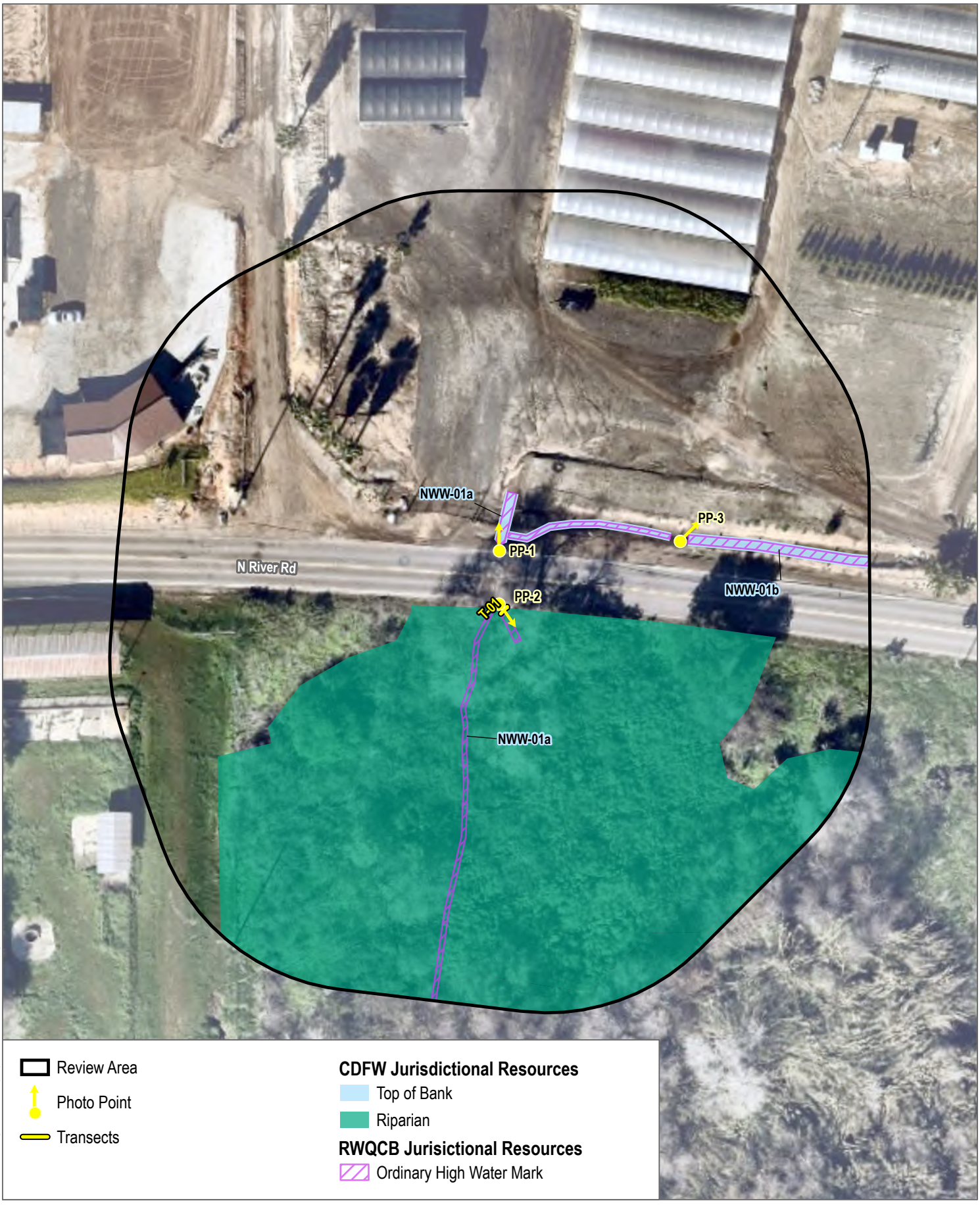

SOURCE: SANGIS 2024

DUDEK

0 25 50 Feet

FIGURE 5d

Potential Jurisdictional Aquatic Resources - RWQCB/CDFW

North River Road and Sleeping Indian Road Culverts Project

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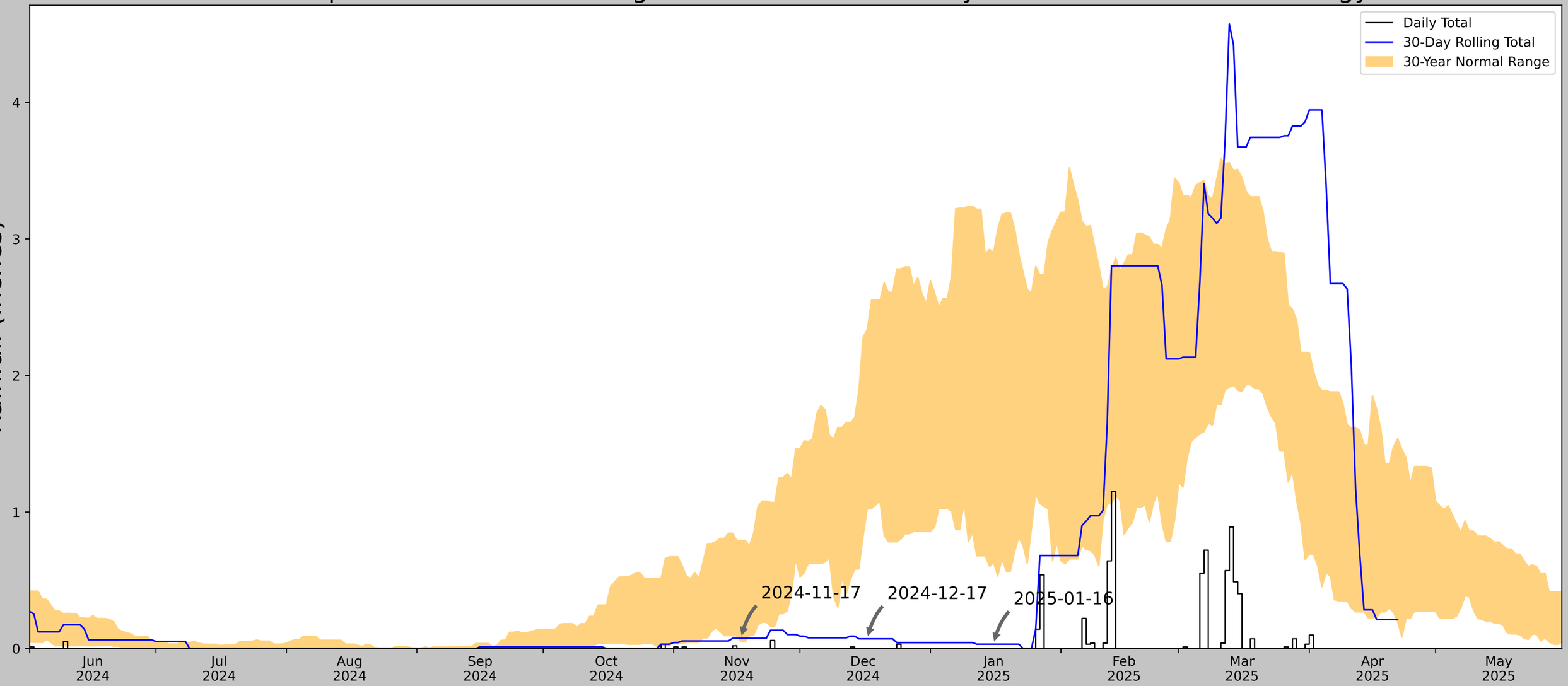
Appendix A

Antecedent Precipitation Tool Output

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



Coordinates	33.260051, -117.265144
Observation Date	2025-01-16
Elevation (ft)	114.061
Drought Index (PDSI)	Severe drought
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2025-01-16	0.627953	2.902362	0.031496	Dry	1	3	3
2024-12-17	1.024016	2.338976	0.070866	Dry	1	2	2
2024-11-17	0.049213	0.792126	0.074803	Normal	2	1	2
Result							Drier than Normal - 7

US Army Corps of Engineers

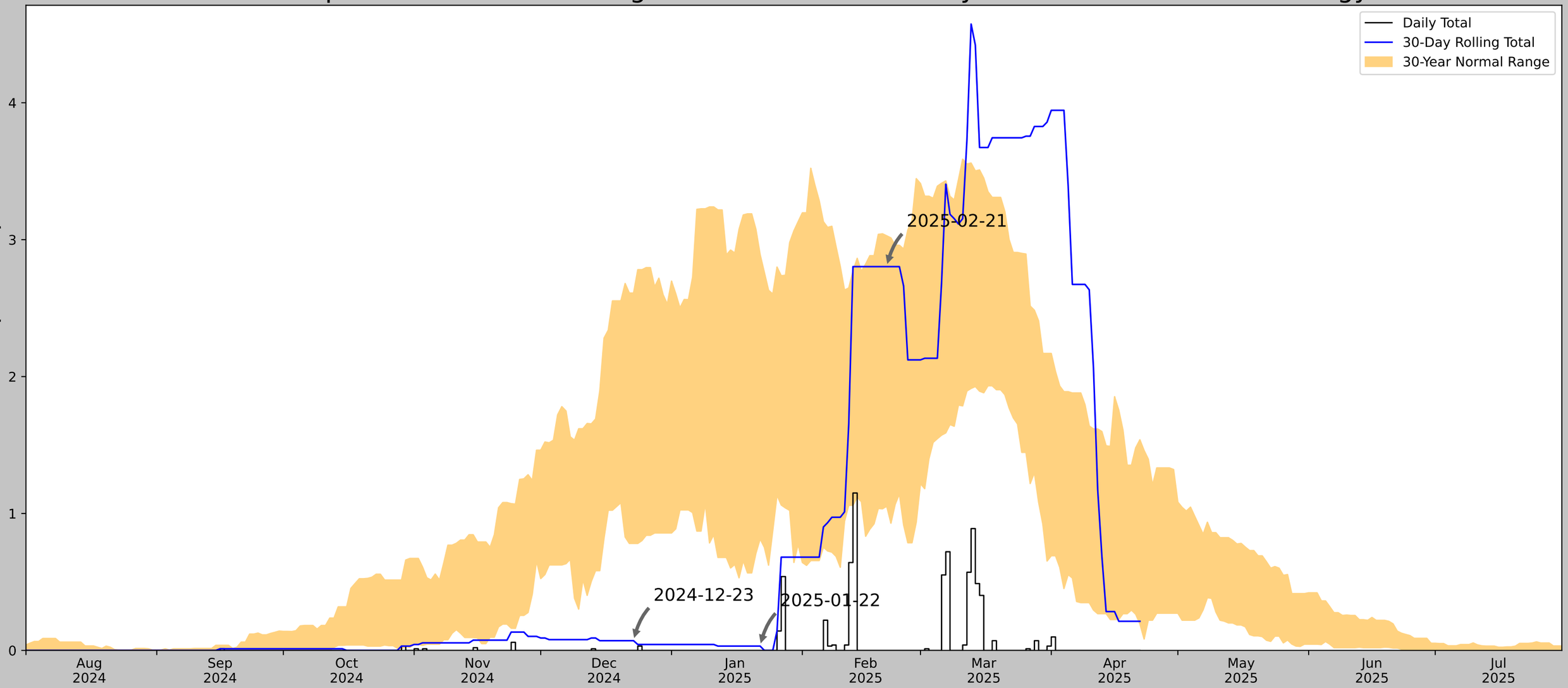
ERDC

Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
VISTA	33.2353, -117.2322	430.118	2.559	316.057	1.96	11029	89
VISTA 1.5NNW	33.2192, -117.2536	416.995	1.664	13.123	0.771	66	0
OCEANSIDE 8.1ENE	33.2499, -117.2559	188.976	1.701	241.142	1.176	0	1
VISTA 1.2SE	33.1862, -117.2311	504.921	3.393	74.803	1.781	4	0
OCEANSIDE 8.4NE	33.27, -117.2663	251.969	3.103	178.149	1.949	12	0
OCEANSIDE 2.3 WNW	33.233, -117.3498	259.843	6.798	170.275	4.217	2	0
CARLSBAD MCCLELLAN PALOMAR AP	33.13, -117.2764	312.992	7.711	117.126	4.373	147	0
CAMP PENDLETON MCAS	33.3042, -117.355	69.882	8.543	360.236	6.922	93	0

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



Coordinates	33.269232, -117.263175
Observation Date	2025-02-21
Elevation (ft)	227.016
Drought Index (PDSI)	Severe drought
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2025-02-21	1.052756	3.028347	2.80315	Normal	2	3	6
2025-01-22	0.814567	2.891339	0.031496	Dry	1	2	2
2024-12-23	0.781102	2.610236	0.070866	Dry	1	1	1
Result							Drier than Normal - 9

US Army Corps of Engineers

ERDC

Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
VISTA	33.2353, -117.2322	430.118	2.95	203.102	1.926	11029	89
VISTA 1.5NNW	33.2192, -117.2536	416.995	1.664	13.123	0.771	66	0
OCEANSIDE 8.1ENE	33.2499, -117.2559	188.976	1.701	241.142	1.176	0	1
VISTA 1.2SE	33.1862, -117.2311	504.921	3.393	74.803	1.781	4	0
OCEANSIDE 8.4NE	33.27, -117.2663	251.969	3.103	178.149	1.949	12	0
OCEANSIDE 2.3 WNW	33.233, -117.3498	259.843	6.798	170.275	4.217	2	0
CARLSBAD MCCLELLAN PALOMAR AP	33.13, -117.2764	312.992	7.711	117.126	4.373	147	0
CAMP PENDLETON MCAS	33.3042, -117.355	69.882	8.543	360.236	6.922	93	0

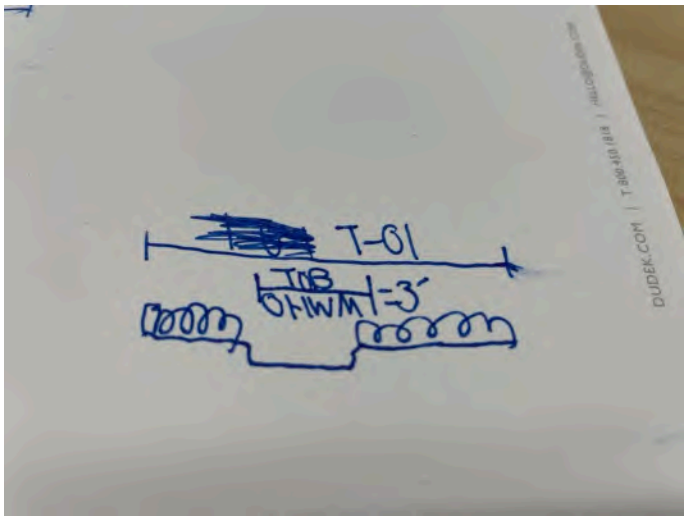
Appendix B
Data Forms

Wet-12 High Water Mark v2

Project	Oceanside North River Rd Storm Drains
ID	518911
Survey Date	01/16/2025
User	Kam Muri
Project:	Oceanside North River Road Storm Drains
Project Number:	
Stream:	
Cross Section ID:	T-01
Investigator(s):	Josh Elson; Eilleen Salas
Town:	Oceanside, CA
Photo begin file#:	
Time:	01:15 PM
State:	
Photo end file#:	
Do normal circumstances exist on the site?	Y
Is the site significantly disturbed?	N
Location Details:	The OHWM transect was taken across a small channel whose source is a culvert flowing south under North River Road before arriving in channel. Channel drains into the San Luis Rey River riparian corridor.
Projection:	
Coordinates:	
Latitude	33.259303
Longitude	-117.270318
Datum:	
Potential anthropogenic influences on the channel system:	Water source is from culvert which passes under North River Road and over rip rap before arriving in channel
Brief site description:	The OHWM transect was taken across a small channel whose source is a culvert flowing south under North River Road before arriving in channel. Channel drains into the San Luis Rey River riparian corridor.
Checklist of resources (if available):	Aerial photography, Vegetation maps, Soils maps, Global positioning system (GPS)
Dates:	
Stream gage data	
Gage number:	
Period of record:	
Stream gage data resources:	

5. Identify the OHWM and record the indicators. Record the OHWM position via:	GPS

Cross section drawing:



OHWM	
GPS point:	
Latitude	33.259303
Longitude	-117.270318
Indicators:	Change in vegetation cover, Break in bank slope
Comments:	

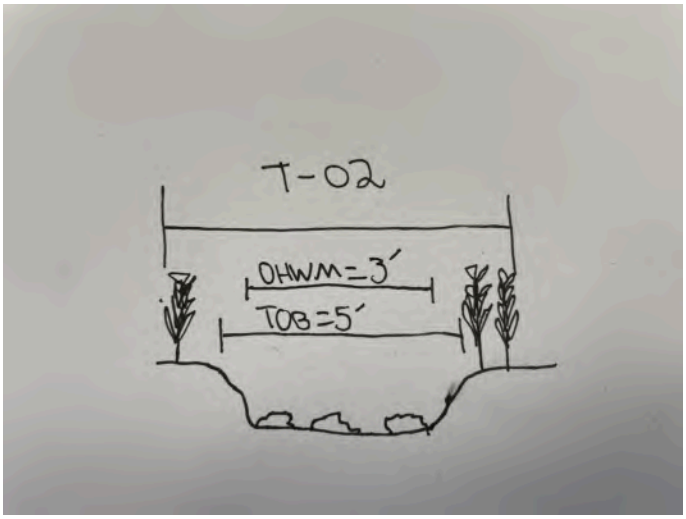
Floodplain 1	
Floodplain unit:	Low-Flow Channel
GPS point:	
Latitude	33.259303
Longitude	-117.270318
Characteristics of the floodplain unit	
Average sediment texture:	Sandy
Total veg cover:	100
Tree:	50
Shrub:	50
Herb:	
Community successional stage:	Late (herbaceous, shrubs, mature trees)
Indicators:	Surface relief
Comments:	
Floodplain Photo(s)	None
Upload additional drawings and/or photos	None

Wet-12 High Water Mark v2

Project	Oceanside North River Rd Storm Drains
ID	518609
Survey Date	01/16/2025
User	Kam Muri
Project:	Oceanside North River Road Storm Drains
Project Number:	
Stream:	
Cross Section ID:	T-02
Investigator(s):	Josh Elson; Eilleen Salas
Town:	Oceanside, CA
Photo begin file#:	
Time:	11:04 AM
State:	
Photo end file#:	
Do normal circumstances exist on the site?	Y
Is the site significantly disturbed?	N
Location Details:	The OHWM transect was taken across a channel whose source is several culverts flowing south under North River Road and flowing over rip rap before arriving in channel. Channel is under the San Luis Rey River riparian canopy.
Projection:	
Coordinates:	
Latitude	33.25976454827035
Longitude	-117.2658009193187
Datum:	
Potential anthropogenic influences on the channel system:	Water source is from culvert which passes under North River Road and over rip rap before arriving in channel
Brief site description:	The OHWM transect was taken across a channel whose source is several culverts flowing south under North River Road and over rip rap before arriving in channel. Channel is under the San Luis Rey River riparian canopy.
Checklist of resources (if available):	Aerial photography, Vegetation maps, Soils maps, Global positioning system (GPS)
Dates:	1-16-25
Stream gage data	
Gage number:	
Period of record:	
Stream gage data resources:	

5. Identify the OHWM and record the indicators. Record the OHWM position via:	GPS

Cross section drawing:



OHWM	
GPS point:	
Latitude	33.25976454827035
Longitude	-117.2658009193187
Indicators:	Change in vegetation cover, Break in bank slope
Comments:	

Floodplain 1	
Floodplain unit:	Low-Flow Channel
GPS point:	
Latitude	
Longitude	

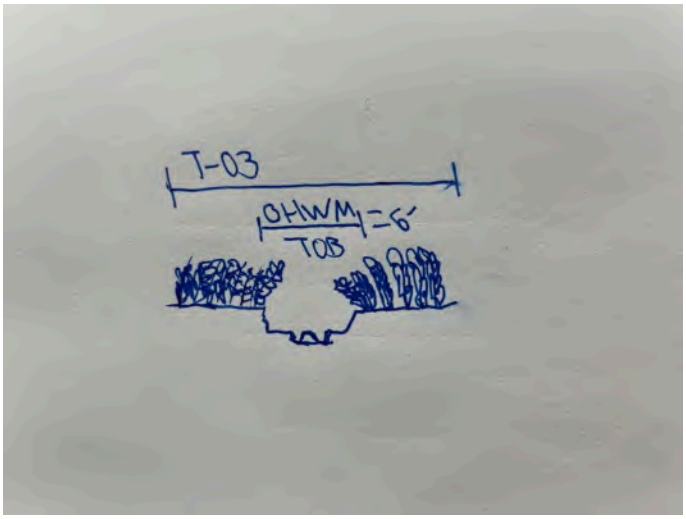
Characteristics of the floodplain unit	
Average sediment texture:	Sandy
Total veg cover:	100
Tree:	75
Shrub:	25
Herb:	
Community successional stage:	
Indicators:	Presence of bed and bank, Surface relief
Comments:	
Floodplain Photo(s)	None
Upload additional drawings and/or photos	None

Wet-12 High Water Mark v2

Project	Oceanside North River Rd Storm Drains
ID	518845
Survey Date	01/16/2025
User	Kam Muri
Project:	Oceanside North River Road Storm Drains
Project Number:	
Stream:	
Cross Section ID:	T-03
Investigator(s):	Josh Elson; Eilleen Salas
Town:	Oceanside, CA
Photo begin file#:	
Time:	12:11 PM
State:	
Photo end file#:	
Do normal circumstances exist on the site?	Y
Is the site significantly disturbed?	N
Location Details:	The OHWM transect was taken across a channel whose source is several culverts flowing south under North River Road before arriving in channel. Channel drains into/forms part of the San Luis Rey River riparian corridor.
Projection:	
Coordinates:	
Latitude	33.259939
Longitude	-117.264277
Datum:	
Potential anthropogenic influences on the channel system:	Water source is from culvert which passes under North River Road and over rip rap before arriving in channel
Brief site description:	The OHWM transect was taken across a channel whose source is several culverts flowing south under North River Road before arriving in channel. Channel drains into/forms part of the San Luis Rey River riparian corridor.
Checklist of resources (if available):	Aerial photography, Vegetation maps, Soils maps, Global positioning system (GPS)
Dates:	1-16-25
Stream gage data	
Gage number:	
Period of record:	
Stream gage data resources:	

5. Identify the OHWM and record the indicators. Record the OHWM position via:	GPS

Cross section drawing:



OHWM	
GPS point:	
Latitude	33.259939
Longitude	-117.264277
Indicators:	Change in average sediment texture, Change in vegetation cover, Break in bank slope
Comments:	

Floodplain 1	
Floodplain unit:	Low-Flow Channel
GPS point:	
Latitude	33.259939
Longitude	-117.264277

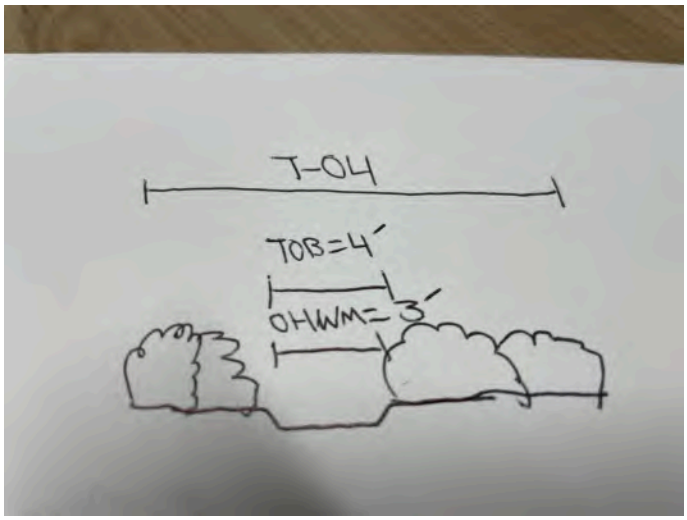
Characteristics of the floodplain unit	
Average sediment texture:	Sandy
Total veg cover:	50
Tree:	
Shrub:	40
Herb:	10
Community successional stage:	Mid (herbaceous, shrubs, saplings)
Indicators:	Mudcracks, Surface relief
Comments:	
Floodplain Photo(s)	None
Upload additional drawings and/or photos	None

Wet-12 High Water Mark v2

Project	Oceanside North River Rd Storm Drains
ID	521710
Survey Date	02/21/2025
User	Kam Muri
Project:	Oceanside North River Road Storm Drains
Project Number:	
Stream:	
Cross Section ID:	T-04
Investigator(s):	Kimberly Narel
Town:	Oceanside, CA
Photo begin file#:	
Time:	11:00 AM
State:	California
Photo end file#:	
Do normal circumstances exist on the site?	Y
Is the site significantly disturbed?	N
Location Details:	The OHWM transect was taken across a channel whose source is a broken plastic culvert flowing south under North River Road before arriving in channel. Channel drains into/ forms part of the San Luis Rey River riparian corridor.
Projection:	
Coordinates:	
Latitude	33.259753
Longitude	-117.265894
Datum:	
Potential anthropogenic influences on the channel system:	Water source is from culvert which passes under North River Road and over rip rap before arriving in channel
Brief site description:	The OHWM transect was taken across a channel whose source is a broken plastic culvert flowing south under North River Road before arriving in channel. Channel drains into/ forms part of the San Luis Rey River riparian corridor.
Checklist of resources (if available):	Aerial photography, Vegetation maps, Soils maps, Global positioning system (GPS)
Dates:	2-21-25
Stream gage data	
Gage number:	
Period of record:	
Stream gage data resources:	

5. Identify the OHWM and record the indicators. Record the OHWM position via:	Digitized on computer

Cross section drawing:



OHWM	
GPS point:	
Latitude	33.259303
Longitude	-117.270318
Indicators:	Change in vegetation cover, Break in bank slope
Comments:	

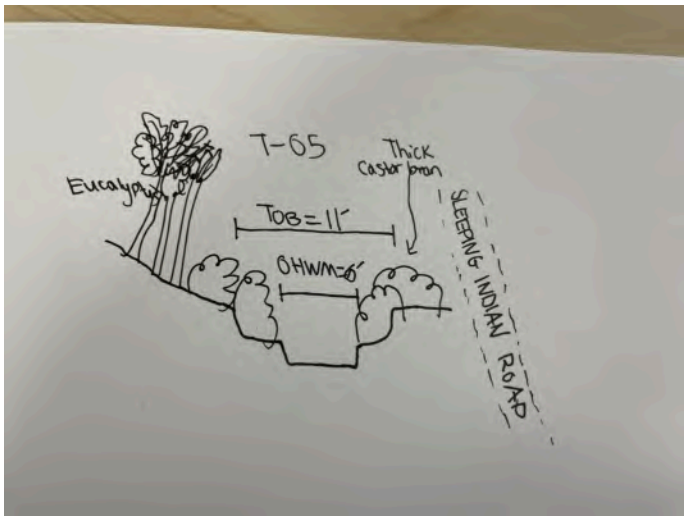
Floodplain 1	
Floodplain unit:	Low-Flow Channel
GPS point:	
Latitude	33.259303
Longitude	-117.270318

Characteristics of the floodplain unit	
Average sediment texture:	Sandy
Total veg cover:	100
Tree:	75
Shrub:	25
Herb:	
Community successional stage:	Late (herbaceous, shrubs, mature trees)
Indicators:	
Comments:	
Floodplain Photo(s)	None
Upload additional drawings and/or photos	None

Wet-12 High Water Mark v2

Project	Oceanside North River Rd Storm Drains
ID	519369
Survey Date	02/21/2025
User	Kam Muri
Project:	N. River Rd. Storm Drains
Project Number:	15161
Stream:	
Cross Section ID:	T-05
Investigator(s):	Kim Narel
Town:	Oceanside
Photo begin file#:	1
Time:	09:20 AM
State:	California
Photo end file#:	1
Do normal circumstances exist on the site?	Y
Is the site significantly disturbed?	N
Location Details:	Sleeping Indian Road
Projection:	E/W
Coordinates:	
Latitude	33.26906083333333
Longitude	-117.2631786666667
Datum	ITRF2000
Datum:	
Potential anthropogenic influences on the channel system:	Storm drain culvert
Brief site description:	Corrugated pipe storm drain culvert receives storm water from road as well as a secondary culvert that outlets beneath road and is blocked by sediment. After rain events runoff sheet flows southwest across road, as well as through culverts beneath road, and inundates into a small shallow depressional basin; then flows south, narrows and incises with top of bank on eastern side of bank. Evidence of a low flow channel that transitions to floodplain. Ephemeral stream supports eucalyptus, dense castor, bean, and scattered Willows. Eastern bank is steeply incized at about 68 inches; floodplain terminates at toe of slope along western bank.
Checklist of resources (if available):	Aerial photography, Topographic maps, Vegetation maps, Soils maps, Global positioning system (GPS)
Dates:	February 21, 2025
Stream gage data	

Gage number:	
Period of record:	
Stream gage data resources:	
5. Identify the OHWM and record the indicators. Record the OHWM position via:	GPS
Cross section drawing:	



OHWM	
GPS point:	
Latitude	33.269123
Longitude	-117.2632035
Datum	WGS84
Indicators:	Change in average sediment texture, Change in vegetation cover, Break in bank slope
Comments:	OHWM About 14 inches high and 6 feet wide. Evidence of recently saturated soils, drift deposits.

Floodplain 1	
Floodplain unit:	Low-Flow Channel
GPS point:	
Latitude	33.26911466666667
Longitude	-117.2631383333333
Datum	ITRF2000
Characteristics of the floodplain unit	
Average sediment texture:	Sandy loam
Total veg cover:	50%
Tree:	10% EUC and Salix
Shrub:	30% RICCOM, 5%EUC
Herb:	5%RICCOM 5%EUC
Community successional stage:	Mid (herbaceous, shrubs, saplings)

Indicators:	Drift and/or debris, Presence of bed and bank, Soil development
Comments:	Fine sandy loam in floodplain channel. About 5 feet wide

Floodplain Photo(s)

Upload additional drawings and/or photos

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: North River Road and Sleeping Indian Road Drainage Improv | City/County: Oceanside, San Diego County | Sampling Date: 01/16/2025
Applicant/Owner: City of Oceanside | State: CA | Sampling Point:
Investigator(s): | Section, Township, Range:
Landform (hillslope, terrace, etc): | Local relief (concave, convex, none): | Slope (%):
Subregion (LRR): LRR C - Mediterranean California | Lat: | Long: | Datum: WGS 84
Soil Map Unit Name: | NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ___ No X (If no, explain in Remarks.)
Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes ___ No X
Are Vegetation No, Soil No, or Hydrology No 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	**Is the Sampled Area within a Wetland?** Yes ___ No X
Wetland Hydrology Present?	Yes X	No ___	

Remarks: Wetland Sample Point taken during a drier period than normal, no significant rainfall has occurred in the area since the previous spring.

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	2	Yes	FACW
2.			
3.			
4.			
	2	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15-ft)			
1. *Baccharis salicifolia* / Mule fat	90	Yes	FAC
2. *Foeniculum vulgare* / Fennel	5	No	NI
3.			
4.			
5.			
	95	= Total Cover	
Herb Stratum (Plot size: 5-ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 30-ft)			
1.			
2.			
	0	= Total Cover	

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

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	2	x 2 =	4
FAC species	90	x 3 =	270
FACU species	0	x 4 =	0
UPL species	5	x 5 =	25
Column Totals:	97 (A)		299 (B)

Prevalence Index = B/A = 3.08

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:

SOIL

Sampling Point: _____

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
0-15	7.5YR 4/4	100		0			Loamy Sand	

[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:

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)**
- X Drift Deposits (B3) **(Riverine)**
- X 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 ___ 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:

Arid West Streamflow Duration Assessment Method

General site information

Project name or number:
North River Road and Sleeping Indian Road Drainage Improvements

Site code or identifier:	**Assessor(s):**	**Visit date:**
NWW-01	Joshua Elson, Eilleen Salas	1/16/2025

Waterway name:
N/A

Current weather conditions (check one):
□ Storm/heavy rain
□ Steady rain
□ Intermittent rain
□ Snowing
■ Cloudy (10% cover)
□ Clear/sunny

Notes on current or recent weather conditions (e.g., precipitation in prior week):

Coordinates at downstream end (decimal degrees):
Lat (N): 33.258808
Long (E): -117.270382
Datum:

Surrounding land-use within 100 m (check one or two):
□ Urban/industrial/residential
■ Agricultural (farmland, crops, vineyards, pasture)
□ Developed open-space (e.g., golf course)
□ Forested
□ Other natural
□ Other:

Describe reach boundaries:

Mean bankfull channel width (m): 0.6
(Indicator 1)

_____ _____ _____

Reach length (m):
40x width
min 40 m
max 200 m
24

Site photographs:
Enter photo ID or check if completed.
Top down: _____ Mid down: _____
Mid up: _____ Bottom up: _____

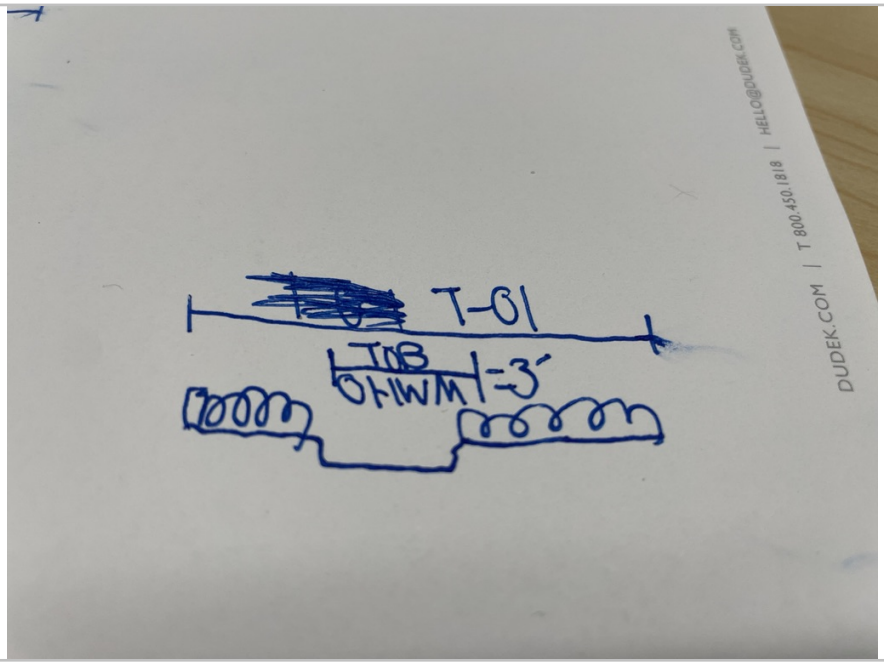
Disturbed or difficult conditions (check all that apply):
□ Recent flood or debris flow
□ Stream modifications (e.g., channelization)
□ Diversions
□ Discharges
□ Drought
□ Vegetation removal/limitations
□ Other (explain in notes)
□ None

Notes on disturbances or difficult site conditions:

Observed hydrology:
0 % of reach with surface flow
_____ % of reach with sub-surface or surface flow
0 # of isolated pools

Comments on observed hydrology:
No surface water observed during either site visit.

Site sketch:



1. Mean bankfull channel width (m) (nearest 0.1 m, copy from first page of field form)

0.6

Notes about mean bankfull channel width:

2. Aquatic macroinvertebrates: Abundance of perennial indicator taxa

Collect aquatic macroinvertebrates from at least 6 locations in the assessment reach, searching all suitable habitats on the streambed (including dry habitats, if present). Determine total abundance of individuals in perennial indicator families listed below, such that no one family counts for more than 11 individuals in the total.

Ephemeroptera	**Plecoptera**	**Trichoptera**	**Coleoptera**
Ephemerellidae (spiny crawler mayflies)	Chloroperlidae (green stoneflies)	Brachycentridae (humpless casemakers)	Elmidae (riffle beetles)
Heptageniidae (flathead mayflies)	Perlidae (common stoneflies)	Glossosomatidae (saddle casemakers)	
Leptohyphyidae (little stout crawler mayflies)		Hydropsychidae (common netspinners)	
Leptophlebiidae (prong-gilled mayflies)		Rhyacophilidae (free-living caddisflies)	

Mark the appropriate box for the number of perennial indicator individuals observed.

- ☒ No perennial indicator taxa detected
- ☐ 1 to 4 perennial indicator individuals
- ☐ 5 to 9 perennial indicator individuals
- ☐ 10 to 19 perennial indicator individuals
- ☐ 20 or more perennial indicator individuals

Check if applicable: ☐ No aquatic macroinvertebrates in assessment area

Notes on perennial indicator taxa:

No EPT present

3. Slope

Using a clinometer or other device, record the slope as a percent, up to the nearest half-percent.

2.0%

Notes about slope:

4. Number of hydrophytic plant species

Record up to 6 hydrophytic plant species (FACW or OBL in the appropriate regional wetland plant list, depending on location) within the assessment area: **within the channel or up to one half-channel width outside the channel**. Explain in notes if species has an odd distribution (e.g., one individual or small patch, long-lived species solely represented by seedlings, or long-lived species solely represented by specimens in decline), or if there is uncertainty about the identification. Enter photo ID or check if photos are taken.

1 Number of hydrophytic plant species identified from the assessment reach without odd distribution. Enter zero if none were found.

Check if applicable: ☐ No vegetation in assessment area

Species	Odd distribution?	Notes	Photo ID
Salix lasiolepis	No	Present as part of larger SLR riparian canopy	

Notes on hydrophytic vegetation:

5. Prevalence of rooted upland plants in the streambed

3 **(0-3)**

Half-scores (0.5, 1.5, and 2.5) are allowed.

Evaluate the prevalence of rooted upland plants (i.e., plants rated as FAC, FACU, UPL, NI, or not listed in the regionally appropriate National Wetland Plant List) in the streambed.

0 (Poor) Rooted upland plants are *prevalent* within the streambed/thalweg.
1 (Weak) Rooted upland plants are *consistently dispersed* throughout the streambed/thalweg.
2 (Moderate) There are *a few* rooted upland plants present within the streambed/thalweg.
3 (Strong) Rooted upland plants are *absent* from the streambed/thalweg.

Upland Species	Notes	Photo ID

Notes on rooted upland plants:

Alot of mulefat present immediately outside of streambed.

6. Algal cover

Mark the appropriate box for the percent of the streambed covered by live or dead algae on the streambed.

- ☒ Not detected
- ☐ ≤2% cover
- ☐ 2 to 10% cover
- ☐ 10 to 40% cover
- ☐ >40% cover
- ☐ Check here if algae *exclusively* appears to have been deposited from an upstream source, and *no* local growth is evident.

Notes on algal cover on the streambed:

7. Differences in vegetation

0 **(0-3)** *Half-scores (0.5, 1.5, 2.5) are allowed.*	Compare the composition and density of plants growing on the banks and riparian areas to plants in the adjacent uplands. For this indicator, an upland species is not defined by its wetland indicator status, but rather by its location relative to the channel. 0 (Poor) No compositional or density differences in vegetation are present between the banks and the adjacent uplands. 1 (Weak) Vegetation growing along the reach may occur in greater densities or grow more vigorously than vegetation in the adjacent uplands, but there are no dramatic compositional differences between the two. 2 (Moderate) A distinct riparian corridor exists along part of the reach. Riparian vegetation is interspersed with upland vegetation along the length of the reach. 3 (Strong) Dramatic compositional differences in vegetation are present between the banks and the adjacent uplands. A distinct riparian vegetation corridor exists along the entire reach. Riparian, aquatic, or wetland species dominate the length of the reach.
Notes on differences in vegetation: This is a bare channel which receives flows from a culvert and directs them into the San Luis Rey River riparian canopy. There is no veg within the channel, but the adjacent "upland" isn't really an upland as much as it is a riparian forest resulting from the larger river system.	

8. Riffle-pool sequence

0 **(0-3)** *Half-scores (0.5, 1.5, 2.5) are allowed.*	Evaluate the prevalence of riffles, pools, and other microhabitats in the streambed. 0 (Poor) No riffle-pool sequences observed. 1 (Weak) Mostly has areas of pools or riffles. 2 (Moderate) Represented by a less frequent number of riffles and pools. Distinguishing the transition between riffles and pools is difficult to observe. 3 (Strong) Demonstrated by a frequent number of structural transitions (e.g., riffles followed by pools) along the entire reach. There is an obvious transition between riffles and pools.
Notes about riffle-pool sequence:	

Photo log

Indicate if any other photographs taken during the assessment:

Photo ID	Description
	Photo points displayed in photo log

Additional notes about the assessment:

Model classification:

- ☒ Ephemeral
- ☐ At least intermittent
- ☐ Intermittent
- ☐ Less than perennial
- ☐ Perennial
- ☐ Needs more information

Arid West Streamflow Duration Assessment Method

General site information

Project name or number:
North River Road and Sleeping Indian Road Drainage Improvements

Site code or identifier:	**Assessor(s):**
NWW-02	Joshua Elson, Eilleen Salas

Waterway name:	**Visit date:**
N/A	1/16/2025

Current weather conditions (check one):
□ Storm/heavy rain
□ Steady rain
□ Intermittent rain
□ Snowing
■ Cloudy (10% cover)
□ Clear/sunny

Notes on current or recent weather conditions (e.g., precipitation in prior week):

Coordinates at downstream end (decimal degrees):
Lat (N): 33.259289
Long (E): -117.265716
Datum:

Surrounding land-use within 100 m (check one or two):
□ Urban/industrial/residential
■ Agricultural (farmland, crops, vineyards, pasture)
□ Developed open-space (e.g., golf course)
□ Forested
□ Other natural
□ Other:

Describe reach boundaries:

Mean bankfull channel width (m): 1.5
(Indicator 1)

_____ _____ _____

Reach length (m):
40x width
min 40 m
max 200 m
60

Site photographs:
Enter photo ID or check if completed.
Top down: _____ Mid down: _____
Mid up: _____ Bottom up: _____

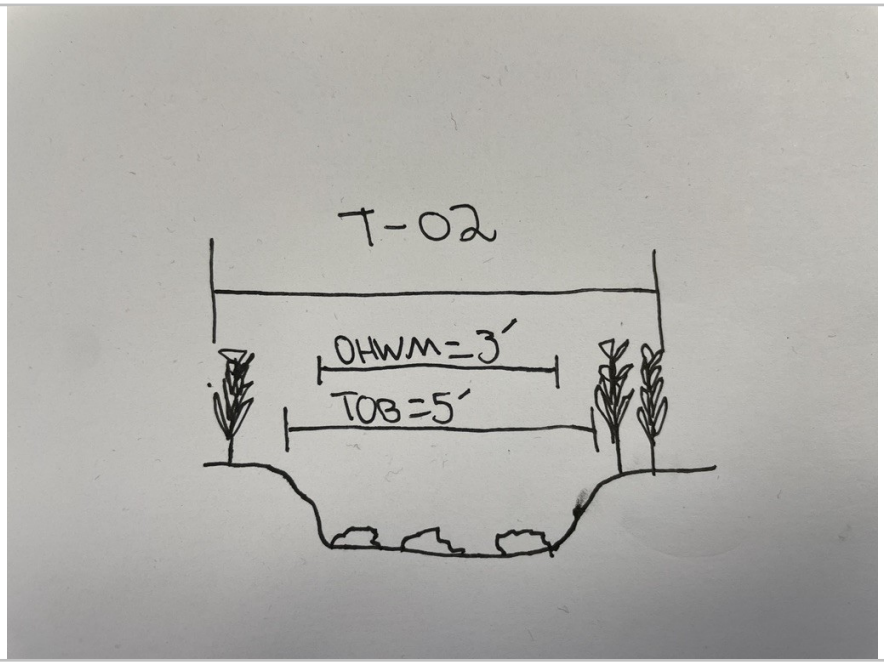
Disturbed or difficult conditions (check all that apply):
□ Recent flood or debris flow
□ Stream modifications (e.g., channelization)
□ Diversions
□ Discharges
□ Drought
□ Vegetation removal/limitations
□ Other (explain in notes)
□ None

Notes on disturbances or difficult site conditions:

Observed hydrology:
0 % of reach with surface flow
_____ % of reach with sub-surface or surface flow
0 # of isolated pools

Comments on observed hydrology:
No surface water observed during either site visit.

Site sketch:



1. Mean bankfull channel width (m) (nearest 0.1 m, copy from first page of field form)

1.5

Notes about mean bankfull channel width:

2. Aquatic macroinvertebrates: Abundance of perennial indicator taxa

Collect aquatic macroinvertebrates from at least 6 locations in the assessment reach, searching all suitable habitats on the streambed (including dry habitats, if present). Determine total abundance of individuals in perennial indicator families listed below, such that no one family counts for more than 11 individuals in the total.

Ephemeroptera	**Plecoptera**	**Trichoptera**	**Coleoptera**
Ephemerellidae (spiny crawler mayflies)	Chloroperlidae (green stoneflies)	Brachycentridae (humpless casemakers)	Elmidae (riffle beetles)
Heptageniidae (flathead mayflies)	Perlidae (common stoneflies)	Glossosomatidae (saddle casemakers)	
Leptohyphyidae (little stout crawler mayflies)		Hydropsychidae (common netspinners)	
Leptophlebiidae (prong-gilled mayflies)		Rhyacophilidae (free-living caddisflies)	

Mark the appropriate box for the number of perennial indicator individuals observed.

- ☒ No perennial indicator taxa detected
- ☐ 1 to 4 perennial indicator individuals
- ☐ 5 to 9 perennial indicator individuals
- ☐ 10 to 19 perennial indicator individuals
- ☐ 20 or more perennial indicator individuals

Check if applicable: ☐ No aquatic macroinvertebrates in assessment area

Notes on perennial indicator taxa:

No EPT present

3. Slope

Using a clinometer or other device, record the slope as a percent, up to the nearest half-percent.

3.5%

Notes about slope:

4. Number of hydrophytic plant species

Record up to 6 hydrophytic plant species (FACW or OBL in the appropriate regional wetland plant list, depending on location) within the assessment area: **within the channel or up to one half-channel width outside the channel**. Explain in notes if species has an odd distribution (e.g., one individual or small patch, long-lived species solely represented by seedlings, or long-lived species solely represented by specimens in decline), or if there is uncertainty about the identification. Enter photo ID or check if photos are taken.

1 Number of hydrophytic plant species identified from the assessment reach without odd distribution. Enter zero if none were found.

Check if applicable: ☐ No vegetation in assessment area

Species	Odd distribution?	Notes	Photo ID
Salix lasiolepis	No	Present as part of larger SLR riparian canopy	

Notes on hydrophytic vegetation:

5. Prevalence of rooted upland plants in the streambed

3 **(0-3)**

Half-scores (0.5, 1.5, and 2.5) are allowed.

Evaluate the prevalence of rooted upland plants (i.e., plants rated as FAC, FACU, UPL, NI, or not listed in the regionally appropriate National Wetland Plant List) in the streambed.

0 (Poor) Rooted upland plants are *prevalent* within the streambed/thalweg.
1 (Weak) Rooted upland plants are *consistently dispersed* throughout the streambed/thalweg.
2 (Moderate) There are *a few* rooted upland plants present within the streambed/thalweg.
3 (Strong) Rooted upland plants are *absent* from the streambed/thalweg.

Upland Species	Notes	Photo ID

Notes on rooted upland plants:

Alot of mulefat present immediately outside of streambed.

6. Algal cover

Mark the appropriate box for the percent of the streambed covered by live or dead algae on the streambed.

- ☒ Not detected
- ☐ ≤2% cover
- ☐ 2 to 10% cover
- ☐ 10 to 40% cover
- ☐ >40% cover
- ☐ Check here if algae *exclusively* appears to have been deposited from an upstream source, and *no* local growth is evident.

Notes on algal cover on the streambed:

7. Differences in vegetation

0 **(0-3)** *Half-scores (0.5, 1.5, 2.5) are allowed.*	Compare the composition and density of plants growing on the banks and riparian areas to plants in the adjacent uplands. For this indicator, an upland species is not defined by its wetland indicator status, but rather by its location relative to the channel. 0 (Poor) No compositional or density differences in vegetation are present between the banks and the adjacent uplands. 1 (Weak) Vegetation growing along the reach may occur in greater densities or grow more vigorously than vegetation in the adjacent uplands, but there are no dramatic compositional differences between the two. 2 (Moderate) A distinct riparian corridor exists along part of the reach. Riparian vegetation is interspersed with upland vegetation along the length of the reach. 3 (Strong) Dramatic compositional differences in vegetation are present between the banks and the adjacent uplands. A distinct riparian vegetation corridor exists along the entire reach. Riparian, aquatic, or wetland species dominate the length of the reach.
Notes on differences in vegetation: This is a bare channel which receives flows from a set of culvert and directs them into the San Luis Rey River riparian canopy. There is no vegetation within the channel, but the adjacent " upland" isn't really an upland as much as it is a riparian forest resulting from the larger river system.	

8. Riffle-pool sequence

0 **(0-3)** *Half-scores (0.5, 1.5, 2.5) are allowed.*	Evaluate the prevalence of riffles, pools, and other microhabitats in the streambed. 0 (Poor) No riffle-pool sequences observed. 1 (Weak) Mostly has areas of pools or riffles. 2 (Moderate) Represented by a less frequent number of riffles and pools. Distinguishing the transition between riffles and pools is difficult to observe. 3 (Strong) Demonstrated by a frequent number of structural transitions (e.g., riffles followed by pools) along the entire reach. There is an obvious transition between riffles and pools.
Notes about riffle-pool sequence:	

Photo log

Indicate if any other photographs taken during the assessment:

Photo ID	Description
	Photo points of this feature included in ARDR photo log

Additional notes about the assessment:

Model classification:

- ☒ Ephemeral
- ☐ At least intermittent
- ☐ Intermittent
- ☐ Less than perennial
- ☐ Perennial
- ☐ Needs more information

Arid West Streamflow Duration Assessment Method

General site information

Project name or number:
North River Road and Sleeping Indian Road Drainage Improvements

Site code or identifier:	**Assessor(s):**
NWW-03	Joshua Elson, Eilleen Salas

Waterway name:	**Visit date:**
N/A	1/16/2025

Current weather conditions (check one):
□ Storm/heavy rain
□ Steady rain
□ Intermittent rain
□ Snowing
■ Cloudy (10% cover)
□ Clear/sunny

Notes on current or recent weather conditions (e.g., precipitation in prior week):

Coordinates at downstream end (decimal degrees):
Lat (N): 33.259430
Long (E): -117.265894
Datum:

Surrounding land-use within 100 m (check one or two):
□ Urban/industrial/residential
■ Agricultural (farmland, crops, vineyards, pasture)
□ Developed open-space (e.g., golf course)
□ Forested
□ Other natural
□ Other:

Describe reach boundaries:

Mean bankfull channel width (m): 1.2
(Indicator 1)
_____ _____ _____

Reach length (m):
40x width
min 40 m
max 200 m
48

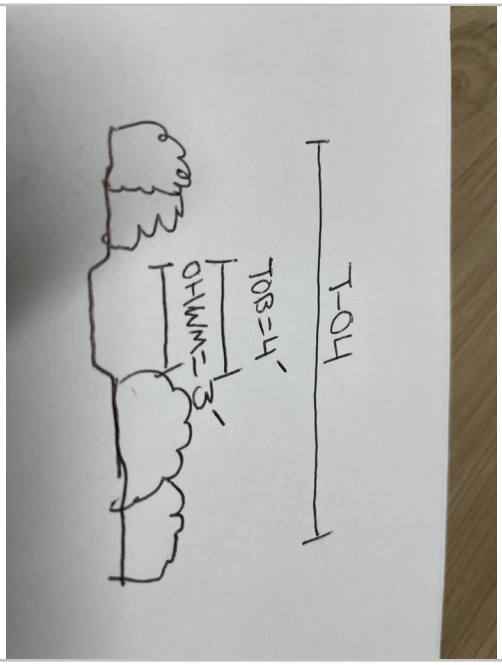
Site photographs:
Enter photo ID or check if completed.
Top down: _____ Mid down: _____
Mid up: _____ Bottom up: _____

Disturbed or difficult conditions (check all that apply):
□ Recent flood or debris flow
□ Stream modifications (e.g., channelization)
□ Diversions
□ Discharges
□ Drought
□ Vegetation removal/limitations
□ Other (explain in notes)
□ None
Notes on disturbances or difficult site conditions:

Observed hydrology:
0 % of reach with surface flow
_____ % of reach with sub-surface or surface flow
0 # of isolated pools

Comments on observed hydrology:
No surface water observed during either site visit.

Site sketch:



1. Mean bankfull channel width (m) (nearest 0.1 m, copy from first page of field form)

1.2

Notes about mean bankfull channel width:

2. Aquatic macroinvertebrates: Abundance of perennial indicator taxa

Collect aquatic macroinvertebrates from at least 6 locations in the assessment reach, searching all suitable habitats on the streambed (including dry habitats, if present). Determine total abundance of individuals in perennial indicator families listed below, such that no one family counts for more than 11 individuals in the total.

Ephemeroptera	**Plecoptera**	**Trichoptera**	**Coleoptera**
Ephemerellidae (spiny crawler mayflies)	Chloroperlidae (green stoneflies)	Brachycentridae (humpless casemakers)	Elmidae (riffle beetles)
Heptageniidae (flathead mayflies)	Perlidae (common stoneflies)	Glossosomatidae (saddle casemakers)	
Leptohyphyidae (little stout crawler mayflies)		Hydropsychidae (common netspinners)	
Leptophlebiidae (prong-gilled mayflies)		Rhyacophilidae (free-living caddisflies)	

Mark the appropriate box for the number of perennial indicator individuals observed.

- ☒ No perennial indicator taxa detected
- ☐ 1 to 4 perennial indicator individuals
- ☐ 5 to 9 perennial indicator individuals
- ☐ 10 to 19 perennial indicator individuals
- ☐ 20 or more perennial indicator individuals

Check if applicable: ☐ No aquatic macroinvertebrates in assessment area

Notes on perennial indicator taxa:

No EPT present

3. Slope

Using a clinometer or other device, record the slope as a percent, up to the nearest half-percent.

3.0%

Notes about slope:

4. Number of hydrophytic plant species

Record up to 6 hydrophytic plant species (FACW or OBL in the appropriate regional wetland plant list, depending on location) within the assessment area: **within the channel or up to one half-channel width outside the channel**. Explain in notes if species has an odd distribution (e.g., one individual or small patch, long-lived species solely represented by seedlings, or long-lived species solely represented by specimens in decline), or if there is uncertainty about the identification. Enter photo ID or check if photos are taken.

2 Number of hydrophytic plant species identified from the assessment reach without odd distribution. Enter zero if none were found.

Check if applicable: ☐ No vegetation in assessment area

Species	Odd distribution?	Notes	Photo ID
Salix lasiolepis	No	Present as part of larger SLR riparian canopy	
Populus fremontii	No	Present as part of larger SLR riparian canopy	

Notes on hydrophytic vegetation:

5. Prevalence of rooted upland plants in the streambed

3 **(0-3)**

Half-scores (0.5, 1.5, and 2.5) are allowed.

Evaluate the prevalence of rooted upland plants (i.e., plants rated as FAC, FACU, UPL, NI, or not listed in the regionally appropriate National Wetland Plant List) in the streambed.

0 (Poor) Rooted upland plants are *prevalent* within the streambed/thalweg.
1 (Weak) Rooted upland plants are *consistently dispersed* throughout the streambed/thalweg.
2 (Moderate) There are *a few* rooted upland plants present within the streambed/thalweg.
3 (Strong) Rooted upland plants are *absent* from the streambed/thalweg.

Upland Species	Notes	Photo ID

Notes on rooted upland plants:

A lot of mulefat (FAC) present immediately outside of streambed.

6. Algal cover

Mark the appropriate box for the percent of the streambed covered by live or dead algae on the streambed.

- ☒ Not detected
- ☐ ≤2% cover
- ☐ 2 to 10% cover
- ☐ 10 to 40% cover
- ☐ >40% cover
- ☐ Check here if algae *exclusively* appears to have been deposited from an upstream source, and *no* local growth is evident.

Notes on algal cover on the streambed:

7. Differences in vegetation

0 **(0-3)** *Half-scores (0.5, 1.5, 2.5) are allowed.*	Compare the composition and density of plants growing on the banks and riparian areas to plants in the adjacent uplands. For this indicator, an upland species is not defined by its wetland indicator status, but rather by its location relative to the channel. 0 (Poor) No compositional or density differences in vegetation are present between the banks and the adjacent uplands. 1 (Weak) Vegetation growing along the reach may occur in greater densities or grow more vigorously than vegetation in the adjacent uplands, but there are no dramatic compositional differences between the two. 2 (Moderate) A distinct riparian corridor exists along part of the reach. Riparian vegetation is interspersed with upland vegetation along the length of the reach. 3 (Strong) Dramatic compositional differences in vegetation are present between the banks and the adjacent uplands. A distinct riparian vegetation corridor exists along the entire reach. Riparian, aquatic, or wetland species dominate the length of the reach.

Notes on differences in vegetation:

This is a bare channel which receives flows from a broken culvert and directs them into the San Luis Rey River riparian canopy. There is no vegetation within the channel, but the adjacent "upland" isn't really an upland as much as it is a riparian forest resulting from the larger river system.

8. Riffle-pool sequence

0 **(0-3)** *Half-scores (0.5, 1.5, 2.5) are allowed.*	Evaluate the prevalence of riffles, pools, and other microhabitats in the streambed. 0 (Poor) No riffle-pool sequences observed. 1 (Weak) Mostly has areas of pools or riffles. 2 (Moderate) Represented by a less frequent number of riffles and pools. Distinguishing the transition between riffles and pools is difficult to observe. 3 (Strong) Demonstrated by a frequent number of structural transitions (e.g., riffles followed by pools) along the entire reach. There is an obvious transition between riffles and pools.
Notes about riffle-pool sequence:	

Photo log

Indicate if any other photographs taken during the assessment:

Photo ID	Description
	Photo points for this feature are displayed in ARDR photo log

Additional notes about the assessment:

Model classification:

- ☒ Ephemeral
- ☐ At least intermittent
- ☐ Intermittent
- ☐ Less than perennial
- ☐ Perennial
- ☐ Needs more information

Arid West Streamflow Duration Assessment Method

General site information

Project name or number:
North River Road and Sleeping Indian Road Drainage Improvements

Site code or identifier:	**Assessor(s):**
NWW-04	Joshua Elson, Eilleen Salas

Waterway name:	**Visit date:**
N/A	1/16/2025

Current weather conditions (check one):
□ Storm/heavy rain
□ Steady rain
□ Intermittent rain
□ Snowing
■ Cloudy (10% cover)
□ Clear/sunny

Notes on current or recent weather conditions (e.g., precipitation in prior week):

Coordinates at downstream end (decimal degrees):
Lat (N): 33.259426
Long (E): -117.264487
Datum:

Surrounding land-use within 100 m (check one or two):
□ Urban/industrial/residential
■ Agricultural (farmland, crops, vineyards, pasture)
□ Developed open-space (e.g., golf course)
□ Forested
□ Other natural
□ Other:

Describe reach boundaries:

Mean bankfull channel width (m): 1.8
(Indicator 1)

_____ _____ _____

Reach length (m):
40x width
min 40 m
max 200 m
72

Site photographs:
Enter photo ID or check if completed.
Top down: _____ Mid down: _____
Mid up: _____ Bottom up: _____

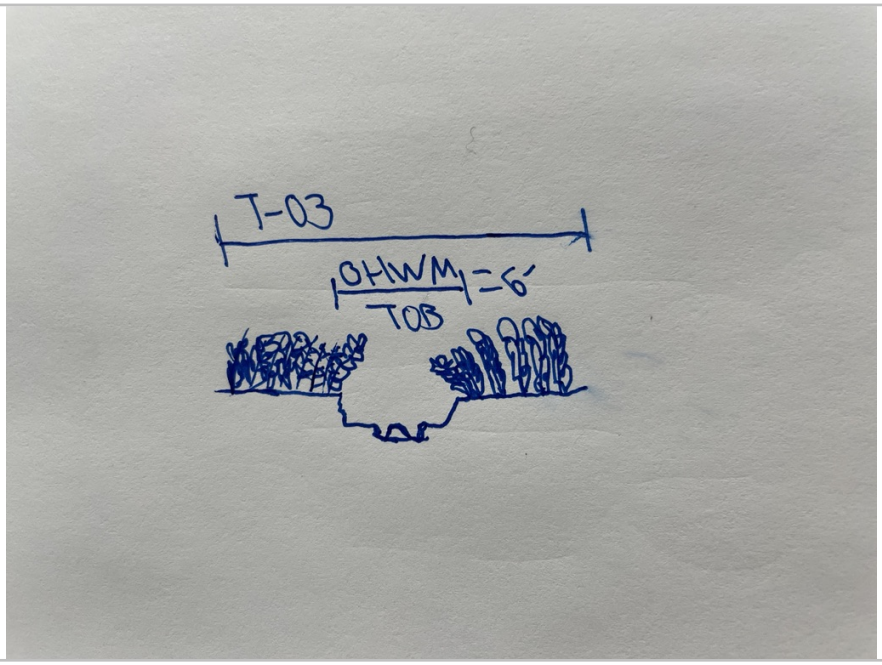
Disturbed or difficult conditions (check all that apply):
□ Recent flood or debris flow
□ Stream modifications (e.g., channelization)
□ Diversions
□ Discharges
□ Drought
□ Vegetation removal/limitations
□ Other (explain in notes)
□ None

Notes on disturbances or difficult site conditions:

Observed hydrology:
0 % of reach with surface flow
_____ % of reach with sub-surface or surface flow
0 # of isolated pools

Comments on observed hydrology:
No surface water observed during either site visit.

Site sketch:



1. Mean bankfull channel width (m) (nearest 0.1 m, copy from first page of field form)

1.8

Notes about mean bankfull channel width:

2. Aquatic macroinvertebrates: Abundance of perennial indicator taxa

Collect aquatic macroinvertebrates from at least 6 locations in the assessment reach, searching all suitable habitats on the streambed (including dry habitats, if present). Determine total abundance of individuals in perennial indicator families listed below, such that no one family counts for more than 11 individuals in the total.

Ephemeroptera	**Plecoptera**	**Trichoptera**	**Coleoptera**
Ephemerellidae (spiny crawler mayflies)	Chloroperlidae (green stoneflies)	Brachycentridae (humpless casemakers)	Elmidae (riffle beetles)
Heptageniidae (flathead mayflies)	Perlidae (common stoneflies)	Glossosomatidae (saddle casemakers)	
Leptohyphyidae (little stout crawler mayflies)		Hydropsychidae (common netspinners)	
Leptophlebiidae (prong-gilled mayflies)		Rhyacophilidae (free-living caddisflies)	

Mark the appropriate box for the number of perennial indicator individuals observed.

- ☒ No perennial indicator taxa detected
- ☐ 1 to 4 perennial indicator individuals
- ☐ 5 to 9 perennial indicator individuals
- ☐ 10 to 19 perennial indicator individuals
- ☐ 20 or more perennial indicator individuals

Check if applicable: ☐ No aquatic macroinvertebrates in assessment area

Notes on perennial indicator taxa:

No EPT present

3. Slope

Using a clinometer or other device, record the slope as a percent, up to the nearest half-percent.

2.5%

Notes about slope:

4. Number of hydrophytic plant species

Record up to 6 hydrophytic plant species (FACW or OBL in the appropriate regional wetland plant list, depending on location) within the assessment area: **within the channel or up to one half-channel width outside the channel**. Explain in notes if species has an odd distribution (e.g., one individual or small patch, long-lived species solely represented by seedlings, or long-lived species solely represented by specimens in decline), or if there is uncertainty about the identification. Enter photo ID or check if photos are taken.

1 Number of hydrophytic plant species identified from the assessment reach without odd distribution. Enter zero if none were found.

Check if applicable: ☐ No vegetation in assessment area

Species	Odd distribution?	Notes	Photo ID
Salix lasiolepis	No	Present as part of larger SLR riparian canopy	

Notes on hydrophytic vegetation:

5. Prevalence of rooted upland plants in the streambed

3 **(0-3)**

Half-scores (0.5, 1.5, and 2.5) are allowed.

Evaluate the prevalence of rooted upland plants (i.e., plants rated as FAC, FACU, UPL, NI, or not listed in the regionally appropriate National Wetland Plant List) in the streambed.

0 (Poor) Rooted upland plants are *prevalent* within the streambed/thalweg.
1 (Weak) Rooted upland plants are *consistently dispersed* throughout the streambed/thalweg.
2 (Moderate) There are *a few* rooted upland plants present within the streambed/thalweg.
3 (Strong) Rooted upland plants are *absent* from the streambed/thalweg.

Upland Species	Notes	Photo ID

Notes on rooted upland plants:

Alot of mulefat (FAC) present immediately outside of streambed.

6. Algal cover

Mark the appropriate box for the percent of the streambed covered by live or dead algae on the streambed.

- ☒ Not detected
- ☐ ≤2% cover
- ☐ 2 to 10% cover
- ☐ 10 to 40% cover
- ☐ >40% cover
- ☐ Check here if algae *exclusively* appears to have been deposited from an upstream source, and *no* local growth is evident.

Notes on algal cover on the streambed:

7. Differences in vegetation

0 **(0-3)** *Half-scores (0.5, 1.5, 2.5) are allowed.*	Compare the composition and density of plants growing on the banks and riparian areas to plants in the adjacent uplands. For this indicator, an upland species is not defined by its wetland indicator status, but rather by its location relative to the channel. 0 (Poor) No compositional or density differences in vegetation are present between the banks and the adjacent uplands. 1 (Weak) Vegetation growing along the reach may occur in greater densities or grow more vigorously than vegetation in the adjacent uplands, but there are no dramatic compositional differences between the two. 2 (Moderate) A distinct riparian corridor exists along part of the reach. Riparian vegetation is interspersed with upland vegetation along the length of the reach. 3 (Strong) Dramatic compositional differences in vegetation are present between the banks and the adjacent uplands. A distinct riparian vegetation corridor exists along the entire reach. Riparian, aquatic, or wetland species dominate the length of the reach.
Notes on differences in vegetation: This is a bare channel which receives flows from a set of culvert and directs them into the San Luis Rey River riparian canopy. There is no vegetation within the channel.	

8. Riffle-pool sequence

0 **(0-3)** *Half-scores (0.5, 1.5, 2.5) are allowed.*	Evaluate the prevalence of riffles, pools, and other microhabitats in the streambed. 0 (Poor) No riffle-pool sequences observed. 1 (Weak) Mostly has areas of pools or riffles. 2 (Moderate) Represented by a less frequent number of riffles and pools. Distinguishing the transition between riffles and pools is difficult to observe. 3 (Strong) Demonstrated by a frequent number of structural transitions (e.g., riffles followed by pools) along the entire reach. There is an obvious transition between riffles and pools.
Notes about riffle-pool sequence:	

Photo log

Indicate if any other photographs taken during the assessment:

Photo ID	Description
	Photo points of this feature included in ARDR photo log

Additional notes about the assessment:

Model classification:

- ☒ Ephemeral
- ☐ At least intermittent
- ☐ Intermittent
- ☐ Less than perennial
- ☐ Perennial
- ☐ Needs more information

Arid West Streamflow Duration Assessment Method

General site information

Project name or number:
North River Road and Sleeping Indian Road Drainage Improvements

Site code or identifier:	**Assessor(s):**
NWW-05	Kimberly Narel

Waterway name:	**Visit date:**
N/A	2/21/2025

Current weather conditions (check one):
□ Storm/heavy rain
□ Steady rain
□ Intermittent rain
□ Snowing
□ Cloudy (___ % cover)
▣ Clear/sunny

Notes on current or recent weather conditions (e.g., precipitation in prior week):

Coordinates at downstream end (decimal degrees):
Lat (N): 33.268189
Long (E): -117.263253
Datum:

Surrounding land-use within 100 m (check one or two):
□ Urban/industrial/residential
■ Agricultural (farmland, crops, vineyards, pasture)
□ Developed open-space (e.g., golf course)
□ Forested
□ Other natural
□ Other:

Describe reach boundaries:

Mean bankfull channel width (m): 3.4 (Indicator 1)
_____ _____ _____

Reach length (m):
40x width
min 40 m
max 200 m
136

Site photographs:
Enter photo ID or check if completed.
Top down: _____ Mid down: _____
Mid up: _____ Bottom up: _____

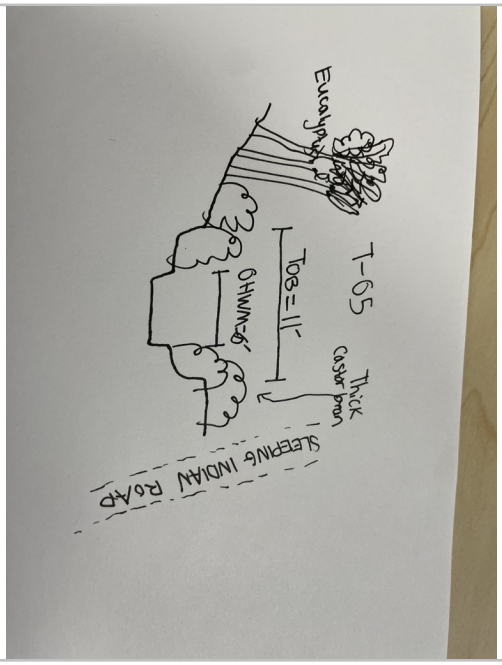
Disturbed or difficult conditions (check all that apply):
□ Recent flood or debris flow
□ Stream modifications (e.g., channelization)
□ Diversions
□ Discharges
□ Drought
□ Vegetation removal/limitations
□ Other (explain in notes)
□ None

Notes on disturbances or difficult site conditions:

Observed hydrology:
0 % of reach with surface flow
_____ % of reach with sub-surface or surface flow
0 # of isolated pools

Comments on observed hydrology:
No surface water observed during either site visit.

Site sketch:



1. Mean bankfull channel width (m) (nearest 0.1 m, copy from first page of field form)

3.4

Notes about mean bankfull channel width:

2. Aquatic macroinvertebrates: Abundance of perennial indicator taxa

Collect aquatic macroinvertebrates from at least 6 locations in the assessment reach, searching all suitable habitats on the streambed (including dry habitats, if present). Determine total abundance of individuals in perennial indicator families listed below, such that no one family counts for more than 11 individuals in the total.

Ephemeroptera	**Plecoptera**	**Trichoptera**	**Coleoptera**
Ephemerellidae (spiny crawler mayflies)	Chloroperlidae (green stoneflies)	Brachycentridae (humpless casemakers)	Elmidae (riffle beetles)
Heptageniidae (flathead mayflies)	Perlidae (common stoneflies)	Glossosomatidae (saddle casemakers)	
Leptohyphyidae (little stout crawler mayflies)		Hydropsychidae (common netspinners)	
Leptophlebiidae (prong-gilled mayflies)		Rhyacophilidae (free-living caddisflies)	

Mark the appropriate box for the number of perennial indicator individuals observed.

- ☒ No perennial indicator taxa detected
- ☐ 1 to 4 perennial indicator individuals
- ☐ 5 to 9 perennial indicator individuals
- ☐ 10 to 19 perennial indicator individuals
- ☐ 20 or more perennial indicator individuals

Check if applicable: ☐ No aquatic macroinvertebrates in assessment area

Notes on perennial indicator taxa:

No EPT present

3. Slope

Using a clinometer or other device, record the slope as a percent, up to the nearest half-percent.

3.0

Notes about slope:

4. Number of hydrophytic plant species

Record up to 6 hydrophytic plant species (FACW or OBL in the appropriate regional wetland plant list, depending on location) within the assessment area: **within the channel or up to one half-channel width outside the channel**. Explain in notes if species has an odd distribution (e.g., one individual or small patch, long-lived species solely represented by seedlings, or long-lived species solely represented by specimens in decline), or if there is uncertainty about the identification. Enter photo ID or check if photos are taken.

1 Number of hydrophytic plant species identified from the assessment reach without odd distribution. Enter zero if none were found.

Check if applicable: ☐ No vegetation in assessment area

Species	Odd distribution?	Notes	Photo ID
Salix lasiolepis	No		

Notes on hydrophytic vegetation:

5. Prevalence of rooted upland plants in the streambed

3 **(0-3)**

Half-scores (0.5, 1.5, and 2.5) are allowed.

Evaluate the prevalence of rooted upland plants (i.e., plants rated as FAC, FACU, UPL, NI, or not listed in the regionally appropriate National Wetland Plant List) in the streambed.

0 (Poor) Rooted upland plants are *prevalent* within the streambed/thalweg.
1 (Weak) Rooted upland plants are *consistently dispersed* throughout the streambed/thalweg.
2 (Moderate) There are *a few* rooted upland plants present within the streambed/thalweg.
3 (Strong) Rooted upland plants are *absent* from the streambed/thalweg.

Upland Species	Notes	Photo ID

Notes on rooted upland plants:

No rooted upland plants present within channel.

6. Algal cover

Mark the appropriate box for the percent of the streambed covered by live or dead algae on the streambed.

- ☒ Not detected
- ☐ ≤2% cover
- ☐ 2 to 10% cover
- ☐ 10 to 40% cover
- ☐ >40% cover
- ☐ Check here if algae *exclusively* appears to have been deposited from an upstream source, and *no* local growth is evident.

Notes on algal cover on the streambed:

7. Differences in vegetation

1.5 ___ **(0-3)** *Half-scores (0.5, 1.5, 2.5) are allowed.*	Compare the composition and density of plants growing on the banks and riparian areas to plants in the adjacent uplands. For this indicator, an upland species is not defined by its wetland indicator status, but rather by its location relative to the channel. 0 (Poor) No compositional or density differences in vegetation are present between the banks and the adjacent uplands. 1 (Weak) Vegetation growing along the reach may occur in greater densities or grow more vigorously than vegetation in the adjacent uplands, but there are no dramatic compositional differences between the two. 2 (Moderate) A distinct riparian corridor exists along part of the reach. Riparian vegetation is interspersed with upland vegetation along the length of the reach. 3 (Strong) Dramatic compositional differences in vegetation are present between the banks and the adjacent uplands. A distinct riparian vegetation corridor exists along the entire reach. Riparian, aquatic, or wetland species dominate the length of the reach.
Notes on differences in vegetation: Willow trees present on edges of channel which are not present in the adjacent uplands.	

8. Riffle-pool sequence

0 (0-3) *Half-scores (0.5, 1.5, 2.5) are allowed.*	Evaluate the prevalence of riffles, pools, and other microhabitats in the streambed. 0 (Poor) No riffle-pool sequences observed. 1 (Weak) Mostly has areas of pools or riffles. 2 (Moderate) Represented by a less frequent number of riffles and pools. Distinguishing the transition between riffles and pools is difficult to observe. 3 (Strong) Demonstrated by a frequent number of structural transitions (e.g., riffles followed by pools) along the entire reach. There is an obvious transition between riffles and pools.
Notes about riffle-pool sequence:	

Photo log

Indicate if any other photographs taken during the assessment:

Photo ID	Description
	Photo points of this feature included in OHWM form taken for feature

Additional notes about the assessment:

Model classification:

- ☒ Ephemeral
- ☐ At least intermittent
- ☐ Intermittent
- ☐ Less than perennial
- ☐ Perennial
- ☐ Needs more information

Appendix C
Review Area Photos

Photo 1. Overview of Non-Wetland Water (NWW)-01a north of North River Road, facing north (Photo Point 1).

Photo 2. View facing east of agricultural ditch (NWW-01b) from the east (Photo Point 1).

Photo 3. NWW-01a outlet south of North River Road, facing north (Photo Point 2).

Photo 4. East branch of NWW-01a continuing for a short distance and then dissipating, facing south by southeast (Photo Point 2).

Photo 5. NWW-01b, facing northeast. Water within ditch is presumed to be from irrigation associated with the nursery operation pictured (Photo Point 3).

Photo 6. NWW-02, north of North River Road, facing north (Photo Point 4).

Photo 7. NWW-02 flow path over Arizona crossing and into culverts under North River Road (Photo Point 5).

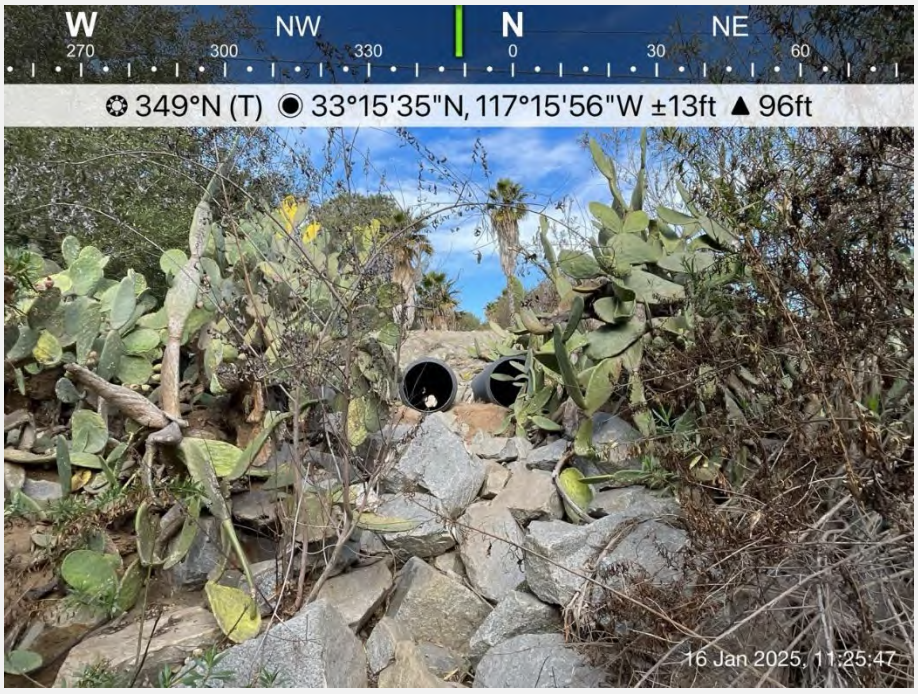


Photo 8. Culvert outlets and riprap of NWW-02 south of North River Road, facing north (Photo Point 6).

Photo 9. NWW-02 south of North River Road, facing southeast (Photo Point 6).

Photo 10. Beginning of NWW-3, south of North River Road, facing south (Photo Point 7).

Photo 11. NWW-04 south of North River Road, facing south (Photo Point 8).

Photo 12. NWW-04 south of North River Road, facing south by southwest, taken from within channel. (Photo Point 9).

Photo 13. NWW-05 southwest of Sleeping Indian Road, facing southwest (Photo Point 10).

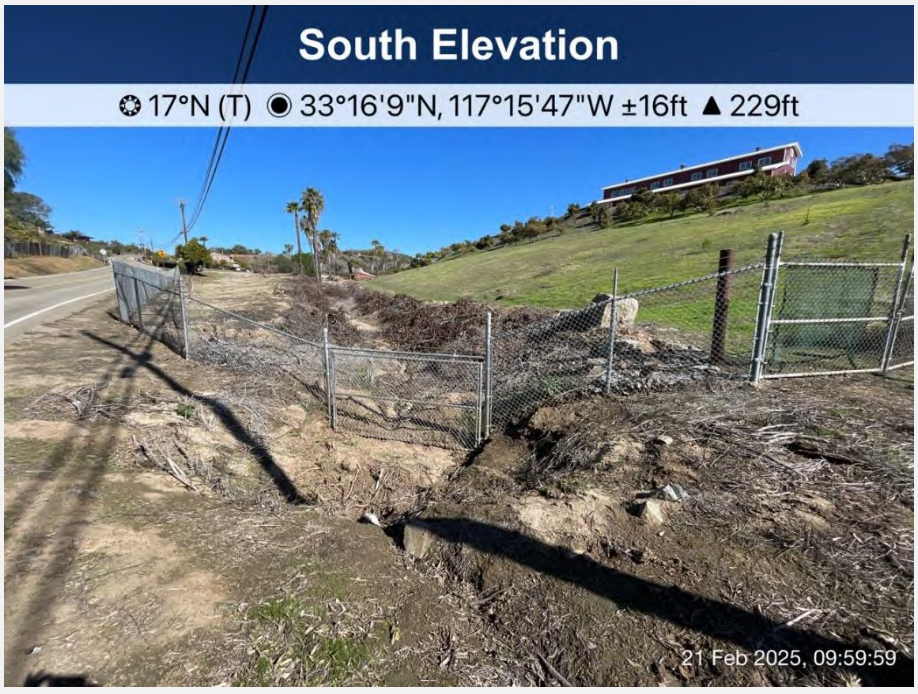


Photo 14. NWW-05 northeast of Sleeping Indian Road, facing north (Photo Point 11).

Photo 15. Wetland Sampling Point 01, taken within NWW-04.