

APPENDIX B
Biological Resources Documentation
Jurisdictional Delineation

MODJESKA GRADE ROAD IMPROVEMENTS PROJECT

UNINCORPORATED ORANGE COUNTY, CALIFORNIA

Biological Resources Assessment

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December 2023
JN 189853

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Biological Resources Assessment

The undersigned certify that the statements furnished in this report and figures present data and information required for this biological evaluation, and the facts, statements, and information presented is a complete and accurate account of the findings and conclusions to the best of our knowledge and beliefs.

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December 2023
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Executive Summary

This report contains the findings of Michael Baker International’s (Michael Baker) biological resources assessment for the proposed Modjeska Grade Road Improvements Project (project) located in unincorporated Orange County, California. Michael Baker biologists conducted an initial field survey/habitat assessment of the project site on June 7th and 8th, 2022. An additional field survey/habitat assessment was conducted on October 31st, 2023, after receiving updated project limits. The field surveys were conducted to characterize existing site conditions and assess the potential for special-status¹ biological resources to occur within the project site that could pose a constraint to implementation of the proposed project. Although a 500-foot buffer was analyzed for the proposed project (survey area), only parcels where permission to enter was granted were accessed during the initial field survey. In addition, any areas with steep or unsafe terrain were not accessed. The surrounding survey area was examined with binoculars from within the project site and public roadways.

The survey area is approximately 176.89 acres in size and is comprised of both developed and natural vegetation communities. Five (5) vegetation communities and land cover types were observed within the survey area. The project site is located within the Central Subregion of the Orange County Central/Coastal Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) Area, and the northern portion of the project site is located within Non-Reserve Open Space.

Two (2) special-status plant species were observed during the field survey: intermediate mariposa lily (*Calochortus weedii* var. *intermedius*; California Rare Plant Rank [CRPR] 1B.2) and southern California black walnut (*Juglans californica*; CRPR 4.2). Based on the results of the literature review and the field survey, Michael Baker determined that the native vegetation communities within the project site have a moderate or high potential to support ten (10) special-status plant species, including Braunton’s milk-vetch (*Astragalus brauntonii*; FE, CRPR 1B.1), Catalina mariposa-lily (*Calochortus catalinae*; CRPR 4.2), summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*; CRPR 1B.2), many-stemmed dudleya (*Dudleya multicaulis*; CRPR 1B.2), Robinson’s pepper-grass (*Lepidium virginicum* var. *robinsonii*; CRPR 4.3), intermediate monardella (*Monardella hypoleuca* ssp. *intermedia*; CRPR 1B.3), chaparral nolina (*Nolina cismontana*; CRPR 1B.2), Hubby’s phacelia (*Phacelia hubbyi*; CRPR 4.2), Coulter’s matilijia poppy (*Romneya coulteri*; CRPR 4.2), and San Diego County viguiera (*Viguiera laciniata*; CRPR 4.3). All remaining special-status plant species identified by the CNDDDB and CNPS either have a low potential to occur within the project site or are not expected to occur within the project site based on existing site conditions and a review of specific habitat requirements, occurrence records, and known distributions. Intermediate mariposa lily, Catalina mariposa lily, and Coulter’s matilijia poppy are covered species under the NCCP/HCP. Any impacts to these species within the Plan Area, but outside the Non-Reserve Open

¹ As used in this report, “special-status” refers to species that are either federally-/State-listed, proposed, or candidates; species that have been designated a California Rare Plant Rank by the California Native Plant Society; species designated as Fully Protected, Species of Special Concern, or Watch List by the California Department of Fish and Wildlife; State/locally rare vegetation communities; or species covered under the Orange County Central/Coastal Natural Community Conservation Plan/Habitat Conservation Plan.

Space area, are considered covered and will not require mitigation. Species with a CRPR of 4 or 3 are generally not evaluated for potential significant impacts under the California Environmental Quality Act (CEQA) and generally do not require additional permitting or mitigation for impacts. However, species that can be shown to meet the criteria for endangered, rare, or threatened status under CEQA Section 15380(d) or that can be shown to be regionally rare or unique as defined in CEQA Section 15125(c) must be fully analyzed in a CEQA document. Impacts to any species not covered under the NCCP/HCP or impacts to covered species within the Non-Reserve Open Space area would require mitigation.

Four (4) special-status wildlife species were observed during the field surveys; orange-throated whiptail (*Aspidoscelis hyperythra*; California Department of Fish and Wildlife [CDFW] Watch List [WL] species), red-diamond rattlesnake (*Crotalus ruber*; CDFW Species of Special Concern [SSC]), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*; CDFW WL), and peregrine falcon (*Falco peregrinus*; CDFW Fully Protected [FP] species). Based on the results of the literature review and the field survey and a review of specific habitat requirements, occurrence records, and known distributions of the special-status wildlife species identified in the literature review, Michael Baker determined that the project site has a moderate or high potential to support seven (7) special-status wildlife species, including Crotch bumble bee (*Bombus crotchii*; State Candidate Endangered species), western spadefoot (*Spea hammondi*; CDFW SSC), coast horned lizard (*Phrynosoma blainvillii*; CDFW SSC), two-striped gartersnake (*Thamnophis hammondi*; CDFW SSC), coastal California gnatcatcher (*Poliophtila californica californica*; Federal Threatened species, CDFW SSC), San Diego desert woodrat (*Neotoma lepida intermedia*; CDFW SSC), and southern grasshopper mouse (*Onychomys torridus ramona*; CDFW SSC). All remaining special-status wildlife species identified by the CNDDDB either have a low potential to occur within the project site or are not expected to occur within the project site based on existing site conditions and a review of specific habitat requirements, occurrence records, and known distributions. Orange-throated whiptail, red-diamond rattlesnake, southern California rufous-crowned sparrow, peregrine falcon, western spadefoot, coast horned lizard, coastal California gnatcatcher, and San Diego desert woodrat are covered species under the NCCP/HCP. Any impacts to these species within the Plan Area, but outside the Non-Reserve Open Space area, are considered covered and will not require mitigation. Impacts to any species not covered under the NCCP/HCP or impacts to covered species within the Non-Reserve Open Space area would require mitigation.

Two (2) potentially State or federal jurisdictional features were observed within the project site, Santiago Creek and Aquatic Feature 1. Impacts to the Santiago Creek streambed and bank are anticipated, and minor impacts to the associated riparian habitat may occur. Impacts to Aquatic Feature 1 (AF-1) are anticipated. AF-1 was determined to be subject to jurisdiction by CDFW and the Regional Water Quality Control Board (Regional Board), but not the U.S. Army Corps of Engineers (Corps). Therefore, a 401 Water Quality Certification from the Regional Board and 1600 Lake and Streambed Alteration Agreement from CDFW are anticipated to be required for this project.

According to the U.S. Fish and Wildlife Service (USFWS) Critical Habitat Mapper, the project site falls within “Unit 8 Santiago Creek, Orange County” of arroyo toad (*Anaxyrus californicus*; FE) critical habitat

(USFWS 2023b). Within Unit 8, acreage is centered around the confluence of Santiago, Black Star, and Baker Creeks, just above Irvine Lake, and includes portions of each creek and the adjacent uplands. The portion of critical habitat anticipated to be impacted by the proposed project is considered to be unsuitable habitat for arroyo toad based on the results of the *Memorandum on the Availability of Suitable Arroyo Toad Habitat in Four Orange County Canyons* (ICF 2019). However, informal consultations with the USFWS would be required due to the potential impacts to Critical Habitat.

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ACRONYMS AND ABBREVIATIONS

APN	assessor parcel number
BMPs	best management practices
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
CIRP	Online Inventory of Rare and Endangered Plants of California
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	federal Clean Water Act
FE	federally endangered
FESA	federal Endangered Species Act
FP	Fully Protected
GIS	Geographic Information Systems
IPaC	Information for Planning and Consultation
MBTA	Migratory Bird Treaty Act
Michael Baker	Michael Baker International
NCCP/HCP	Natural Community Conservation Plan/Habitat Conservation Plan
RWQCB	Regional Water Quality Control Board
SSC	Species of Special Concern
SWPPP	Storm Water Pollution Prevention Plan
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture, Natural Resource Conservation Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WL	Watch List
WPCP	Water Pollution Control Program

Section 1 Introduction

This report contains the findings of Michael Baker International’s (Michael Baker) biological resources assessment for the proposed Modjeska Grade Road Improvements Project (project or project site). Michael Baker biologists conducted an initial field survey/habitat assessment of the project site on June 7th and 8th, 2022. An additional field survey/habitat assessment was conducted on October 31st, 2023, after receiving updated project limits. The field survey was conducted to characterize existing site conditions and assess the potential for special-status² biological resources to occur within the project site, defined as the area within which all project-related disturbances would occur, and surrounding 500-foot buffer (survey area), that could pose a constraint to implementation of the proposed project. Special attention was given to the suitability of the habitat within the project site and its potential to support special-status biological resources that were identified as potentially occurring in the vicinity of the project site by the California Department of Fish and Wildlife’s (CDFW) California Natural Diversity Database RareFind 5 (CNDDDB; CDFW 2023a), the California Native Plant Society’s (CNPS) Online Inventory of Rare and Endangered Plants of California (CIRP; CNPS 2023), the U.S. Fish and Wildlife Service’s (USFWS) Information for Planning and Consultation (IPaC) database (USFWS 2023a), and those listed as “Covered Species” under the Orange County Central/Coastal Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP).

1.1 PROJECT LOCATION

The project site is generally located approximately 2.2 miles north of State Route 241 (SR-241), in Modjeska Canyon in unincorporated Orange County, California (refer to Figure 1, *Regional Vicinity*). Modjeska Canyon is situated within the greater Santa Ana Mountains (refer to Figure 2, *Project Vicinity*). Specifically, the project site is located along a 1.3-mile segment of Modjeska Grade Road from 100 feet south of the Markuson Road/Modjeska Canyon Road intersection to the East Santiago Canyon Road (also referred to as County Road S18)/Modjeska Grade Road intersection. It is primarily located in Sections 29 and 32 of Township 5 South, Range 7 West (T5S, R7W) of the United States Geological Survey’s (USGS) *El Toro, California* 7.5-minute quadrangle, with the northern terminus falling into Section 29 of T5S, R7W (refer to Figure 3, *Project Site*).

1.2 PURPOSE AND NEED

Due to the existing mountainous terrain and existing soil conditions on-site, the project site and surrounding properties experience soil erosion, roadway washouts, and localized stormwater flooding during large storm events. Soil and debris, some from adjacent slopes and a majority collected by concentrated flows along unpaved shoulders on Modjeska Grade Road, cause inlets and ditches to become clogged with sediment, which reduces drainage capacity and prevents proper drainage. Erosion caused by concentrated flows along unpaved shoulders at the tops of downslopes also lead to roadway washouts. These issues can lead to

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roadway closures and detours. Storm fighting and post-storm clean-up maintenance activities are excessive and critical to prepare this area for the next storm that passes through.

Orange County (OC) Public Works proposes the Modjeska Grade Road Improvements Project to provide roadway, drainage, and erosion control improvements on-site. These improvements would result in safety enhancements for residents and travelers along Modjeska Grade Road, in addition to surrounding uses along the corridor. Further, the proposed project would improve long-term operational maintenance activities and reduce temporary and emergency maintenance needs within the project area.

1.3 PROJECT DESCRIPTION

OC Public Works proposes to construct roadway, drainage, and erosion control improvements on and along Modjeska Grade Road within the project limits.

Roadway improvements would generally include pavement rehabilitation, paved shoulder (northbound shoulder from Santiago Truck Trail to East Santiago Canyon Road), construction of retaining walls, and installing guardrails. The existing pavement would be rehabilitated by removing and replacing the existing structural section for the entire length of the project. Similar to existing conditions, the travel lanes would typically be 10 feet wide, except for a segment from the Shadowland Circle and Modjeska Grade Road intersection to approximately 630 feet south, where the travel lanes will be 8 feet wide. Paved shoulders will typically be one-foot wide, minimum. Roadway re-pavement would include a five- to seven-foot-wide paved northbound shoulder from the Santiago Truck Trail to East Santiago Canyon Road. The project would construct up to four retaining walls ranging in height from three to six feet tall, and install and upgrade guardrails at approximately seven locations within the project limits. For the purposes of improving the existing drainage system, the proposed project would reconstruct up to four residential driveways.

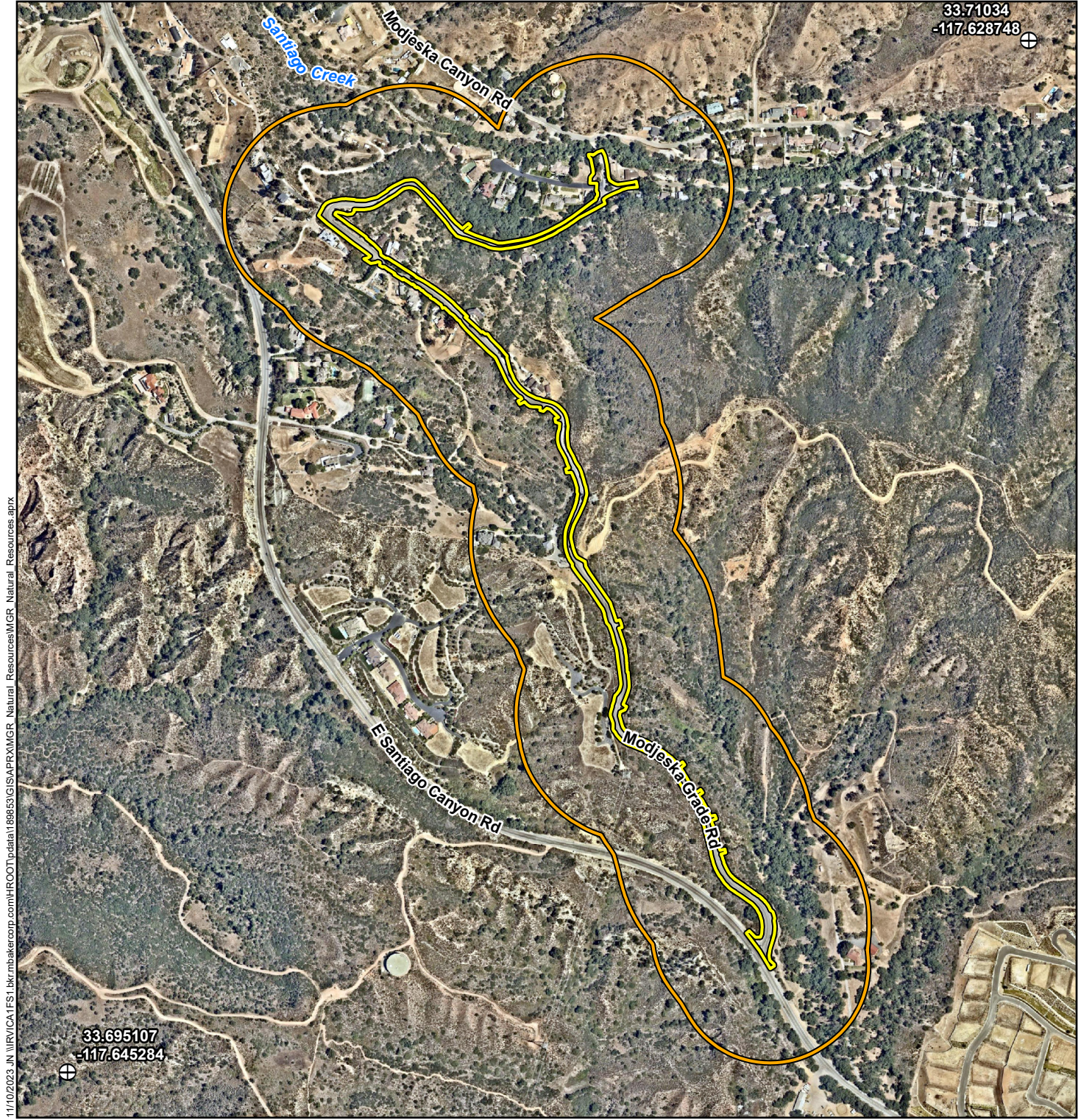
Drainage improvements along Modjeska Grade Road would reduce the existing flooding, channelize storm flows, and reduce the potential for erosion. The proposed project would construct concrete-lined swales, v-ditches, and asphalt concrete dikes along the roadway edges. Additional improvements would include replacing or upsizing the existing drainpipes and installing catch basins and inlets within project limits to adequately capture and convey on-site stormwater flows. Energy dissipation measures would be installed to the system outlets to minimize erosion, turbulence, and turbidity since the project discharges indirectly to the Santiago Creek and Aliso Creek, which are not engineered or hardened and are susceptible to hydromodification. An existing unlined manmade drainage structure adjacent to Modjeska Canyon Road between Shadowland Circle and Santiago Creek will be modified to improve capacity and minimize erosion. The structure will be widened, and the westerly bank will be shifted west. The easterly bank and associated trees will be protected in place. Channel protection such as rip rap will be included where necessary to protect the structure bottom and banks.

The soil erosion of unpaved roadway shoulders and side slopes on-site would be reduced by paving roadway shoulders and installing erosion control measures such as hydroseed containing only locally prevalent native plant species, open weave textile, and turf reinforcement mat. Erosion along the roadway edges, which lead to sediment collection, inlet clogging, and slope stability issues at the tops of slopes, would be reduced by constructing concrete-lined swales and asphalt dikes that would convey channelized surface

flows. The project site includes both overhead and underground utilities, including overhead electric and telecommunication lines and power poles, as well as underground power, communication, and water lines.






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Legend

-  Project Site
-  Survey Area (500-foot Buffer)
-  Reference Point

Section 2 Methodology

Michael Baker conducted a thorough literature review and records search to determine which special-status biological resources have the potential to occur on or within the general vicinity of the project site prior to conducting the field survey. A general field survey/habitat assessment was conducted in order to document existing conditions and determine the potential for special-status plant and wildlife species to occur within the project site. Additionally, protocol surveys following U.S Fish and Wildlife Service (USFWS 1997) guidelines were conducted in 2022 for the federally-listed threatened (FT) coastal California gnatcatcher (*Polioptila californica californica*) by a permitted Michael Baker biologist (see Section 2.3).

2.1 LITERATURE REVIEW

Prior to conducting the field survey, literature reviews and records searches were conducted for special-status biological resources potentially occurring on or within the vicinity of the project site, specifically within a 5-mile radius. Previous special-status plant and wildlife species occurrence records within the USGS *El Toro, Black Star Canyon, Corona South, and Santiago Peak, California* 7.5-minute quadrangles were determined through a query of the CNDDDB (CDFW 2023a) and the CIRP (CNPS 2023), and for the project region in IPaC (USFWS 2023a). Current conservation status of species was verified through lists and resources provided by the CDFW, specifically the *Special Animals List* (CDFW 2023b), *State and Federally Listed Endangered and Threatened Animals of California* (CDFW 2023c), *Special Vascular Plants, Bryophytes, and Lichens List* (CDFW 2023d), and *State and Federally Listed Endangered, Threatened, and Rare Plants of California* (CDFW 2023e).

In addition to the databases referenced above, Michael Baker reviewed available reports, survey results, and literature detailing the biological resources previously observed on or within the vicinity of the project site to understand existing site conditions, confirm previous species observations, and note the extent of any disturbances, if present, that have occurred in or around the project site that would otherwise limit the distribution of special-status biological resources. Standard field guides and texts were reviewed for specific habitat requirements of special-status and non-special-status biological resources.

On-site and adjoining soils were identified prior to conducting the field survey using the United States Department of Agriculture, Natural Resource Conservation Service's (USDA) *Custom Soil Resource Report for Orange County and Part of Riverside County, California* (USDA 2023). In addition, a review of the local geological conditions and historical aerial photographs was conducted to assess the ecological changes and disturbances that may have occurred within the project site. Aerial photography was reviewed prior to the field survey to locate potential natural corridors and linkages that may support the movement of wildlife through the area using Google Earth Pro Historical Aerial Imagery from 1994 to 2022 (Google, Inc. 2022). The literature review provided a baseline from which to inventory the existing biological resources and evaluate the ability of the project site to support special-status biological resources. Additional occurrence records of those species that have been documented on or within the vicinity of the project site were derived from database queries including the Calflora database (Calflora 2023).

Additionally, standard field guides, texts, and sources were used, such as species accounts provided by Birds of the World (Billerman et. al 2020) and the USFWS Critical Habitat Mapper and Environmental Conservation Online System (USFWS 2023b). The CNDDDB was used, in conjunction with Geographic Information Systems (GIS) ArcView software, to identify special-status species occurrence records within the USGS *El Toro, Black Star Canyon, Corona South, and Santiago Peak, California* 7.5-minute quadrangles. Refer to Section 7 for a complete list of technical references that were reviewed by Michael Baker.

2.2 FIELD SURVEY

Michael Baker biologists Arthur Popp and John Parent conducted an initial field survey/habitat assessment on June 7 and 8, 2022, to document the extent and conditions of the vegetation communities occurring within the boundaries of the project site. An additional field survey/habitat assessment was conducted by Michael Baker biologists Stephen Anderson and John Parent on October 31st, 2023 to assess updated project limits. Vegetation communities preliminarily identified on aerial photographs during the literature review were verified in the field by walking along Modjeska Grade Road and noting conditions within the limits of disturbance and the surrounding survey area. Binoculars were utilized to observe conditions where access off Modjeska Grade Road was not possible due to steep slopes, or where areas outside of the project site were not accessible due to property access issues. All plant and wildlife species observed during the field survey, as well as dominant plant species within each vegetation community, were recorded in a field notebook and are described below. Biologists also focused on identifying and locating oak trees (*Quercus* sp.) occurring within the project limits that may be removed as part of the project and require replacement in accordance with the NCCP/HCP.

In addition, site characteristics such as soil condition, topography, hydrology, anthropogenic disturbances, indicator species, the overall condition of on-site vegetation, and the presence of potentially regulated jurisdictional features (e.g., streams, flood control channels) were noted within the project site. Michael Baker used GIS ArcView software to digitize the mapped vegetation communities and then transferred these data onto an aerial photograph to further document existing conditions and quantify the acreage of each vegetation community. Please refer to Table 1 below for a summary of the field surveys.

Table 1: Survey Date, Surveyor, Time, and Weather Conditions

Date	Surveyors*	Time (start / finish)	Temperature (°F) (start / finish)	Wind Speed (mph) (start / finish)
June 7 th , 2022	AP, JP	1230 / 1500	79 clear / 84 clear	0-1 / 0-1
June 8 th , 2022	AP, JP	1030 / 1400	77 clear / 90 clear	0-1 / 0-1
October 31 st , 2023	SA, JP	0800 / 1045	67 clear / 79 clear	10 / 5
*AP = Arthur Popp, JP = John Parent, SA = Stephen Anderson				

2.3 OTHER FIELD STUDIES

Protocol surveys for the coastal California gnatcatcher (CAGN) were conducted in areas of suitable habitat within 250 feet of the southern half of the project site in 2022. Surveys were not conducted in the northern half of the project site where private residences are present, as the habitat generally consists mostly of large chaparral and woodland species that are not strongly correlated with this species. Surveys were also not conducted at the extreme southern end of the project site adjacent to Santiago Canyon Road due to the high levels of ambient disturbance and degraded habitat suitability along the road. All surveys were conducted by Michael Baker biologist Ryan Winkleman (USFWS recovery permit TE-88331A-3). The surveys followed the CAGN guidelines described in the USFWS protocol *Coastal California Gnatcatcher (Poliophtila californica californica) Presence/Absence Survey Guidelines, February 28, 1997* (USFWS 1997). The survey area is located on unincorporated land mostly managed by the County of Orange. Because the County of Orange is a participating local government and landowner in the NCCP/HCP and the survey area is located within the County's jurisdiction, a total of three (3) surveys were conducted between August 2nd and August 31st, 2022, in accordance with the NCCP/HCP protocol. The results of Michael Baker's focused CAGN surveys are summarized in Section 4.4.2 of this report, and the survey report is provided in Appendix D.

2.4 VEGETATION COMMUNITIES

Vegetation communities occurring within the project site were delineated on an aerial photograph during the field survey and later digitized using the GIS ArcView software to quantify the area of each vegetation community in acres. Vegetation communities occurring within the project site were classified in accordance with vegetation descriptions provided in the *Manual of California Vegetation* (Sawyer *et al.* 2009) and cross referenced with vegetation community descriptions included in the NCCP/HCP.

2.5 PLANTS

Plant species observed during the field survey were identified by visual characteristics and morphology in the field and recorded in a field notebook. Unfamiliar plants were photographed in the field and later identified using taxonomic guides. Plant nomenclature used in this report follows the *Jepson Manual: Vascular Plants of California, Second Edition* (Baldwin *et al.* 2012). In this report, scientific names are provided immediately following common names of plant species (first reference only). In addition, all trees with a diameter at breast height (DBH) of over 4" were mapped via GPS.

2.6 WILDLIFE

Wildlife species detected during the field survey by sight, calls, tracks, scat, or other types of sign were recorded in a field notebook. Field guides used to assist with identification of species during the field survey included *The Sibley Guide to Birds* (Sibley 2014) for birds, *A Field Guide to Western Reptiles and Amphibians* (Stebbins 2018) for herpetofauna, and *A Field Guide to Mammals of North America* (Reid

2006). Although common names of wildlife species are well standardized, scientific names are provided immediately following common names of wildlife species in this report (first reference only). To the extent possible, nomenclature of birds follows the most recent annual supplement of the American Ornithological Union's *Checklist of North American Birds* (Chesser et al. 2023); nomenclature of amphibians and reptiles follows *Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in Our Understanding* (Crother 2017); and nomenclature of mammals follows the *Bats of the United States and Canada* (Harvey et al. 2011) and *Revised Checklist of North American Mammals North of Mexico* (Bradley et al. 2014).

2.7 REGULATORY CONSTRAINTS

The following regulations, ordinances, and policies are relevant to this project and its analysis and implementation.

2.7.1 FEDERAL

FEDERAL ENDANGERED SPECIES ACT OF 1973

As defined within the Federal Endangered Species Act (FESA) of 1973, an endangered species is any animal or plant listed by regulation as being in danger of extinction throughout all or a significant portion of its geographical range. A threatened species is any animal or plant that is likely to become endangered within the foreseeable future throughout all or a significant portion of its geographical range. Without a special permit, federal law prohibits the "take" of any individuals or habitat of federally-listed species. Under Section 9 of the FESA, take is defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct." The term "harm" has been clarified to include "any act which actually kills or injures fish or wildlife, and emphasizes that such acts may include significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife." Enforcement of FESA is administered by the USFWS.

Under the definition used by the FESA, "Critical Habitat" refers to specific areas within the geographical range of a species that were occupied at the time it was listed that contain the physical or biological features that are essential to the survival and eventual recovery of that species and that may require special management considerations or protection, regardless of whether the species is still extant in the area. Areas that were not known to be occupied at the time a species was listed can also be designated as Critical Habitat if they contain one or more of the physical or biological features that are essential to that species' conservation and if the occupied areas are inadequate to ensure the species' recovery. If a project may result in take or adverse modification to a species' designated Critical Habitat and the project has a federal nexus, the project proponent may be required to provide suitable mitigation. Projects with a federal nexus may include projects that occur on federal lands, require federal permits (e.g., Clean Water Act (CWA) Section 404 permit), or receive any federal oversight or funding. If there is a federal nexus, then the federal agency that is responsible for providing funds or permits would be required to consult with the USFWS under the FESA.

Whenever federal agencies authorize, fund, or carry out actions that may adversely modify or destroy Critical Habitat, they must consult with USFWS under Section 7 of the FESA. The designation of Critical Habitat does not affect private landowners, unless a project they are proposing uses federal funds, or requires federal authorization or permits (i.e., funding from the Federal Highway Administration or a permit from the U.S. Army Corps of Engineers [Corps]).

MIGRATORY BIRD TREATY ACT

Pursuant to the Migratory Bird Treaty Act (MBTA) (16 U.S. Government Code [USC] 703) of 1918, as amended in 1972, federal law prohibits the taking of migratory birds or their nests or eggs (16 USC 703; 50 CFR 10, 21). The statute states:

“Unless and except as permitted by regulations made as hereinafter provided in this subchapter, it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill...any migratory bird, any part, nest, or egg of any such bird...included in the terms of the [Migratory Bird] conventions...”

The MBTA covers the taking of any nests or eggs of migratory birds, except as allowed by permit pursuant to 50 CFR, Part 21. Disturbances causing nest abandonment and/or loss of reproductive effort (i.e., killing or abandonment of eggs or young) may also be considered a “take.” This regulation seeks to protect migratory birds and active nests.

In 1972, the MBTA was amended to include protection for migratory birds of prey (e.g., raptors). Six families of raptors occurring in North America were included in the amendment: Accipitridae (kites, hawks, and eagles); Cathartidae (New World vultures); Falconidae (falcons and caracaras); Pandionidae (ospreys); Strigidae (typical owls); and Tytonidae (barn owls). The provisions of the 1972 amendment to the MBTA protects all species and subspecies of the families listed above. The MBTA protects over 800 species including geese, ducks, shorebirds, raptors, songbirds, and many relatively common species.

CLEAN WATER ACT

Please refer to the *Delineation of State and Federal Jurisdictional Waters for the Modjeska Grade Road Improvement Project* (Michael Baker 2023) for a description of this regulation.

2.7.2 STATE

CALIFORNIA ENDANGERED SPECIES ACT

In addition to federal laws, the State of California has its own California Endangered Species Act (CESA), enforced by CDFW. The CESA program maintains a separate listing of species beyond the FESA, although the provisions of each act are similar.

State-listed threatened and endangered species are protected under provisions of the CESA. Activities that may result in “take” of individuals (defined in CESA as to “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”) are regulated by CDFW. Habitat degradation or modification is not included in the definition of “take” under CESA. Nonetheless, CDFW has interpreted “take” to include the destruction of nesting, denning, or foraging habitat necessary to maintain a viable breeding population of protected species.

The State of California considers an endangered species as one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is considered as one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management. A rare species is one that is considered present in such small numbers throughout its range that it may become endangered if its present environment worsens. State threatened and endangered species are fully protected against take, as defined above.

The CDFW has also produced a species of special concern list to serve as a species watch list. Species on this list are either of limited distribution or their habitats have been reduced substantially, such that a threat to their populations may be imminent. Species of special concern may receive special attention during environmental review, but they do not have formal statutory protection.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

The California Environmental Quality Act (CEQA) provides for the protection of the environment within the State of California by establishing State policy to prevent significant, avoidable damage to the environment through the use of alternatives or mitigation measures for projects. It applies to actions directly undertaken, financed, or permitted by State lead agencies. If a project is determined to be subject to CEQA, the lead agency will be required to conduct an Initial Study (IS); if the IS determines that the project may have significant impacts on the environment, the lead agency will subsequently be required to write an Environmental Impact Report (EIR). A finding of non-significant effects will require either a Negative Declaration or a Mitigated Negative Declaration instead of an EIR. Section 15380 of the CEQA Guidelines independently defines “endangered” species as those whose survival and reproduction in the wild are in immediate jeopardy, while “rare” species are defined as those who are in such low numbers that they could become endangered if their environment worsens.

CALIFORNIA FISH AND GAME CODE

Sections 3503, 3503.5, 3511, and 3513

The CDFW administers the California Fish and Game Code (CFGC). There are particular sections of the CFGC that are applicable to natural resource management. For example, Section 3503 makes it unlawful to destroy any birds’ nest or any birds’ eggs that are protected under the MBTA. Further, any birds in the orders Falconiformes or Strigiformes (Birds of Prey), such as hawks, eagles, and owls, are protected under Section 3503.5 which makes it unlawful to take, possess, or destroy their nest or eggs. A consultation with

CDFW may be required prior to the removal of any bird of prey nest that may occur in the project site. Section 3511 lists fully protected bird species, where the CDFW is unable to authorize the issuance of permits or licenses to take these species. Pertinent species that are State fully protected include golden eagle (*Aquila chrysaetos*) and white-tailed kite (*Elanus leucurus*). In addition, Section 3513 makes it unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

Section 1600

Please refer to the *Delineation of State and Federal Jurisdictional Waters for the Modjeska Grade Road Improvement Project* (Michael Baker 2023) for a description of this regulation.

NATIVE PLANT PROTECTION ACT

Sections 1900–1913 of the CFGC were developed to preserve, protect, and enhance Rare and Endangered plants in the State of California. The act requires all State agencies to use their authority to carry out programs to conserve Endangered and Rare native plants. Provisions of the Native Plant Protection Act prohibit the taking of listed plants from the wild and require notification of the CDFW at least ten days in advance of any change in land use which would adversely impact listed plants. This allows the CDFW to salvage listed plant species that would otherwise be destroyed.

PORTER-COLOGNE ACT

Please refer to the *Delineation of State and Federal Jurisdictional Waters* (Michael Baker 2023) for a description of this regulation.

2.7.3 LOCAL

COUNTY OF ORANGE GENERAL PLAN (CHAPTER 6, RESOURCES ELEMENT)

To protect the wide variety of plants, animals, and their habitats, the County has enacted a series of policies with the goal of addressing the preservation, management, and utilization of the County's natural resources during the planning process, including fish and wildlife habitat protections, open space and recreation conservation, water and air resources and water quality objectives, and regulations for vegetation removal in areas within the General Plan Resource Element (Orange County Public Works 2013).

ORANGE COUNTY CENTRAL/COASTAL SUBREGION NATURAL COMMUNITY CONSERVATION PLAN AND HABITAT CONSERVATION PLAN

The Natural Community Conservation Plan and Habitat Conservation Plan (NCCP/HCP) (County of Orange 1996a) was prepared by the County in cooperation with California Department of Fish and Game (CDFG, now CDFW) and USFWS. The document was prepared in accordance with the provisions of the

state Natural Community Conservation Planning Act of 1991 (NCCP Act), Sections 1600 et seq. of the CFGC and FESA. The 208,000-acre Central and Coastal Subregion is part of a five-county NCCP Study Area established by the state as part of the Southern California Coastal Sage Scrub NCCP Program. The project falls within the Central Subregion of the NCCP/HCP.

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

The NCCP/HCP focuses on creating a multiple-species, multiple habitat subregional Reserve System and implementing a long-term "adaptive management" program that will protect coastal sage scrub (CSS) and other habitats and species located within the CSS habitat mosaic, while providing for economic uses that will meet the social and economic needs of the people of the subregion. The primary goal is to protect and manage habitat supporting a broad range of plant and animal populations that are found within the Central and Coastal subregions of Orange County. To accomplish this goal, the NCCP/HCP creates a subregional habitat Reserve System for CSS and related habitats and implements a program that manages biological resources within the habitat reserve. The Reserve System would be established by incorporating existing parklands and open space and additional dedications that would occur over 25 years and beyond.

Two categories of landowners are identified by the NCCP/HCP: participating landowners and non-participating landowners. Each category is offered different endangered species habitat mitigation opportunities under the NCCP/HCP. Participating landowners, such as the County, are those public and private landowners contributing significant land and/or funding toward implementation of the Reserve System and adaptive management program. For participating landowners, development activities and uses that are addressed by the NCCP/HCP are considered fully mitigated under the NCCP Act, FESA, and CESA for impacts to habitat occupied by listed and other species "identified" by the NCCP/HCP (County of Orange 1996).

The Reserve System is designed to focus on protecting CSS and three designated "target species:" coastal California gnatcatcher, coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*; CDFW SSC), and orange-throated whiptail lizard. However, the Reserve System's design actually provides protection for a much broader range of habitats and species than just CSS and the three target species. Oak woodlands, Tecate cypress forest, cliff and rock, and within the Coastal Subarea only, chaparral, are regulated as "Covered Habitats," while thirty-nine plant and wildlife species are regulated as "Identified Species" under the NCCP/HCP. Most of the "Identified Species" are not currently listed under FESA or CESA but would be treated under the NCCP/HCP as if listed. Under the NCCP/HCP, regulatory coverage means that future Incidental Take of "target and identified" species would be permitted for new development (planned activities) addressed by the NCCP/HCP, and that no additional habitat mitigation for such Incidental Take under CESA and FESA would be required by local, state, or federal agencies over and above the mitigation provided for by the NCCP/HCP (County of Orange 1996).

Section 3 Existing Conditions

3.1 ENVIRONMENTAL SETTING

Modjeska Grade Road is an approximately 1.3-mile-long, two-lane paved rural roadway that provides access to Modjeska Canyon for residents and visitors. The existing roadway geometric alignment consists of sharp and reversing curves with narrow, 8- to 10-foot wide travel lane widths. Roadway shoulders are generally 1 foot wide with portions ranging up to approximately 7 feet wide. Refer to Site Photos in Appendix A, which provides representative photos of existing site conditions.

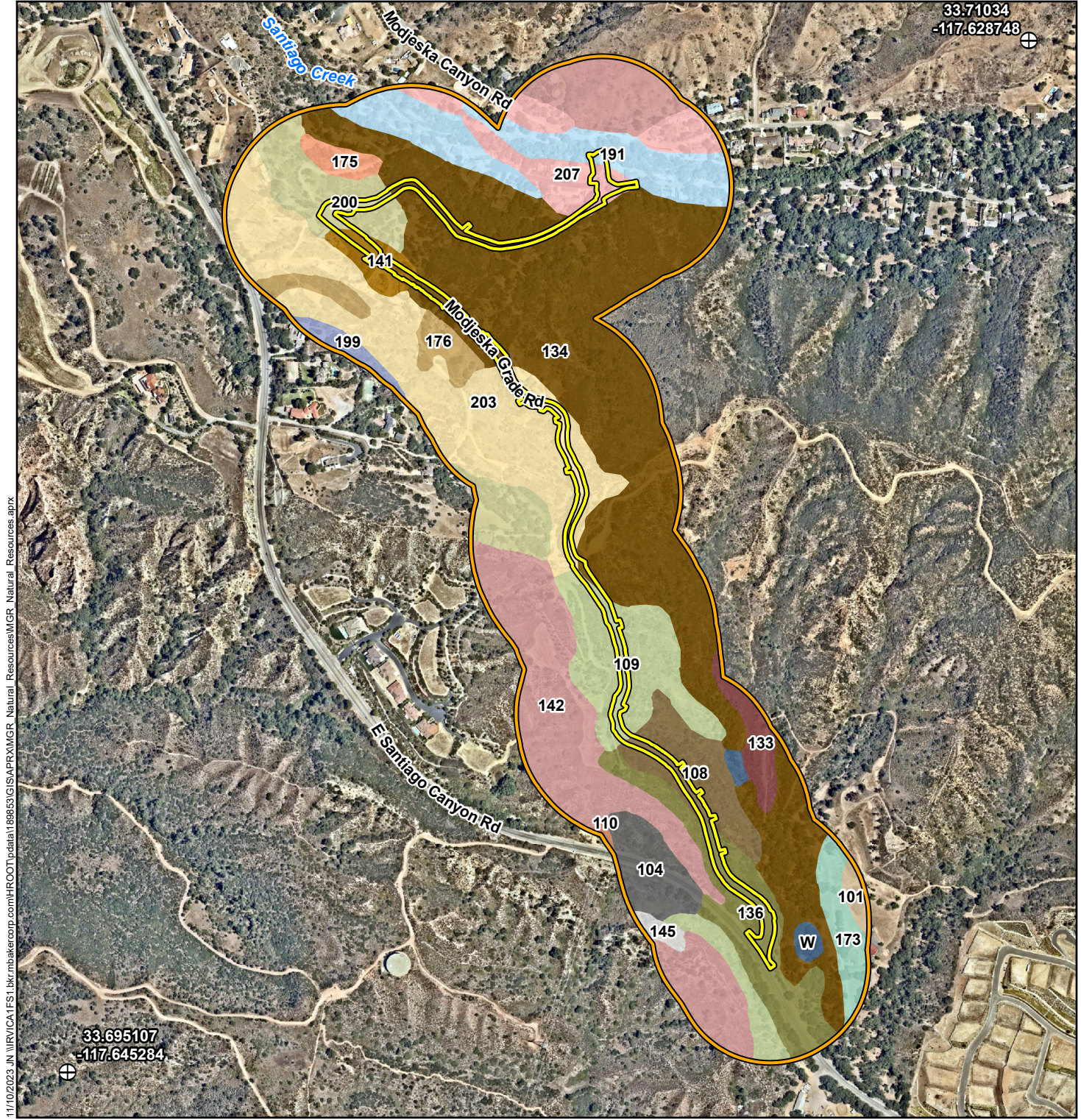
3.2 TOPOGRAPHY AND SOILS

The topography of the survey area is mountainous with generally moderate to steep slopes on either side of Modjeska Grade Road. The survey area is located at an elevation range of approximately 1,380 to 1,700 feet above mean sea level. The topographic high point is near the middle of the project site, where Oriole Street and Santiago Truck Trail meet. The topographic low point is at the southern end of the project site, near the Modjeska Grade Road and East Santiago Canyon Road intersection. Another topographic low point is found at the northern end of the project site, near the Modjeska Grade Road, Modjeska Canyon Road, and Shadowland Circle intersection.

According to the *Custom Soil Resource Report for Orange County and Part of Riverside County, California* (USDA 2022), the survey area is underlain by the following soil units: Alo Clay, 15 to 30 percent slopes, dry (101); Alo variant clay, 15 to 30 percent slopes (104); Anaheim clay loam, 15 to 30 percent slopes (108); Anaheim clay loam, 30 to 50 percent slopes (109); Anaheim clay loam, 50 to 75 percent slopes (11); Botella clay loam, 9 to 15 percent slopes (133); Calleguas clay loam, 50 to 75 percent slopes, eroded (134); Capistrano sandy loam, 9 to 15 percent slopes (136); Cieneba sandy loam, 15 to 30 percent slopes (141); Cieneba sandy loam, 30 to 75 percent slopes, eroded (142); Cieneba-Rock outcrop complex, 30 to 75 percent slopes (145); Myford sandy loam, 15 to 30 percent slopes (173); Myford sandy loam, 2 to 90 percent slopes (175); Myford sandy loam, 15 to 30 percent slopes (176); Riverwash (191); Soper loam, 15 to 30 percent slopes (199); Soper loam, 30 to 50 percent slopes (200); Soper cobbly loam, 15 to 50 percent slopes (203); Sorrento loam, 2 to 9 percent slopes, warm MAAT, MLRA 19 (207); and Water (W).

3.3 SURROUNDING LAND USES

Areas surrounding the project site consist primarily of rural residential properties and open space composed of natural vegetation communities.



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Legend			
	Project Site		101 Alo clay, 15 to 30 percent slopes, dry
	Survey Area (500-foot Buffer)		104 Alo variant clay, 15 to 30 percent slopes
	Reference Point		108 Anaheim clay loam, 15 to 30 percent slopes
			109 Anaheim clay loam, 30 to 50 percent slopes
			110 Anaheim clay loam, 50 to 75 percent slopes
			133 Botella clay loam, 9 to 15 percent slopes
			134 Calleguas clay loam, 50 to 75 percent slopes, eroded
			136 Capistrano sandy loam, 9 to 15 percent slopes
			141 Cieneba sandy loam, 15 to 30 percent slopes
			142 Cieneba sandy loam, 30 to 75 percent slopes, eroded
			145 Cieneba-Rock outcrop complex, 30 to 75 percent slopes
			173 Myford sandy loam, 15 to 30 percent slopes
			175 Myford sandy loam, 2 to 9 percent slopes
			176 Myford sandy loam, 9 to 15 percent slopes
			191 Riverwash
			203 Soper cobbly loam, 15 to 50 percent slopes
			199 Soper loam, 15 to 30 percent slopes
			200 Soper loam, 30 to 50 percent slopes
			207 Sorrento loam, 2 to 9 percent slopes, warm MAAT, MLRA 19
			w Water

Section 4 Results and Discussion

This section presents the results of the literature reviews and field surveys conducted for the project.

4.1 VEGETATION COMMUNITIES AND LAND COVER TYPES

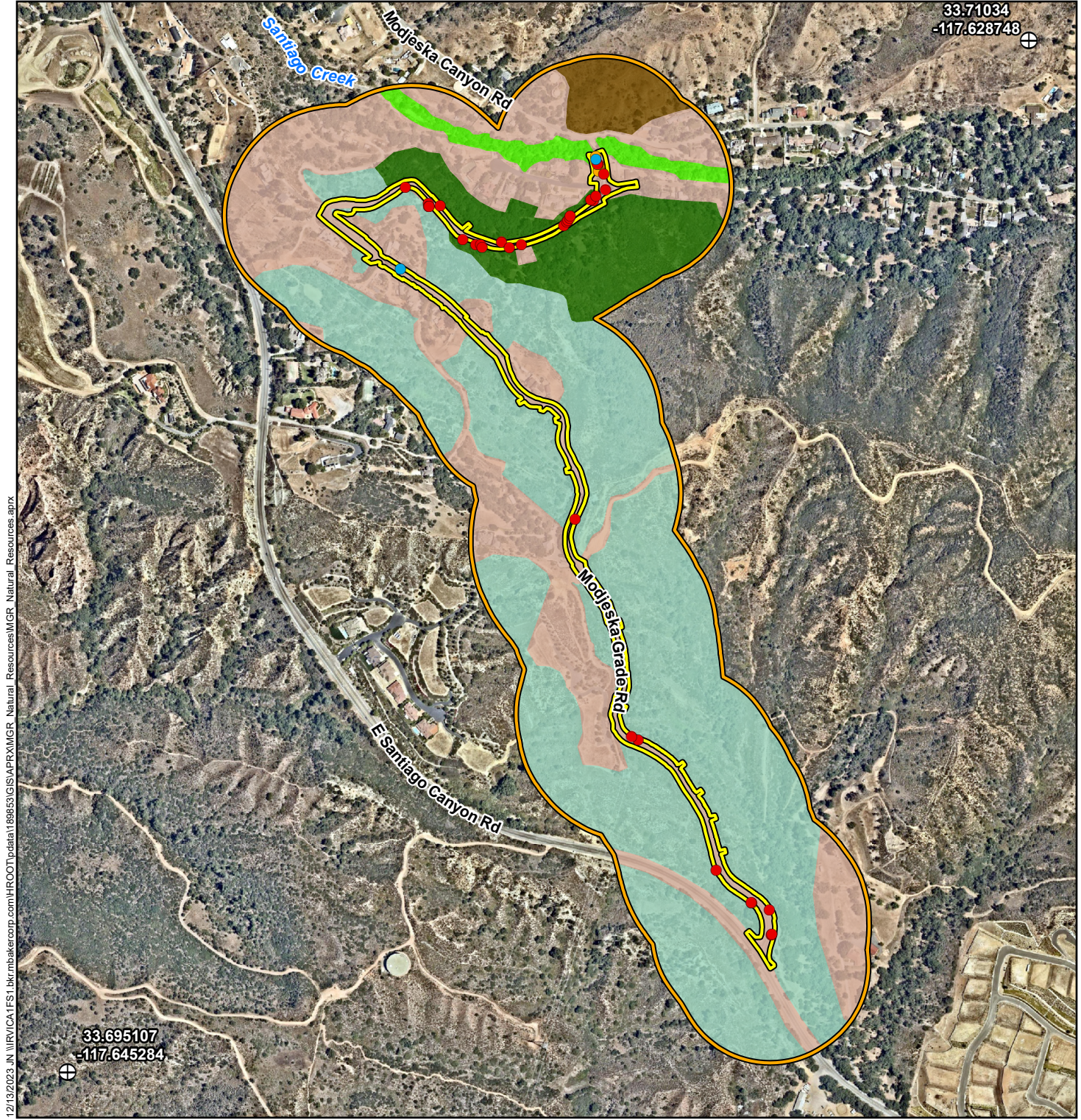
Five (5) vegetation communities and land cover types were identified on-site during the habitat assessment field surveys. Vegetation communities and land cover types mapped in the survey area are depicted on Figure 5, *Vegetation Communities and Other Land Uses*, and described in further detail below. Refer to Appendix B for a complete list of plant species that were observed within the survey area during the field survey. Refer to Table 2 below for a summary of vegetation communities and impacts within the project site:

Table 2: Vegetation Communities/Other Land Uses and Proposed Impacts

Vegetation Community	Acres Within Survey Area	Impacts Within NCCP/HCP Plan Area (Acres)	Impacts Within Non-Reserve Open Space (Acres)
Chamise - Sage Chaparral	93.01	0.60	0.00
Disturbed Chamise - Sage Chaparral	4.73	0.00	0.00
Coast Live Oak Woodland and Forest	15.52	0.08	0.06
California Sycamore - Coast Live Oak Riparian Woodlands	4.39	0.00	0.09
Disturbed/Developed	59.24	6.50	0.83
TOTAL	176.89	7.18	0.98

4.1.1 CHAMISE - SAGE CHAPARRAL (*ADENOSTOMA FASCICULATUM* – *SALVIA* SPP. SHRUBLAND ALLIANCE [*ADENOSTOMA FASCICULATUM* – *SALVIA MELLIFERA* – *MALOSMA LAURINA* ASSOCIATION])

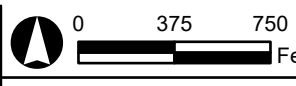
Approximately 93.01 acres of chamise - sage chaparral (*Adenostoma fasciculatum* – *Salvia* spp. Shrubland Alliance [*Adenostoma fasciculatum* – *Salvia mellifera* – *Malosma laurina* Association]) are located within the survey area. This community is dominated by chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), laurel sumac (*Malosma laurina*), and California sagebrush (*Artemisia californica*). Associated species observed within the survey area include lemonade berry (*Rhus ovata*), toyon (*Heteromeles arbutifolia*), California buckwheat (*Eriogonum fasciculatum*), white sage (*Salvia apiana*), and chaparral yucca (*Yucca whipplei*). Scrub oak (*Quercus berberidifolia*) is interspersed with other vegetation on the slopes, and there is a corridor of coast live oak (*Quercus agrifolia*) at the canyon bottom. The understory consists primarily of short pod mustard (*Hirschfeldia incana*), ripgut brome (*Bromus diandrus*), and star-



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Legend			
	Project Site		California Sycamore - Coast Live Oak Riparian Woodlands (4.39 acres)
	Survey Area (500-foot Buffer)		Coast Live Oak Woodland and Forest (15.52 acres)
	Reference Point		Chamise-Sage Chaparral (93.01 acres)
			Disturbed Chamise-Sage Chaparral (4.73 acres)
			Disturbed/Developed (59.24 acres)
			California Sycamore
			Coast Live Oak
			Southern California Black Walnut

MODJESKA GRADE ROAD IMPROVEMENTS PROJECT
BIOLOGICAL RESOURCES ASSESSMENT



Vegetation Communities and Other Land Uses

Figure 5

thistle (*Centaurea* sp.). The southern portion of the survey area has semi-dense to dense stands of poison oak (*Toxicodendron diversilobum*).

4.1.2 DISTURBED CHAMISE - SAGE CHAPARRAL (*ADENOSTOMA FASCICULATUM* – *SALVIA* spp. SHRUBLAND ALLIANCE [*ADENOSTOMA FASCICULATUM* – *SALVIA MELLIFERA* – *MALOSMA LAURINA* ASSOCIATION])

Approximately 4.73 acres of disturbed chamise - sage chaparral (disturbed *Adenostoma fasciculatum* – *Salvia* spp. Shrubland Alliance [*Adenostoma fasciculatum* – *Salvia mellifera* – *Malosma laurina* Association]) are located at the northern end of the survey area. This community is comprised of similar plant species as the chamise-sage chaparral within the project site but is more heavily dominated by non-native grasses and forbs, such as red brome (*Bromus rubens*), ripgut (*Bromus diandrus*), and Italian thistle (*Carduus pycnocephalus*).

4.1.3 COAST LIVE OAK WOODLAND AND FOREST (*QUERCUS AGRIFOLIA* FOREST & WOODLAND ALLIANCE)

Approximately 15.52 acres of coast live oak woodland and forest (*Quercus agrifolia* Forest & Woodland Alliance) are located within the northern portion of the survey area. Coast live oak dominates the overstory of this vegetation community. The understory of this vegetation community is sparse, with honeysuckle (*Lonicera* sp.), nightshade (*Solanum* sp.), poison oak (*Toxicodendron diversilobum*) and coast live oak saplings present.

4.1.4 CALIFORNIA SYCAMORE - COAST LIVE OAK RIPARIAN WOODLANDS (*PLATANUS RACEMOSA* - *QUERCUS AGRIFOLIA* WOODLAND ALLIANCE)

Approximately 4.39 acres of California sycamore – coast live oak riparian woodlands are located at the northern end of the survey area. This vegetation community consists of the riparian vegetation along Santiago Creek. This community is dominated by coast live oak and California sycamore in the overstory, with white alder (*Alnus rhombifolia*) and arroyo willow (*Salix lasiolepis*) occurring at lower densities. The understory consists of smilo grass (*Stipa miliacea*), tall flatsedge (*Cyperus eragrostis*), watercress (*Nasturtium officinale*), Mexican fan palm (*Washingtonia robusta*), and shamel ash (*Fraxinus uhdei*).

4.1.5 DISTURBED/DEVELOPED

Approximately 59.24 acres of disturbed/developed land cover is located within the survey area. These areas have been physically disturbed by anthropogenic activities (e.g., routine weed abatement activities [i.e., disking, tilling], recreational land uses) and are no longer recognized as a native vegetation community. Surface soils within these areas are heavily disturbed and eroded. Vegetation that is present primarily consists of ruderal/weedy plant species including ripgut brome, and short pod mustard. This land cover type is mainly associated with the surrounding residential development and transportation corridors, and surrounding areas associated with that development.

4.2 TREES

All trees with a diameter at breast height (DBH) of at least 4 inches that occur within the project limits and that may potentially be impacted by the project were mapped via a Garmin GPSMAP 64sx GPS device and reviewed via Google Earth. Three (3) tree species were determined to be potentially impacted by the project: coast live oak, California sycamore, and southern California black walnut (*Juglans californica*; CRPR 4.2). Please refer to Table 3 below for a summary of trees within the project site.

Table 3: Trees Occurring within the Project Limits

Tree Species	Number of Trees Occurring within the Project Limits
Coast Live Oak	20
California Sycamore	5
Southern California Black Walnut	2

4.3 WILDLIFE

Natural vegetation communities provide foraging habitat, nesting/denning sites, and shelter from adverse weather or predation. This section provides a general discussion of those wildlife species that were observed during the field survey or that are expected to occur based on existing site conditions. The discussion is to be used as a general reference and is limited by the season, time of day, and weather conditions during which the field survey was conducted. Wildlife detections were based on calls, songs, scat, tracks, burrows, and direct observation. Refer to Appendix B for a complete list of wildlife species observed during the field survey. Due to survey area access being limited to the project site boundaries, and the steep terrain within the survey area, the only species recorded during the field survey were those that were detectable from within the project site.

4.3.1 FISH

No fish were observed in the project site during the field surveys. Although surface water was present within Santiago Creek during the 2023 survey, no surface water was present during the 2022 survey. In addition, areas of the channel that would receive regular flows are outside of the project site. Therefore, fish are not anticipated to occur within the project site.

4.3.2 AMPHIBIANS

No amphibians were observed within the project site during the field surveys. Although surface water was present within Santiago Creek during the 2023 survey, no surface water was present during the 2022 survey. Therefore, amphibians not reliant on a permanent water source may be present within the project site. This

would include Baja California treefrog (*Pseudacris hypochondriaca hypochondriaca*) and western toad (*Anaxyrus boreas halophilus*).

4.3.3 REPTILES

Three (3) reptile species, including two (2) special-status species, were observed within the project site during the field survey: orange-throated whiptail (*Aspidoscelis hyperythra*; CDFW WL), red-diamond rattlesnake (*Crotalus ruber*; CDFW SSC), and western fence lizard (*Sceloporus occidentalis*). The undisturbed nature of the survey area provides high quality habitat for a wide variety of reptilian species. Additional reptilian species that may also be present within the undisturbed portions of the survey area include San Diego alligator lizard (*Elgaria multicarinata webbii*) and western side-blotched lizard (*Uta stansburiana elegans*).

4.3.4 BIRDS

A total of thirty-six (36) bird species were observed or detected within the project site during the field surveys. Common bird species detected during the focused surveys included common raven (*Corvus corax*), house finch (*Haemorhous mexicanus*), mourning dove (*Zenaida macroura*), bushtit (*Psaltriparus minimus*), turkey vulture (*Carthartes aura*), and lesser goldfinch (*Spinus psaltria*). Two special-status bird species, southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*; CDFW WL) and peregrine falcon (*Falco peregrinus*; CDFW FP), were also detected within the project site during the surveys. Refer to Appendix B for a complete list of bird species that were observed within the project site during the field surveys.

Nesting birds are protected pursuant to the MBTA of 1918 and the CFGC³. No active or remnant bird nests were observed within the project site during the field survey. No native birds exhibiting any signs of nesting activity were observed during the field survey.

4.3.5 MAMMALS

The project site and surrounding undeveloped areas provide suitable habitat for a number of mammalian species. Mammalian species detected during the field survey included California ground squirrel (*Otospermophilus beecheyi*) and domestic horse (*Equus caballus*). It should be noted that the domestic horse was located within a corral on one of the residential properties within the survey area. Additional mammalian species that may occur within the project site include Botta's pocket gopher (*Thomomys bottae*) and coyote (*Canis latrans*). Bats occur throughout most of southern California and may use the project site as foraging habitat. There is limited potential for day and night roosting within the rocky outcrops located

³ Section 3503 makes it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by CFGC or any regulation made pursuant thereto; Section 3503.5 makes it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey); and Section 3513 makes it unlawful to take or possess any migratory non-game bird except as provided by the rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA, as amended (16 U.S.C. § 703 *et. sq.*).

away from the roadway; however, these features are limited in size and are unlikely to support a colony. No bat sign (guano, staining, etc.) was observed during the field surveys.

4.4 MIGRATORY CORRIDORS AND LINKAGES

Wildlife corridors and linkages are key features for wildlife movement between habitat patches. Wildlife corridors are generally defined as those areas that provide opportunities for individuals or local populations to conduct seasonal migrations, permanent dispersals, or daily commutes, while linkages generally refer to broader areas that provide movement opportunities for multiple keystone/focal species or allow for propagation of ecological processes (e.g., for movement of pollinators), often between areas of conserved land.

Areas surrounding the project site are mostly undeveloped and are highly suitable for wildlife movement. The proposed project will not inhibit or decrease wildlife movement or connectivity in the area. The project site consists of an existing roadway and the proposed project will not consist of any new lanes of travel that would potentially fragment any of the surrounding habitat or impede wildlife movement. Construction associated with the project would be temporary and not cause any permanent disturbance or impact to wildlife movement. In addition, the proposed project is not within any Special Linkage Areas within the Orange County Central and Coastal Subregion NCCP/HCP.

4.5 SPECIAL-STATUS BIOLOGICAL RESOURCES

The CNDDDB, CIRP, and IPaC were queried for reported locations of special-status plant and wildlife species as well as special-status natural vegetation communities in the USGS *El Toro, Black Star Canyon, Corona South, and Santiago Peak, California* 7.5-minute quadrangles. The field survey was conducted to assess and evaluate the existing condition of the habitat(s) within the boundaries of the project site to determine if the existing vegetation communities, at the time of the field survey, have the potential to provide suitable habitat(s) for special-status plant and wildlife species. Additionally, the reported locations of the CNDDDB and CIRP species records in relation to the project site were considered. The following categories were utilized to assign the potential for each species to occur within the project site:

- **Present:** the species was observed or detected within the project site during the field survey.
- **High:** Occurrence records (within 20 years) indicate that the species has been known to occur on or within one mile of the project site and the site is within the normal expected range of this species. Intact, suitable habitat preferred by this species occurs within the project site and/or there is viable landscape connectivity to a local known extant population(s) or sighting(s).
- **Moderate:** Occurrence records (within 20 years) indicate that the species has been known to occur within one mile of the project site and the site is within the normal expected range of this species. There is suitable habitat within the project site, but the site is ecologically isolated from any local known extant populations or sightings.

- **Low:** Occurrence records (within 20 years) indicate that the species has been known to occur within five miles of the project site, but the site is outside of the normal expected range of the species and/or there is poor quality or marginal habitat within the project site.
- **Not Expected:** There are no occurrence records of the species occurring within five miles of the project site, there is no suitable habitat within the project site, and/or the project site is outside of the normal expected range for the species.

Special-status plant and wildlife species were evaluated for their potential to occur within the project site based on habitat requirements, availability and quality of suitable habitat, and known distributions. Special-status biological resources identified during the literature review as having the potential to occur within the vicinity of the project site are presented in *Table C – 1: Potentially Occurring Special-Status Biological Resources*, in Appendix C.

4.4.1 SPECIAL-STATUS PLANT SPECIES

Michael Baker observed two (2) special-status plant species during the field surveys; intermediate mariposa lily (*Calochortus weedii* var. *intermedius*; CRPR 1B.2) and southern California black walnut. Based on the results of the literature review and the field survey, existing site conditions, and a review of specific habitat requirements, occurrence records, and known distributions, Michael Baker determined that the native vegetation communities within the project site have a moderate or high potential to support ten (10) special-status plant species, including Braunton's milk-vetch (*Astragalus brauntonii*; federal endangered [FE], CRPR 1B.1), Catalina mariposa-lily (*Calochortus catalinae*; CRPR 4.2), summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*; CRPR 1B.2), many-stemmed dudleya (*Dudleya multicaulis*; CRPR 1B.2), Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*; CRPR 4.3), intermediate monardella (*Monardella hypoleuca* ssp. *intermedia*; CRPR 1B.3), chaparral nolina (*Nolina cismontana*; CRPR 1B.2), Hubby's phacelia (*Phacelia hubbyi*; CRPR 4.2), Coulter's matilija poppy (*Romneya coulteri*; CRPR 4.2), and San Diego County viguiera (*Viguiera laciniata*; CRPR 4.3). In addition, Michael Baker determined that the native vegetation communities within the project site have a low potential to support seven (7) special-status plant species, including Brewer's calandrinia (*Calandrinia breweri*; CRPR 4.2), San Miguel savory (*Clinopodium chandleri*; CRPR 1B.2), small-flowered morning-glory (*Convolvulus simulans*; CRPR 4.2), Cleveland's bush monkeyflower (*Diplacus clevelandii*; CRPR 4.2), heart-leaved pitcher sage (*Lepechinia cardiophylla*; CRPR 1B.2), ocellated Humboldt lily (*Lilium humboldtii* ssp. *ocellatum*; CRPR 4.2), and chaparral rein orchid (*Piperia cooperi*; CRPR 4.2). All remaining special-status plant species identified by the CNDDB and CNPS are not expected to occur within the project site. Those species that have a moderate or high potential to occur within the project site, or that are State or federally listed or regionally significant, are described in more detail below.

Intermediate Mariposa Lily

Intermediate mariposa lily is a perennial herb in the Liliaceae family. It has a CRPR of 1B.2, indicating that it is rare, threatened, or endangered in California and elsewhere (1B), and is moderately threatened in California with 20 to 80% of occurrences threatened/moderate degree and immediacy of threat (0.2). This

species is found on dry, rocky calcareous slopes and rock outcrops in coastal scrub, chaparral, and valley and foothill grassland. It can be found blooming from May through July. This species was observed outside the project limits during the 2022 and 2023 field surveys in chamise – sage chaparral habitat along the east side of Modjeska Canyon Road roughly 0.5 mile north of the Modjeska Canyon Road and Santiago Canyon Road intersection.

Southern California Black Walnut

Southern California black walnut is a tree in the Juglandaceae family. It has a CRPR of 4.2, indicating that it is a plant of limited distribution (4), and is moderately threatened in California with 20 to 80% of occurrences threatened/moderate degree and immediacy of threat (0.2). This species is often found along slopes, canyons, and alluvial habitats within chaparral, coastal scrub, cismontane woodland, and riparian woodland. It can be found blooming from March through June. This species was observed during the 2022 and 2023 field surveys and is depicted on Figure 5.

Braunton's Milk-Vetch

Braunton's milk-vetch is a perennial herb in the Fabaceae family. It has a CRPR of 1B.1, indicating that it is rare, threatened, or endangered in California and elsewhere (1B), and is seriously threatened in California with over 80% of occurrences threatened/high degree of any immediacy of threat (0.1). It is also a federally endangered species. This species can be found in recently burned or disturbed areas, usually on sandstone with carbonate layers. It is usually found on hilltops, saddles, or bowls between hills within chaparral, coastal scrub, and valley and foothill grassland. It can be found blooming from January through August. Suitable habitat is present throughout the project site, with a known occurrence record within 1 mile of the project site (CDFW 2023a). Therefore, this species has a high potential to occur on site.

Catalina Mariposa-Lily

Catalina mariposa-lily is a perennial herb in the Liliaceae family. It has a CRPR of 4.2, indicating that it is a plant of limited distribution (4), and is moderately threatened in California with 20 to 80% of occurrences threatened/moderate degree and immediacy of threat (0.2). This species is often found in heavy soils, open slopes, and in openings in brush within valley and foothill grassland, chaparral, coastal scrub, and cismontane woodland. It can be found blooming from March through June. Suitable habitat is present throughout the project site, with a known occurrence record within 1 mile of the project site (CDFW 2023a). Therefore, this species has a high potential to occur on site.

Summer Holly

Summer holly is a shrub in the Ericaceae family. It has a CRPR of 1B.2, indicating that it is rare, threatened, or endangered in California and elsewhere (1B), and is moderately threatened in California with 20 to 80% of occurrences threatened/moderate degree and immediacy of threat (0.2). This species is often found in mixed chaparral in California, sometimes in post-burn areas, and also in cismontane woodland. It can be found blooming from April through June. Suitable habitat is present through the project site, with a known

occurrence record about 2.5 miles from the project site (CDFW 2023a). Therefore, this species has a moderate potential to occur on site.

Many-Stemmed Dudleya

Many-stemmed dudleya is a perennial herb in the Crassulaceae family. It has a CRPR of 1B.2, indicating that it is rare, threatened, or endangered in California and elsewhere (1B), and is moderately threatened in California with 20 to 80% of occurrences threatened/moderate degree and immediacy of threat (0.2). This species is often found in heavy, often clayey soils or grassy slopes. It can also be found within chaparral, coastal scrub, and valley and foothill grassland. It can be found blooming from April through July. Suitable habitat is present through the project site, with a known occurrence record about 1.7 miles from the project site (CDFW 2023a). Therefore, this species has a moderate potential to occur on site.

Robinson's Pepper-Grass

Robinson's pepper-grass is an annual herb in the Brassicaceae family. It has a CRPR of 4.3, indicating that it is a plant of limited distribution (4), and is not very threatened in California with less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known (0.3). This species is often found on dry soils in chaparral and coastal scrub. It can be found blooming from January through July. Suitable habitat is present through the project site, with a known occurrence record about 1 mile from the project site (CDFW 2023a). Therefore, this species has a high potential to occur on site.

Intermediate Monardella

Intermediate monardella is a perennial herb in the Lamiaceae family. It has a CRPR of 1B.3, indicating that it is rare, threatened, or endangered in California and elsewhere (1B), and is not very threatened in California with less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known (0.3). This species is often found in steep, brushy areas, particularly in chaparral, cismontane woodland, and lower montane coniferous forests. It can be found blooming from June through August. Suitable habitat is present through the project site, with a known occurrence record about 0.5 mile from the project site (CDFW 2023a). Therefore, this species has a high potential to occur on site.

Chaparral Nolina

Chaparral nolina is a shrub in the Ruscaceae family. It has a CRPR of 1B.2, indicating that it is rare, threatened, or endangered in California and elsewhere (1B), and is moderately threatened in California with 20 to 80% of occurrences threatened/moderate degree and immediacy of threat (0.2). This species is found primarily on sandstone and shale substrates within chaparral and coastal scrub. It can be found blooming from May through July. Suitable habitat is present within the project site, with a known occurrence record within 1 mile of the project site (CDFW 2023a). Therefore, this species has a high potential to occur on site.

Hubby's Phacelia

Hubby's phacelia is an annual herb in the Hydrophyllaceae family. It has a CRPR of 4.2, indicating that it is a plant of limited distribution (4), and is moderately threatened in California with 20 to 80% of occurrences threatened/moderate degree and immediacy of threat (0.2). This species is found in gravelly, rocky areas and talus slopes within chaparral, coastal scrub, and valley and foothill grassland. It can be found blooming from April through June. Suitable habitat is present within the project site, with a known occurrence record within 1 mile of the project site (CDFW 2023a). Therefore, this species has a high potential to occur on site.

Coulter's Matilija Poppy

Coulter's matilija poppy is rhizomatous perennial herb in the Papaveraceae family. It has a CRPR of 4.2, indicating that it is a plant of limited distribution (4), and is moderately threatened in California with 20 to 80% of occurrences threatened/moderate degree and immediacy of threat (0.2). This species is found in washes and on slopes, sometimes post-burn, in coastal scrub and chaparral. It can be found blooming from March through July. Suitable habitat is present throughout the project site, with a known occurrence record within 1 mile of the project site (CDFW 2023a). Therefore, this species has a high potential to occur on site.

San Diego County Viguiera

San Diego County viguiera is a shrub in the Asteraceae family. It has a CRPR of 4.3, indicating that it is a plant of limited distribution (4), and is not very threatened in California with less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known (0.3). This species is found along slopes and ridges in chaparral and coastal scrub. It can be found blooming from February through June. Suitable habitat is present through the project site, with a known occurrence record 2 miles from the project site (CDFW 2023a). Therefore, this species has a high potential to occur on site.

4.4.2 SPECIAL-STATUS WILDLIFE SPECIES

Michael Baker observed four (4) special-status wildlife species during the field surveys; orange-throated whiptail (CDFW WL), and red-diamond rattlesnake (CDFW SSC), southern California rufous-crowned sparrow (CDFW WL), and peregrine falcon (CDFW FP). Based on the results of the literature review and the field survey and a review of specific habitat requirements, occurrence records, and known distributions, of the special-status wildlife species identified in the literature review, Michael Baker determined that the project site has a moderate or high potential to support seven (7) special-status wildlife species, including Crotch bumble bee (*Bombus crotchii*; State Candidate Endangered [SCE]), western spadefoot (*Spea hammondi*; CDFW SSC), coast horned lizard (*Phrynosoma blainvillii*; CDFW SSC), two-striped gartersnake (*Thamnophis hammondi*; CDFW SSC), coastal California gnatcatcher (*Polioptila californica californica*; FT, CDFW SSC), San Diego desert woodrat (*Neotoma lepida intermedia*; CDFW SSC), and southern grasshopper mouse (*Onychomys torridus ramona*; CDFW SSC). In addition, Michael Baker

determined that the project site has a low potential to support five (5) special-status wildlife species, including Cooper's hawk (*Accipiter cooperii*; CDFW WL), long-eared owl (*Asio otus*; CDFW SSC), white-tailed kite (*Elanus leucurus*; CDFW FP), and yellow warbler (*Setophaga petechia*; CDFW SSC)). All remaining special-status wildlife species identified by the CNDDDB are not expected to occur within the project site based on existing site conditions and a review of specific habitat requirements, occurrence records, and known distributions. Those species that have a moderate or high potential to occur within the project site, or that are State or federally listed or regionally significant, are described in more detail below.

Orange-Throated Whiptail

The orange-throated whiptail is a CDFW WL. It is uncommon to fairly common over much of its range in Orange, Riverside, and San Diego counties west of the crest of the Peninsular Ranges. The species prefers washes and other sandy areas with patches of brush and rocks. The species is active diurnally from early spring to mid- or late summer. The species has an extensive home range and is likely not territorial. Breeding activities begin in April and egg laying continues to mid-July. In California the species elevation range extends from near sea level to approximately 3,410 ft. (OCPW 2022). This species was observed during the 2023 field survey.

Red-Diamond Rattlesnake

The red-diamondback rattlesnake is a CDFW SSC. It is distributed along coastal San Diego County to the eastern slope of the mountains and north through western Riverside County into southernmost San Bernardino County. The species prefers chaparral, woodland, and arid desert habitats in rocky areas and dense vegetation. The species is active from spring to fall, but the period of greatest activity is from March to June. Young are live born from mid-August to October, and thus require a diet and safe place for birth, likely in burrows or under substantial cover objects such as dense vegetation or large rocks. The species elevation range occurs from sea level to approximately 3,000 ft. (OCPW 2022). This species was observed during the 2022 field survey.

Southern California Rufous-Crowned Sparrow

The southern California rufous-crowned sparrow is a CDFW WL species. This species inhabits rocky hillsides in coastal sage scrub and sparse mixed chaparral of the southwestern United States. It is frequently found on relatively steep slopes with grass and forb patches (CDFW 2023). They tend to stay on or near the ground where they get both shade and cover from predators, and usually build their nests on the ground as well, sometimes hiding them underneath the overhanging edge of a rock or woody stem. This species was observed during the 2022 field survey.

Peregrine Falcon

The peregrine falcon has been delisted both State and federally but is still a State of California FP species. This species is often found near wetlands, lakes, rivers, or other water, and also on cliffs, banks, dunes,

mounds, and human-made structures. Their nests consist of a scrape or a depression or a ledge in an open site (CDFW 2023). This species was observed during the 2022 field survey.

Crotch Bumble Bee

Crotch bumble bee is a candidate state endangered species. This species occurs along coastal California east to the Sierra-Cascade crest and south into Mexico. This species can be found in open grassland and scrub habitats, with food plant genera including *Antirrhinum*, *Phacelia*, *Clarkia*, *Dendromecon*, *Eschscholzia*, and *Eriogonum*. Their nests are often located underground in abandoned rodent nests, or above ground in tufts of grass, old bird nests, rock piles, or cavities in dead trees. This species was not observed during any of the field surveys but has a high potential to occur within the project area with a recent occurrence from 2019 roughly 0.7 mile from the project site (CDFW 2023a).

Western Spadefoot

The western spadefoot is a CDFW SSC. In California, the species is distributed throughout the Central Valley; along the Coast Ranges in Monterey, San Luis Obispo, and Santa Barbara counties; and in southern California south of the Transverse Mountains and west of the Peninsular Mountains. Western spadefoot inhabits woodlands and grasslands and is almost entirely terrestrial, only entering water to breed in vernal pools from January through May after which the female deposits eggs on emergent vegetation before returning to land. Their diet consists of a variety of insects and earthworms. Western spadefoots estivate through the dry season underground and remain dormant until winter rains soften soils and refill vernal pools (OCPW 2022). This species was not observed during any of the field surveys. The project site contains suitable habitat for this species along Santiago Creek, with an occurrence record within 1.2 miles of the project site, and was determined to have a moderate potential to occur within the project site along Santiago Creek (CDFW 2023a).

Coast Horned Lizard

The coast horned lizard is a CDFW SSC. It inhabits valley-foothill hardwood, conifer forest, and riparian woodland habitats, as well as pine-cypress, juniper woodland, and annual grasslands with sandy areas, washes or flood plains. The species occurs in the Sierra Nevada foothills from Butte County to Kern County and throughout the central and southern California coast. It is frequently found near ant hills. Egg laying occurs from May to June, and some females may lay two clutches per year. The species elevation range is sea level to 8,000 ft. but are found chiefly below 900 meters (3,000 ft). in southern California (OCPW 2022). This species was not observed during any of the field surveys. The project site contains suitable habitat with the nearest occurrence record roughly 0.4 mile from the project site (CDFW 2023a). Therefore, it was determined to have a high potential to occur within the project site.

Two-Striped Gartersnake

The two-striped gartersnake is a CDFW SSC. It is distributed from the southeastern slope of the Diablo Range and the Salinas Valley south along the South Coast and Transverse ranges to the Mexican border,

and on Santa Catalina Island. The species is highly aquatic, foraging primarily in and along streams. The species is diurnal, using mammal burrows, crevices, and surface objects for nocturnal retreats. Mating typically occurs soon after spring emergence and young are live born in late summer in secluded sites. The species elevation range occurs from sea level to approximately 8,000 ft. (OCPW 2022). This species was not observed during any of the field surveys. The habitat along Santiago Creek provides suitable habitat for this species, with the nearest occurrence record roughly 0.3 mile from the project site (CDFW 2023a). Therefore, it was determined to have a moderate potential to occur within the project site.

Coastal California Gnatcatcher

Coastal California gnatcatcher is a federally listed threatened species under the FESA and is listed as a CDFW SSC. This species is a small, non-migratory songbird that occurs along the Pacific coastal regions of southern California and northern Baja California, Mexico. The range and distribution of the gnatcatcher is closely aligned with coastal scrub vegetation, but the species is known to use adjacent habitats for foraging and dispersal. The breeding season of the coastal California gnatcatcher extends from about February 1 through September 1, with the peak of nesting activity occurring from mid-March through mid-May. This species was not observed during any of the field surveys, including the focused surveys conducted in 2022. Although this species was not observed within the project site during focused surveys, there are multiple occurrence records in the surrounding area and this species could potentially occur within the project site (CDFW 2023a).

San Diego Desert Woodrat

The San Diego desert woodrat is a CDFW SSC. This species prefers moderate to dense canopies in coastal scrub of Southern California from San Diego County to San Luis Obispo County. They are particularly abundant in rock outcrops, rocky cliffs, and slopes (CDFW 2023). This species, including any middens, was not observed during any of the field surveys. Suitable habitat for this species is present throughout the project site and the nearest occurrence record is roughly 0.3 mile from the project site (CDFW 2023a). Therefore, it was determined to have a high potential to occur within the project site.

Southern Grasshopper Mouse

The southern grasshopper mouse is a CDFW SSC. This species feeds almost exclusively on arthropods, especially scorpions and orthopteran insects. It occurs in desert areas, especially scrub habitats with friable soils for digging, and prefers low to moderate shrub cover (CDFW 2023). This species was not observed during any of the field surveys. Suitable habitat for this species is present throughout the project site and the nearest occurrence record is roughly 0.3 mile from the project site (CDFW 2023a). Therefore, it was determined to have a high potential to occur within the project site.

4.4.3 SPECIAL-STATUS VEGETATION COMMUNITIES

Twelve (12) special-status vegetation communities have been reported in the CNDDDB within the USGS *El Toro, Black Star Canyon, Corona South, and Santiago Peak, California* 7.5-minute quadrangles: California

Walnut Woodland, Canyon Live Oak Ravine Forest, Riversidian Alluvial Fan Sage Scrub, Southern California Arroyo Chub/Santa Ana Sucker Stream, Southern California Coast Live Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest, Southern Interior Cypress Forest, Southern Riparian Forest, Southern Riparian Scrub, Southern Sycamore Alder Riparian Woodland, Southern Willow Scrub, and Valley Needlegrass Grassland. One (1) special-status vegetation community was identified within the survey area during the field survey, southern riparian forest.

4.6 CRITICAL HABITAT

Final revised Critical Habitat for the federally endangered arroyo toad (*Anaxyrus californicus*) was designated within the Federal Registry on February 9, 2011 (76 FR 7246). The final revised Critical Habitat designated approximately 98,366 acres of habitat in Santa Barbara, Ventura, Los Angeles, San Bernardino, Riverside, Orange, and San Diego Counties, California. According to the USFWS Critical Habitat Mapper, the project site falls within “Unit 8 Santiago Creek, Orange County,” where designated areas of Critical Habitat is centered around the confluence of Santiago, Black Star, and Baker Creeks, just above Irvine Lake, and includes portions of each creek and the adjacent uplands (refer to Figure 6, *Critical Habitat*).

4.7 ORANGE COUNTY CENTRAL SUBREGION NCCP/HCP

Modjeska Canyon Road is within the Orange County NCCP/HCP Plan Area, with the north end of the project site located within NCCP/HCP Non-Reserve Open Space (refer to Figure 7, *Orange County Central/Coastal Subregion NCCP/HCP Areas*). The County of Orange is a participating local government, participating landowner, and the driving force behind the development of the NCCP/HCP. As a result, take coverage is extended to the County of Orange for Planned Activities. Both the construction of and maintenance of existing infrastructure facilities are considered Planned Activities under the NCCP, and this project is therefore covered under the NCCP. Areas within the NCCP/HCP Plan Area are covered under the take authorization issued to participants in the NCCP, while areas within the Non-Reserve Open Space are not. Non-Reserve Open Space refers to regional open spaces that were in public ownership prior to adoption of the NCCP/HCP. These open spaces are not subject to the development requirements associated with the Reserve system, but they are recognized as integral components of the overall subregional conservation strategy. According to Section 4.4.3.1 of the NCCP/HCP Plan, future proposals to convert coast sage scrub of “Take” covered species within the permanent Non-Reserve Open Space are not authorized by the NCCP/HCP and are not mitigated by the NCCP/HCP Project. Any proposed impacts involving incidental take within the non-reserve open space will require separate review by CDFW and USFWS in the same manner as provided for in “Existing Use Areas” to determine compliance with the applicable State and federal species protection laws/regulations (County of Orange 1996).

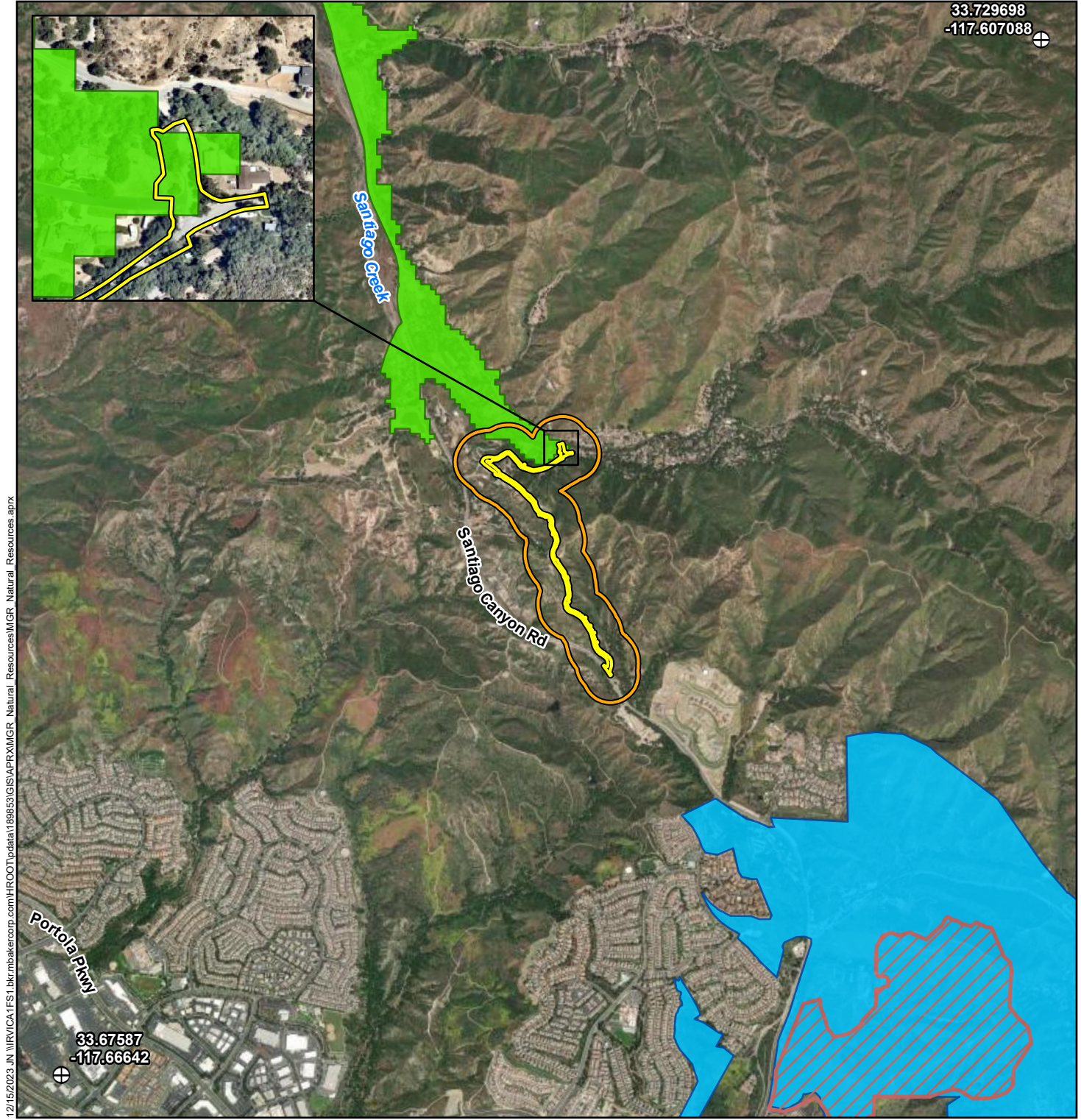
4.8 STATE AND FEDERAL JURISDICTIONAL AREAS

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Branch regulates discharge of dredged or fill material into “waters of the

United States” pursuant to Section 404 of the federal CWA and Section 10 of the Rivers and Harbors Act. Of the State agencies, the Regional Board regulates discharges to surface waters pursuant to Section 401 of the CWA and Section 13263 of the California Porter-Cologne Water Quality Control Act and the CDFW regulates alterations to streambed and associated vegetation communities under Section 1600 *et seq.* of the CFGC. Two (2) potentially State or federal jurisdictional features were observed within the project site, Santiago Creek and Aquatic Feature 1 (AF-1). Impacts to the Santiago Creek streambed and bank are anticipated, and minor impacts to the associated riparian habitat may occur. In addition, impacts to AF-1 are anticipated. AF-1 was determined to be subject to jurisdiction by CDFW and the Regional Board, but not the Corps. Therefore, a 401 Water Quality Certification from the Regional Board and 1600 Lake and Streambed Alteration Agreement from CDFW are anticipated to be required for this project. Refer to Table 4 below for a summary of jurisdiction impacts within the project site.







Table 4: Jurisdictional Impacts Within the Project Site

Feature	Location Lat/Long	Cowardin Type	Linear Feet	Jurisdictional Impacts (acres)			
				RWQCB		CDFW	
				Non- Wetland Waters of the State	Wetland Waters of the State	Jurisdictional Streambed	Associated Riparian Vegetation
Santiago Creek	33.708653°/ - 117.636347°	Riverine	44	0.01	0.00	0.01	0.01
AF-1	33.708436°, - 117.636302°	N/A	149	0.04	0.00	0.04	0.00
TOTAL			193	0.05	0.00	0.05	0.01

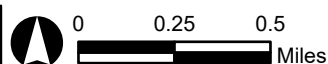


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Legend

 Project Site	 Arroyo Toad (<i>Anaxyrus californicus</i>)
 Survey Area (500-foot Buffer)	 Coastal California Gnatcatcher (<i>Poliptila californica californica</i>)
 Reference Point	 Riverside Fairy Shrimp (<i>Streptocephalus woottoni</i>)

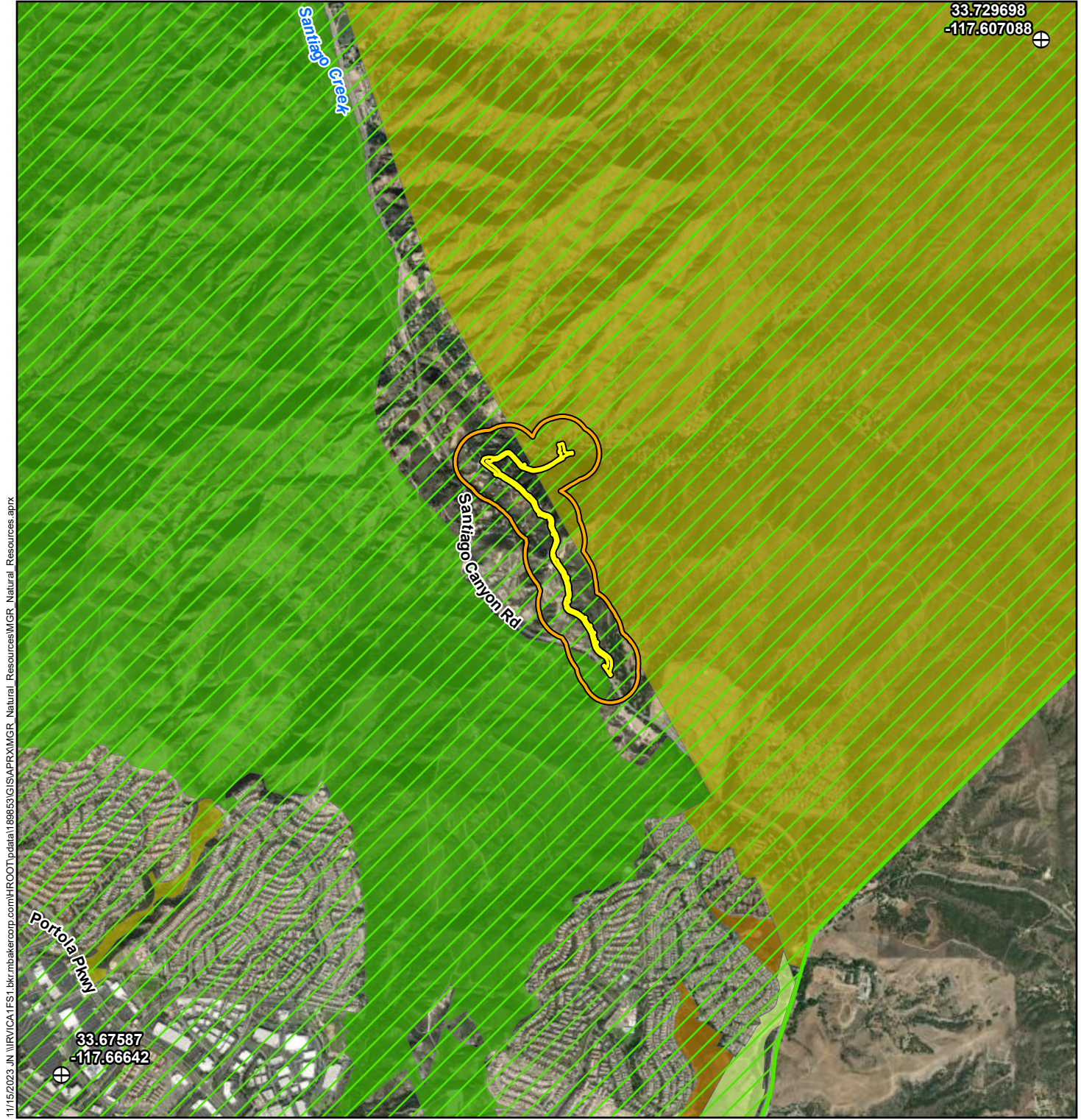
Michael Baker INTERNATIONAL



Source: Esri/Maxar (09/2022), USFWS (10/2023)

MODJESKA GRADE ROAD IMPROVEMENTS PROJECT
 BIOLOGICAL RESOURCES ASSESSMENT
Critical Habitat

Figure 6



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Legend		Orange County NCCP/HCP	
	Project Site		Orange County Central Subregion Plan Area
	Survey Area (500-foot Buffer)		Reserve
	Reference Point		Conservation Easement
			Existing Use
			Non-Reserve Open Space

MODJESKA GRADE ROAD IMPROVEMENTS PROJECT
BIOLOGICAL RESOURCES ASSESSMENT

Michael Baker INTERNATIONAL

0 0.25 0.5 Miles

Source: Esri/Maxar (09/2022), CDFW (04/2022)

Orange County Central/Coastal Subregion NCCP/HCP Areas

Figure 7

Section 5 Conclusion and Recommendations

The survey area is approximately 176.89 acres in size and is located in a relatively undeveloped area of unincorporated Orange County.

5.1 VEGETATION COMMUNITIES AND LAND COVER TYPES

Four (4) natural vegetation communities were mapped within the boundaries of the project site, including chamise – sage chaparral, disturbed chamise – sage chaparral, coast live oak woodland and forest, and California sycamore – coast live oak riparian woodlands. These communities were located throughout the project site. The remaining land cover type is classified as disturbed/developed. The project is anticipated to impact natural vegetation communities that are considered sensitive under the NCCP/HCP.

5.1.1 AVOIDANCE AND MINIMIZATION MEASURES

The following measure is a required Construction-Related Minimization Measure from Section 7.5.3 of the Central & Coastal Subregion NCCP/HCP Final EIR/EIS (County 1996b) and will be incorporated into the project to avoid and minimize impacts to coastal sage scrub (chamise – sage chaparral) habitat within the NCCP/HCP Plan Area:

BIO-1: During clearing or construction, to the maximum extent practicable, no grading of coastal sage scrub habitat that is occupied by nesting Coastal California gnatcatcher (CAGN) (*Polioptila californica californica*) will occur during the breeding season (February 15th through July 15th). It is expressly understood that this provision and the remaining provisions of these “construction-related minimization measures” are subject to public health and safety considerations. These considerations include unexpected slope stabilization, erosion control measures, and emergency facility repairs. In the event of such public health and safety circumstances, landowners or public agencies/utilities will provide the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) with the maximum practicable notice (or such notice as is specified in the NCCP/HCP) to allow for capture of CAGN, cactus wrens (*Campylorhynchus brunneicapillus sandiegensis*), and any other coastal sage scrub Identified Species that are not otherwise flushed and will carry out the following measures only to the extent practicable in the context of the public health and safety considerations. The breeding season is now considered to be from February 15th through August 31st; therefore, these dates are applicable to this measure.

Prior to the commencement of grading operations or other activities involving substantial soil disturbance, all areas of coastal sage scrub habitat to be avoided under the provisions of the NCCP/HCP shall be identified with temporary fencing or other markers clearly visible to construction personnel. Additionally, prior to the commencement of grading

operations or other activities involving disturbance of coastal sage scrub, a survey will be conducted to locate CAGN and cactus wrens within 100 feet (ft) of the outer extent of projected soil disturbance activities. The locations of any such species shall be clearly marked and identified on the construction/grading plans.

A monitoring biologist acceptable to the USFWS/CDFW will be on site during any clearing of coastal sage scrub. The landowner or relevant public agency/utility will advise the USFWS/CDFW at least 7 calendar days (preferably 14 calendar days) prior to the clearing of any habitat occupied by Identified Species to allow the USFWS/CDFW to work with the monitoring biologist in connection with bird flushing/capture activities. The monitoring biologist will flush Identified Species (avian or other mobile Identified Species) from occupied habitat areas immediately prior to brush-clearing and earth-moving activities. If birds cannot be flushed, they will be captured in mist nets, if feasible, and relocated to areas of the site to be protected or to the NCCP/HCP Reserve System. It will be the responsibility of the monitoring biologist to ensure that Identified Species will not be directly impacted by brush-clearing and earth-moving equipment in a manner that also allows for construction activities on a timely basis.

Following the completion of initial grading/earth movement activities, all areas of coastal sage scrub habitat to be avoided by construction equipment and personnel will be marked with temporary fencing or other appropriate markers clearly visible to construction personnel. No construction access, parking, or storage of equipment or materials will be permitted within such marked areas.

In areas bordering the NCCP/HCP Reserve System or Special Linkage/Special Management areas containing substantial coastal sage scrub identified in the NCCP/HCP for protection, vehicle transportation routes between cut-and-fill locations will be restricted to a minimum number during construction consistent with project construction requirements. Waste dirt or rubble will not be deposited on adjacent coastal sage scrub identified in the NCCP/HCP for protection. Pre-construction meetings involving the monitoring biologist, construction supervisors, and equipment operators will be conducted and documented to ensure maximum practicable adherence to these measures.

Coastal sage scrub identified in the NCCP/HCP for protection and located within the likely dust drift radius of construction areas shall be periodically sprayed with water to reduce accumulated dust on the leaves as recommended by the monitoring biologist.

The following project avoidance and minimization measures are recommended to reduce temporary impacts to sensitive natural vegetation communities, including coastal sage scrub:

BIO-2: Prior to the start of construction activities, the project limits in the vicinity of Santiago Creek and associated riparian areas and natural vegetation communities along Modjeska

Grade Road shall be marked with high visibility Environmentally Sensitive Area (ESA) fencing or staking to ensure construction will not further encroach into those habitats. The fencing shall be installed under the supervision of the project biologist (contractor- or County-supplied) and shall be inspected by the project biologist at a minimum of once a month. If maintenance is required, the project biologist will provide instruction to the contractor.

BIO-3: Every individual working on the project must attend a biological awareness training session delivered by the project biologist. The biological awareness training would include a description of special-status species and sensitive habitats, species identification characteristics, BMPs to be implemented, project-specific avoidance measures that must be followed, and the steps necessary if the species is encountered at any time.

BIO-4: Contract specifications will include the following best management practices (BMPs), where applicable, to reduce erosion during construction:

- Implementation of the project shall require approval of a site-specific Storm Water Pollution Prevention Plan (SWPPP) or Water Pollution Control Program (WPCP) that would implement effective measures to protect water quality, which may include a hazardous spill prevention plan and additional erosion prevention techniques.
- Existing vegetation will be protected in place where feasible to provide an effective form of erosion and sediment control.
- Roughening and terracing will be implemented to create unevenness on bare soil through the construction of furrows running across a slope, creation of stair steps, or by utilization of construction equipment to track the soil surface. Surface roughening or terracing reduces erosion potential by decreasing runoff velocities, trapping sediment, and increasing infiltration of water into the soil, and aiding in the establishment of vegetative cover from seed.
- Soil exposure must be minimized through the use of temporary BMPs, groundcover, and stabilization measures.
- The contractor must conduct periodic maintenance of erosion and sediment-control measures.

BIO-5: To conform to water quality requirements, the project must implement the following:

- Vehicle maintenance, staging and storing equipment, materials, fuels, lubricants, solvents, and other possible contaminants must be a minimum of 50 ft. from surface waters. Any necessary equipment washing must occur where the water cannot flow into surface waters. The project specifications will require the contractor to operate under an approved spill prevention and clean-up plan;
- Construction equipment will not be operated in flowing water;

- Construction work must be conducted according to site-specific construction plans that minimize the potential for sediment input to surface waters;
- Raw cement, concrete or concrete washings, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to aquatic life shall be prevented from contaminating the soil or entering surface waters;
- Equipment used in and around surface waters must be in good working order and free of dripping or leaking contaminants; and,
- Any concrete rubble, asphalt, or other debris from construction must be taken to an approved disposal site.

BIO-6: Where feasible, riparian vegetation within temporary construction zones would be trimmed or cleanly cut to ground level and then covered with a layer of clean gravel or topsoil as necessary to protect plant viability and prevent damage to remaining root structures during construction.

BIO-7: The project biologist shall monitor construction within the vicinity of riparian habitats, riverine habitats and sensitive habitats of concern to ensure that vegetation removal, BMPs, ESAs, and all avoidance and minimization measures are properly constructed and followed.

BIO-8: All temporary impacts to jurisdictional waters, riparian woodland and ARTO critical habitat during project construction will be restored at a 1:1 ratio and will be re-contoured to pre-construction conditions and seeded with a project biologist approved native seed mix. Where possible, vegetation will be trimmed rather than fully removed with the guidance of the project biologist.

BIO-9: Due to the extent of existing development and minimal impact to native habitats resulting from the proposed project, the County proposes to replant any mature native trees removed from within natural communities of special concern within the Santa Ana River watershed.

The project has been designed to minimize temporary and permanent impacts to riparian woodland and other natural vegetation communities within the project site to the maximum extent practicable. Prior to construction, regulatory permits will be obtained from the RWQCB and CDFW. Compensatory mitigation will be implemented in accordance with regulatory permits. In addition to all avoidance and minimization measures specified in regulatory permits, BMPs and measures BIO-1 through BIO-6 will be incorporated into the design to minimize construction impacts to riparian woodland and other natural vegetation communities within the project site.

5.2 SPECIAL-STATUS PLANT SPECIES

Two (2) special-status plant species were observed within the project site during the field survey: intermediate mariposa lily and southern California black walnut. Intermediate mariposa lily was determined

to not be impacted by the project, and plant species with a CRPR of 3 or 4 are generally not considered for significant impact thresholds under CEQA unless they are locally or regionally rare. In this case, southern California black walnut is fairly widespread throughout Orange County and is not considered to be either locally or regionally rare; as a result, the presence of this species on the project site and potential impacts to the on-site occurrences would not be considered significant under CEQA or require mitigation. Based on the results of the literature review and the field survey, existing site conditions, and a review of specific habitat requirements, occurrence records, and known distributions, Michael Baker determined that the native vegetation communities within the project site have a moderate or high potential to support ten (10) special-status plant species, including Braunton's milk-vetch (CRPR 1B.1), Catalina mariposa-lily (CRPR 4.2), summer holly (CRPR 1B.2), many-stemmed dudleya (CRPR 1B.2), Robinson's pepper-grass (CRPR 4.3), intermediate monardella (CRPR 1B.3), chaparral nolina (CRPR 1B.2), Hubby's phacelia (CRPR 4.2), Coulter's matilija poppy (CRPR 4.2), and San Diego County viguiera (CRPR 4.3). All remaining special-status plant species identified by the CNDDDB and CNPS either have a low potential to occur within the project site or are not expected to occur within the project site based on existing site conditions and a review of specific habitat requirements, occurrence records, and known distributions.

Intermediate mariposa lily, Catalina mariposa lily, and Coulter's matilija poppy are covered species under the NCCP/HCP. Any impacts to these species within the Plan Area, but outside the Non-Reserve Open Space area, are considered covered and will not require mitigation. As previously mentioned, species with a CRPR of 4 or 3 are generally not evaluated for potential significant impacts under CEQA and generally do not require additional permitting or mitigation for impacts. Impacts to any species not covered under the NCCP/HCP or impacts to covered species within the Non-Reserve Open Space area would require mitigation.

5.2.1 AVOIDANCE AND MINIMIZATION MEASURES

The following avoidance and minimization measure is recommended to reduce impacts to special-status plant species:

BIO-10: Prior to maintenance activities occurring, and during the appropriate blooming periods for special-status plant species with the potential to occur within the project site, a qualified botanist shall conduct a focused rare plant survey in areas containing suitable habitat for Braunton's milk-vetch, summer holly, many-stemmed dudleya, intermediate monardella, and chaparral nolina, to determine their presence or absence. The surveys shall be floristic in nature (i.e., identifying all plant species to the taxonomic level necessary to determine rarity), and shall be inclusive of, at a minimum, areas proposed for disturbance.

If individual or populations of special-status plant species are found within the areas proposed for disturbance, measures to avoid and minimize impacts shall be recommended. The surveys and reporting shall follow 2018 CDFW and/or 2001 CNPS guidelines.

Although not expected, if State- and/or federally-listed plant species are present and avoidance is infeasible, consultation with the CDFW and/or USFWS would be required

and an Incidental Take Permit(s) from the CDFW and/or USFWS shall be obtained prior to the commencement of maintenance activities.

5.3 SPECIAL-STATUS WILDLIFE SPECIES

Michael Baker observed four (4) special-status wildlife species during the field surveys; orange-throated whiptail, red-diamond rattlesnake, southern California rufous-crowned sparrow, and peregrine falcon. Based on the results of the literature review and the field survey and a review of specific habitat requirements, occurrence records, and known distributions, of the special-status wildlife species identified in the literature review, Michael Baker determined that the project site has a moderate or high potential to support seven (7) special-status wildlife species, including Crotch bumble bee (SCE), western spadefoot (CDFW SSC), coast horned lizard (CDFW SSC), two-striped gartersnake (CDFW SSC), coastal California gnatcatcher (FT, CDFW SSC), San Diego desert woodrat (CDFW SSC), and southern grasshopper mouse (CDFW SSC). All remaining special-status wildlife species identified by the CNDDDB either have a low potential to occur within the project site or are not expected to occur within the project site based on existing site conditions and a review of specific habitat requirements, occurrence records, and known distributions. In addition, protocol coastal California gnatcatcher surveys were conducted within the project site and a 250-foot buffer during the 2022 breeding season. No coastal California gnatcatchers were found to be occupying the project site or surrounding area. Orange-throated whiptail, red-diamond rattlesnake, southern California rufous-crowned sparrow, peregrine falcon, western spadefoot, coast horned lizard, coastal California gnatcatcher, and San Diego desert woodrat are covered species under the NCCP/HCP. Any impacts to these species within the Plan Area, but outside the Non-Reserve Open Space area, are considered covered and will not require mitigation. Impacts to any species not covered under the NCCP/HCP or impacts to covered species within the Non-Reserve Open Space area would require mitigation.

Proposed impacts to special-status species that are ranked as a SSC or higher would need to be considered under CEQA, whereas impacts to WL species are generally not considered significant under CEQA.

5.3.1 AVOIDANCE AND MINIMIZATION MEASURES

The following avoidance and minimization measures are recommended to reduce impacts to special-status wildlife species:

BIO-11: A qualified biologist will conduct up to three on-site surveys (2 to 4 weeks apart) prior to ground disturbance following CDFW methodology as outlined in Survey Considerations for *California Endangered Species Act (CESA) Candidate Bumble Bee Species Surveys* (CDFW 2023c) during the optimal activity period (i.e., April through August). Surveys should occur during the day (at least 1 hour after sunrise and at least 2 hours before sunset, though ideally between 9:00 a.m. and 1:00 p.m.) on warm, but not hot, sunny days (65°F to 90°F), with low wind (less than 8 miles per hour [mph]), but surveying during partially cloudy days or overcast conditions are permissible if the surveyors can still see their own shadow.

If Crotch bumble bees or potential Crotch bumble bees (since bumble bees can be difficult to identify in the field) are observed within the site, a plan to protect Crotch bumble bee nests and individuals shall be developed and implemented in consultation with the CDFW. The plan shall include, but not be limited to, the following measures:

- If no protected bumble bees are found during the multiple rounds of focused surveys, but the habitat assessment identified suitable nesting, foraging, or overwintering habitat within the project site, a biological monitor will be on site during vegetation or ground-disturbing activities that take place during the optimal activity period (i.e., April through August).
- Specifications for construction timing and sequencing requirements (e.g., avoidance of raking, mowing, tilling, or other ground disturbance from September until late March to protect overwintering queen bumble bees);
- Establishment of appropriate no-disturbance buffers for bumble bee nest sites to avoid impacts to the bees and construction monitoring by a qualified biologist to ensure compliance if bumble bee nests are identified;
- Restrictions associated with construction practices, equipment, or materials that may harm bumble bees (e.g., avoidance of pesticides/herbicides, BMPs to minimize the spread of invasive plant species);
- Provisions to avoid Crotch bumble bee or potential Crotch bumble bees if observed away from a bumble bee nest during project activity (e.g., ceasing of project activities until the animal has left the active work area on its own volition); and
- Prescription of an appropriate restoration seed mix targeted for the Crotch bumble bee, including native plant species known to be visited by native bumble bee species and containing a mix of flowering plant species with continual floral availability through the entire active season of the Crotch bumble bee (March through September).

BIO-12: A pre-construction clearance survey for special status amphibian and reptile species shall be conducted 24-hours prior to installation of wildlife exclusion fencing (WEF), vegetation clearing and/or initiation of ground disturbing activities. If any wildlife are found, the project biologist shall relocate the animal(s) to appropriate habitat offsite. If a lapse in project-related work of 15 days or longer occurs, another focused survey shall occur.

BIO-13: As a first order of construction, the project contractor shall install wildlife exclusion fencing (WEF) along the project boundaries within suitable habitat prior to commencement of construction activities or staging of equipment, in order to prevent special status amphibian and reptile species individuals from entering the project area during construction activities:

- WEF shall be installed under the supervision of the qualified project biologist.

- WEF shall consist of taught silt fencing supported by wooden stakes on the project side only.
- WEF shall be buried a minimum of six (6) inches below ground and soil shall be compacted against the sides of the fence for its entire length to prevent special status species from passing under the fence.
- WEF shall extend 12 to 18 inches above the ground.
- The contractor shall inspect the WEF daily, and WEF shall be maintained, and repaired where necessary, throughout construction to ensure that it is functional and without defects, that the fencing material is taught and that the bottom edge of the fencing material remains buried.
- The project biologist will periodically inspect the WEF to ensure it remains functional and appropriately maintained throughout construction.
- If any special status wildlife species or wildlife is found within WEF, construction activities in the vicinity shall cease and the project biologist shall be notified to relocate the wildlife to suitable habitat outside of the project area. Only the approved project biologist shall handle or relocate special status wildlife.

BIO-14: All construction pipes, culverts, or similar structures that are stored in the project area for one or more overnight periods shall be either securely capped prior to storage or thoroughly inspected by the contractor and/or the project biologist for special status wildlife species or other animals before the pipe is subsequently buried, capped, or otherwise used or moved in any way.

BIO-15: To prevent inadvertent entrapment of the special status wildlife species or other animals during construction, the project biologist and/or construction foreman/manager shall ensure all excavated, steep-walled holes or trenches more than six inches deep are provided with one or more escape ramps constructed of earthen fill or wooden planks. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals by the project biologist and/or construction foreman/manager.

BIO-16: Vegetation removal shall occur outside of the coastal California gnatcatcher nesting season (February 15th to August 31st).

BIO-17: If vegetation removal is required during the migratory bird nesting season (February 15th to August 31st), a pre-construction nesting bird survey must be conducted within 7 days prior to vegetation removal.

A minimum 300-foot no-disturbance buffer will be established around any active nest of migratory birds and a minimum 500-foot no-disturbance buffer will be established around any nesting raptor or CESA/FESA listed species. The contractor must immediately stop work in the buffer area until the appropriate buffer is established and is prohibited from conducting work that could disturb the birds (as determined by the project biologist and in

consultation with wildlife agencies) in the buffer area until a qualified biologist determines the young have fledged. A reduced buffer can be established if determined appropriate by the project biologist and approved by wildlife agencies. The project biologist will monitor any known identified nest site(s) within or adjacent to the project site and identified buffers, in coordination with and approved by the appropriate wildlife agencies.

5.4 STATE AND FEDERAL JURISDICTIONAL AREAS

Two (2) potentially State or federal jurisdictional features were observed within the project site, Santiago Creek and AF-1. Impacts to the Santiago Creek streambed and bank are anticipated, and minor impacts to the associated riparian habitat may occur. Impacts to AF-1 are anticipated. AF-1 was determined to be subject to jurisdiction by CDFW and the Regional Board, but not the Corps. Therefore, a 401 Water Quality Certification from the Regional Board and 1600 Lake and Streambed Alteration Agreement from CDFW are anticipated to be required for this project.

5.5 CRITICAL HABITAT

According to the USFWS Critical Habitat Mapper, the project site falls within “Unit 8 Santiago Creek, Orange County” of arroyo toad critical habitat, where acreage is centered around the confluence of Santiago, Black Star, and Baker Creeks, just above Irvine Lake, and includes portions of each creek and the adjacent uplands. The portion of critical habitat anticipated to be impacted by the proposed project is considered to be unsuitable habitat for arroyo toad based on the results of the *Memorandum on the Availability of Suitable Arroyo Toad Habitat in Four Orange County Canyons* (ICF 2019). However, informal consultations with the USFWS would be required due to the potential impacts to Critical Habitat.

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Appendix A Site Photographs



Photograph 1: Looking north along Modjeska Grade Road at the southern end of the project site.



Photograph 2: Looking north along Modjeska Grade Road within the southern portion of the project site.



Photograph 3: Looking south towards the chamise-sage chaparral within and adjacent to the project site.



Photograph 4: Looking north along Modjeska Grade Road within the central portion of the project site.



Photograph 5: Looking northwest along Modjeska Grade Road within the northern portion of the project site.



Photograph 6: Looking north towards Aquatic Feature 1 and some oak trees at the north end of the project site.



Photograph 7: Looking west towards the California sycamore – coast live oak riparian woodland at the north end of the project site.



Photograph 8: Looking north along Modjeska Grade Road at the northern end of the project site.

Appendix B Plant and Wildlife Species Observed

Table B-1: Wildlife Species Observed List

<i>Scientific Name*</i>	<i>Common Name</i>	<i>Special-Status Rank**</i>
Reptiles		
<i>Aspidoscelis hyperythra</i>	orange-throated whiptail	WL
<i>Crotalus ruber</i>	red-diamond rattlesnake	SSC
<i>Sceloporus occidentalis</i>	western fence lizard	
Birds		
<i>Aeronautes saxatalis</i>	white-throated swift	
<i>Aimophila ruficeps canescens</i>	southern California rufous-crowned sparrow	WL
<i>Aphelocoma californica</i>	California scrub jay	
<i>Ardea herodias</i>	great blue heron	
<i>Baeolophus inornatus</i>	oak titmouse	
<i>Buteo lineatus</i>	red-shouldered hawk	
<i>Callipepla californica</i>	California quail	
<i>Calypte anna</i>	Anna's hummingbird	
<i>Cathartes aura</i>	turkey vulture	
<i>Chamaea fasciata</i>	wrentit	
<i>Corvus brachyrhynchos</i>	American crow	
<i>Corvus corax</i>	common raven	
<i>Dryobates nuttallii</i>	Nuttall's woodpecker	
<i>Empidonax difficilis</i>	western flycatcher	
<i>Falco peregrinus</i>	peregrine falcon	FP
<i>Geococcyx californianus</i>	greater roadrunner	
<i>Haemorhous mexicanus</i>	house finch	
<i>Icterus cucullatus</i>	hooded oriole	
<i>Junco hyemalis</i>	dark-eyed junco	
<i>Melanerpes formicivorus</i>	acorn woodpecker	
<i>Melospiza melodia</i>	song sparrow	
<i>Melospiza crissalis</i>	California towhee	
<i>Mimus polyglottos</i>	northern mockingbird	
<i>Pavo cristatus*</i>	Indian peafowl	
<i>Phainopepla nitens</i>	phainopepla	
<i>Pipilo maculatus</i>	spotted towhee	
<i>Polioptila caerulea</i>	blue-gray gnatcatcher	
<i>Psaltiriparus minimus</i>	bushtit	
<i>Sitta carolinensis</i>	white-breasted nuthatch	
<i>Spinus psaltria</i>	lesser goldfinch	
<i>Stelgidopteryx serripennis</i>	northern rough-winged swallow	
<i>Thryomanes bewickii</i>	Bewick's wren	
<i>Toxostoma redivivum</i>	California thrasher	
<i>Troglodytes aedon</i>	house wren	
<i>Tyrannus vociferans</i>	Cassin's kingbird	
<i>Zenaida macroura</i>	mourning dove	

Table B-1: Wildlife Species Observed List

<i>Scientific Name*</i>	Common Name	Special-Status Rank**
Mammals		
<i>Equus caballus*</i>	domestic horse	
<i>Otospermophilus beecheyi</i>	California ground squirrel	

* **Non-native species**

** **Special-Status Rank**

California Department of Fish and Wildlife

FP Fully Protected – fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research, relocation of the bird species for the protection of livestock, or if they are a covered species whose conservation and management is provided for in a Natural Community Conservation Plan (NCCP).

SSC Species of Special Concern – any species, subspecies, or distinct population of fish, amphibian, reptile, bird, or mammal native to California that currently satisfies one or more of the following criteria:

- is extirpated from California or, in the case of birds, in its primary seasonal or breeding role;
- is listed as Federally-, but not State-, threatened or endangered; meets the State definition of threatened or endangered but has not formally been listed.
- is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status; or
- has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for State threatened or endangered status.

WL Watch List - taxa that were previously designated as “Species of Special Concern” but no longer merit that status, or which do not yet meet SSC criteria, but for which there is concern and a need for additional information to clarify status.

Table B-2: Plant Species Observed List

<i>Scientific Name*</i>	<i>Common Name</i>	<i>Cal-IPC Rank**</i>	<i>Special-Status Rank***</i>
<i>Acacia longifolia*</i>	golden wattle		
<i>Acmispon glaber</i>	deerweed		
<i>Adenostoma fasciculatum</i>	chamise		
<i>Alnus rhombifolia</i>	white alder		
<i>Artemisia californica</i>	coastal sage brush		
<i>Baccharis pilularis</i>	coyote brush		
<i>Bromus diandrus*</i>	ripgut	Moderate	
<i>Bromus rubens*</i>	red brome	High	
<i>Calochortus weedii var. intermedius</i>	intermediate mariposa lily		CRPR 1B.2
<i>Carduus pycnocephalus*</i>	Italian thistle	Moderate	
<i>Croton setiger</i>	turkey-mullein		
<i>Cynara cardunculus*</i>	artichoke thistle	Moderate	
<i>Delairea odorata*</i>	Cape ivy	High	
<i>Diplacus aurantiacus</i>	sticky monkeyflower		
<i>Ehrharta erecta*</i>	panic veldtgrass	Moderate	
<i>Elymus condensatus</i>	giant wild rye		
<i>Eriogonum fasciculatum</i>	California buckwheat		
<i>Eucalyptus globulus*</i>	blue gum	Limited	
<i>Fraxinus uhdei*</i>	Shamel ash		
<i>Hedera helix*</i>	English ivy	High	
<i>Heteromeles arbutifolia</i>	toyon		
<i>Heterotheca grandiflora</i>	telegraph weed		
<i>Hirschfeldia incana*</i>	short-podded mustard	Moderate	
<i>Isocoma menziesii</i>	goldenbush		
<i>Juglans californica</i>	southern California black walnut		CRPR 4.2
<i>Lonicera sp.</i>	honeysuckle		
<i>Malosma laurina</i>	laurel sumac		
<i>Marah macrocarpa</i>	wild cucumber		
<i>Marrubium vulgare*</i>	horehound	Limited	
<i>Nicotiana glauca*</i>	tree tobacco	Moderate	
<i>Olea europaea*</i>	olive	Limited	
<i>Opuntia littoralis</i>	prickly pear cactus		
<i>Pennisetum setaceum*</i>	fountaingrass	Moderate	
<i>Platanus racemosa</i>	California sycamore		
<i>Quercus agrifolia</i>	coast live oak		
<i>Quercus berberidifolia</i>	inland scrub oak		
<i>Rhus integrifolia</i>	lemonade berry		
<i>Salsola tragus*</i>	Russian thistle	Limited	
<i>Salvia apiana</i>	white sage		
<i>Salvia mellifera</i>	black sage		
<i>Sambucus mexicana</i>	blue elderberry		

Table B-2: Plant Species Observed List

<i>Scientific Name*</i>	Common Name	Cal-IPC Rank**	Special-Status Rank***
<i>Schinus molle*</i>	Peruvian peppertree	Limited	
<i>Solanum</i> sp.	nightshade		
<i>Sonchus asper*</i>	prickly sowthistle		
<i>Spartium junceum*</i>	Spanish broom	High	
<i>Stephanomeria</i> sp.	stephanomeria		
<i>Stipa miliacea*</i>	smilo grass		
<i>Toxicodendron diversilobum</i>	poison oak		
<i>Vinca major*</i>	greater periwinkle	Moderate	
<i>Washingtonia robusta*</i>	Mexican fan palm	Moderate	
<i>Xanthium strumarium</i>	cocklebur		

* Non-native species

** **California Invasive Plant Council (Cal-IPC) Ratings**

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

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

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

*** **California Native Plant Society (CNPS) California Rare Plant Rank**

1B Plants rare, threatened, or endangered in California and elsewhere.

4 Plants of limited distribution – Watch List.

Threat Ranks

.2 Moderately threatened in California (20 to 80 percent of occurrences threatened/moderate degree and immediacy of threat).

Appendix C Potentially Occurring Special-Status Biological Resources

Table C-1: Potentially Occurring Special-Status Wildlife Species

Common Name <i>Scientific Name</i>	Special-Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
Invertebrates					
Crotch bumble bee <i>Bombus crotchii</i>	Federal: None State: SCE Other: None	Found from coastal California east to the Sierra-Cascade crest and south into Mexico. Primarily occurs in California, including the Mediterranean region, Pacific coast, western desert, great valley, and adjacent foothills through most of southwestern California. Has also been recorded in Baja California, Baja California Sur, and in southwest Nevada. Inhabits open grassland and scrub habitats. Primarily nests underground. Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	No	No	High. Suitable habitat and food plant for this species is present within the survey area. In addition, there is a recent occurrence record roughly 0.7 mile northwest of the survey area
San Diego fairy shrimp <i>Branchinecta sandiegonensis</i>	Federal: FE State: None Other: None	Found in vernal pools of at least 30 centimeters in depth, from January through March. Found in Riverside and San Diego counties, as well as northern Baja California.	No	Yes	Not Expected. Suitable habitat for this species is absent from the survey area.
quino checkerspot butterfly <i>Euphydryas editha quino</i>	Federal: FE State: None Other: None	Lives in grasslands, coastal sage scrub, chamise chaparral, red shank chaparral, juniper woodland, and semi-desert scrub where native plantain is found. The butterfly's primary larval host plant is the native plantain.	No	Yes	Not Expected. Although suitable habitat for this species is present within the survey area, the most recent occurrence record was last seen in 1976. Additionally, all historic populations within the survey area and surrounding quadrangles are thought to be extirpated.

Common Name <i>Scientific Name</i>	Special-Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
Riverside fairy shrimp <i>Streptocephalus woottoni</i>	Federal: FE State: None Other: None	Restricted to deep seasonal vernal pools, vernal pool like ephemeral ponds, and stock ponds and other human modified depressions. Basins that support Riverside fairy shrimp are typically dry a portion of the year, but usually are filled by late fall, winter, or spring rains, and may persist through May. Endemic to western Riverside, Orange, and San Diego Counties in tectonic swales/earth slump basins in grassland and coastal sage scrub. In Riverside County, the species been found in pools formed over the following soils: Murrieta stony clay loams, Las Posas series, Wyman clay loam, and Willows soils. All known habitat lies within annual grasslands, which may be interspersed through chaparral or coastal sage scrub vegetation.	No	Yes	Not Expected. Suitable habitat for this species is absent from the survey area.
Fish					
Santa Ana sucker <i>Catostomus santaanae</i>	Federal: FT State: None Other: None	Inhabits permanent streams and rivers, with depths from a few centimeters to over a meter. Water must be cool with variable flows. Substrates of gravel, rubble and boulders are preferred for foraging and required for breeding.	No	No	Not Expected. Although surface water was present within Santiago Creek during the 2023 survey, there was no water present during the 2022 survey. This creek lacks the permanent water source required by this species.

Common Name <i>Scientific Name</i>	Special-Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
arroyo chub <i>Gila orcuttii</i>	Federal: None State: None Other: SSC	Warm streams of the Los Angeles Plain, which are typically muddy torrents during the winter, and clear quiet brooks in the summer, possibly drying up in places. They are found both in slow-moving and fast-moving sections, but generally deeper than 16 inches.	No	No	Not Expected. The stream depth requirement for this species is not present within Santiago Creek. In addition, there are no recent occurrence records within 5 miles of the survey area.
steelhead-southern California DPS <i>Oncorhynchus mykiss irideus pop. 10</i>	Federal: FE State: CE Other: None	Found in Pacific Ocean tributaries from Aleutian Islands in Alaska south to Southern California. Anadromous forms are known as steelhead, freshwater forms as rainbow trout.	No	No	Not Expected. Santiago Creek has inconsistent flows annually. In addition, there are no occurrence records within 5 miles of the survey area.
Santa Ana speckled dace <i>Rhinichthys osculus</i> ssp. 8	Federal: None State: None Other: SSC	Small springs or streams to large rivers and deep lakes. Prefer clear, well oxygenated water, with movement due to currents or waves. Deep cover and overhead protection are also preferred.	No	No	Not Expected. Suitable habitat for this species is present within the survey area. In addition, there are no recent occurrence records near the survey area.
Amphibians					
arroyo toad <i>Anaxyrus californicus</i>	Federal: FE State: None Other: SSC	Requires shallow, slow moving stream and riparian habitat. Extensive braided channels and sediment deposits of sand, gravel, or pebbles, occasionally reworked by flooding.	No	Yes	Not Expected. Suitable habitat for this species is present within the survey area. An arroyo toad suitability assessment and presence/absence surveys were conducted within Modjeska Canyon in 2019. This survey effort yielded no observations of arroyo toad, including egg strands, larvae, or juveniles. These results combined with the Forest Service findings that no suitable arroyo toad habitat is present within any of these creeks within the Cleveland National Forest, no suitable habitat is considered present within the survey area (OCPW 2022).
western spadefoot <i>Spea hammondi</i>	Federal: None State: None Other: SSC	Inhabits grassland, oak woodland, coastal sage scrub, and chaparral vegetation in washes, floodplains, alluvial fans, playas, and alkali flats.	No	Yes	Moderate. Habitat in the survey area is suitable for this species. The closest extant occurrence record is roughly 1.2 miles west of the project site.

Common Name <i>Scientific Name</i>	Special-Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
coast range newt <i>Taricha torosa</i>	Federal: None State: None Other: SSC	Oak and sycamore woodlands, chaparral, and grasslands. Requires water for breeding.	No	No	Not Expected. Although suitable habitat is present within the survey area, there are no recent occurrences within 5 miles of the survey area.
Reptiles					
Southern California legless lizard <i>Anniella stebbinsi</i>	Federal: None State: None Other: SSC	Locally abundant specimens are found in coastal sand dunes and a variety of interior habitats, including sandy washes and alluvial fans. A large protected population persists in the remnant of the once extensive El Segundo Dunes at Los Angeles International Airport.	No	No	Not Expected. Marginal suitable habitat is present within the survey area. However, there are no recent occurrences within 5 miles of the survey area.
California glossy snake <i>Arizona elegans occidentalis</i>	Federal: None State: None Other: SSC	Most common in desert habitats but also occur in chaparral, sagebrush, valley-foothill hardwood, pine-juniper, and annual grassland.	No	No	Not Expected. Habitats in the survey area are marginally suitable for this species; however, the nearest CNDDDB record is from 1952 and occurs over 5 miles southwest of the survey area.
orange-throated whiptail <i>Aspidoscelis hyperythra</i>	Federal: None State: None Other: WL	Uncommon to fairly common over much of its range in Orange, Riverside, and San Diego counties. Also occurs in southwestern San Bernardino County near Colton. Semi-arid brushy areas typically with loose soil and rocks, including washes, streamsides, rocky hillsides, and coastal chaparral.	Yes	Yes	Present. This species was observed within the survey area during the 2023 survey.
Coastal whiptail <i>Aspidoscelis tigris stejnegeri</i>	Federal: None State: None Other: SSC	This subspecies is found in coastal southern California, mostly west of the Peninsular Ranges and south of the Transverse Ranges, and north into Ventura County. Ranges south into Baja California.	No	Yes	Not Expected. Habitats in the survey area are marginally suitable for this species; however, there are no recent occurrence records within 5 miles of the survey area.

Common Name <i>Scientific Name</i>	Special-Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
		Found in a variety of ecosystems, primarily hot and dry open areas with sparse vegetation in chaparral, woodland, and riparian areas. Associated with rocky areas with little vegetation or sunny microhabitats within shrub or grassland associations.			
red-diamond rattlesnake <i>Crotalus ruber</i>	Federal: None State: None Other: SSC	Occurs in coastal sage scrub, chamise chaparral, redshank, desert slope scrub, desert washes, grassy fields, orchards, cactus patches, and rocky areas.	Yes	Yes	Present: An individual of this species was observed incidentally during surveys in 2022.
western pond turtle <i>Emys marmorata</i>	Federal: None State: None Other: SSC	Occurs in aquatic water bodies including flowing rivers and streams, permanent lakes, ponds, reservoirs, settling ponds, marshes and other wetlands. Semi-permanent water bodies such as stock ponds, vernal pools and seasonal wetlands can also be utilized on a temporary basis.	No	No	Not Expected. Although suitable habitat was present during the 2023 site visit (flowing stream), this reach of stream was dry during the 2022 site visit and has inconsistent flows. In addition, there are no recent occurrence records near the survey area.
coast horned lizard <i>Phrynosoma blainvillii</i>	Federal: None State: None Other: SSC	Inhabits coastal sage scrub and chaparral in arid and semiarid climates. Prefers friable, rocky, or shallow sandy soils.	No	Yes	High. suitable habitat for this species occurs within the survey area. In addition, the nearest recent occurrence record is roughly 0.4 mile east of the project site.
coast patch-nosed snake <i>Salvadora hexalepis virgultea</i>	Federal: None State: None Other: SSC	Inhabits brushy chaparral habitats dominated by chamise and redshank, as well as riparian areas.	No	No	Not Expected. Although suitable habitat occurs within the survey area, there are no occurrence records within the past 20 years near the survey area.

Common Name <i>Scientific Name</i>	Special- Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
two-striped gartersnake <i>Thamnophis hammondi</i>	Federal: None State: None Other: SSC	Often found in or near permanent and intermittent freshwater streams, creeks, and pools. Associated with willow, oak woodlands, cedar, coastal sage scrub, sparse pine, scrub oak, and chaparral.	No	No	Moderate. Suitable habitat for this species is present within the survey area. In addition, the nearest recent occurrence record occurs roughly 0.3 mile north of the project site.
Birds					
Cooper's hawk <i>Accipiter cooperii</i>	Federal: None State: None Other: WL	Found in woodlands, chiefly of open, interrupted or marginal type. Nest sites are mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains. Also known to nest in live oaks and now nests in many cities.	No	No	Low. Marginally suitable nesting habitat is present within the wooded creek at the northern end of the survey area. However, there are no recent occurrence records near the survey area.
tricolored blackbird <i>Agelaius tricolor</i>	Federal: None State: ST Other: SSC	Inhabits annual grasslands, wet and dry vernal pools, seasonal wetlands. Frequently found in and around agricultural areas.	No	No	Not Expected. Suitable habitat for this species is absent from the survey area. In addition, there are no occurrence records within 20 years near the survey area.
southern California rufous- crowned sparrow <i>Aimophila ruficeps canescens</i>	Federal: None State: None Other: WL	Resident in southern California coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass and forb patches.	Yes	Yes	Present This species was observed during the 2022 survey.

Common Name <i>Scientific Name</i>	Special-Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
grasshopper sparrow <i>Ammodramus savannarum</i>	Federal: None State: None Other: SSC	Yearlong resident along the coast of southern California. Occurs in grassland, upland meadow, pasture, hayfield, and old field habitats. Optimal habitat contains short- to medium-height bunch grasses interspersed with patches of bare ground, a shallow litter layer, scattered forbs, and few shrubs. May inhabit thickets, weedy lawns, vegetated landfills, fence rows, open fields, or grasslands.	No	No	Not Expected. Suitable habitat for this species is absent from the survey area. In addition, there are no recent occurrence records within 5 miles of the project site.
long-eared owl <i>Asio otus</i>	Federal: None State: None Other: SSC	Nests in conifer, oak, riparian, pinyon-juniper, and desert woodlands that are either open or are adjacent to grasslands, meadows, or shrublands. Key habitat components are some dense cover for nesting and roosting, suitable nest platforms, and open foraging areas.	No	No	Low. Although suitable habitat for this species is present within the survey area, the most recent CNDDDB record is from 1974 and over 5 miles from the survey area.
burrowing owl <i>Athene cunicularia</i>	Federal: None State: None Other: SSC	Occurs in expansive, nearly flat open areas, such as prairies, grasslands, agricultural fields, vacant lots. Small mammal burrows are required for roosting/nesting.	No	No	Not Expected. Suitable habitat for this species is absent from the survey area. There are no recent occurrence records within 5 miles of the survey area.

Common Name <i>Scientific Name</i>	Special-Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
ferruginous hawk <i>Buteo regalis</i>	Federal: None State: None Other: WL	Common winter resident of grasslands and agricultural areas in southwestern California. Frequents open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys, and fringes of pinyon-juniper habitats. This species does not breed in California.	No	No	Not Expected. Suitable habitat for this species is absent from the survey area. There are no recent occurrence records within 5 miles of the survey area.
coastal cactus wren <i>Campylorhynchus brunneicapillus sandiegensis</i>	Federal: None State: None Other: SSC	Inhabits cactus scrub complexes that can include <i>Rhus</i> sp. Presence of cholla cactus is preferred, as well as large dense stands of cactus.	No	Yes	Not Expected. Habitats with cactus preferred by this species are absent from the survey area.
northern harrier <i>Circus hudsonius</i>	Federal: None State: None Other: SSC	Yearlong resident of California. Frequents meadows, grasslands, open rangelands, desert sinks, fresh and saltwater emergent wetlands; seldom found in wooded area. In general, it prefers saltwater marshes, wet meadows, sloughs, and bogs for nesting and foraging. Nests on the ground in shrubby vegetation or patches of dense vegetation, usually at the marsh edge.	No	Yes	Not Expected. Suitable habitat for this species is absent from the survey area. There are no recent occurrence records within 5 miles of the survey area.
yellow rail <i>Coturnicops noveboracensis</i>	Federal: None State: None Other: SSC	Prefers shallow freshwater sedge marshes; winters in marshes and meadows with cordgrass, saltgrass, sedges, and other low vegetation.	No	No	Not Expected. Suitable habitat for this species is absent from the survey area. There are no recent occurrence records within 5 miles of the survey area.

Common Name <i>Scientific Name</i>	Special- Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
white-tailed kite <i>Elanus leucurus</i>	Federal: None State: None Other: FP	Associated with rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Prefers open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	No	No	Low. Suitable nesting habitat for this species is marginally present within the survey area. This species has been known to occur in Limestone Canyon downstream of the survey area.
California horned lark <i>Eremophila alpestris actia</i>	Federal: None State: None Other: WL	Yearlong resident of California. This subspecies is typically found in coastal regions. Breed in level or gently sloping shortgrass prairie, montane meadows, "bald" hills, open coastal plains, fallow grain fields, and alkali flats. Within southern California, California horned larks breed primarily in open fields, (short) grasslands, and rangelands. Nests on the open ground.	No	No	Not Expected. Suitable habitat for this species is absent from the survey area. There are no recent occurrence records within 5 miles of the survey area.

Common Name <i>Scientific Name</i>	Special- Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
bald eagle <i>Haliaeetus leucocephalus</i>	Federal: None State: SE Other: FP	Locally common yearlong resident of southern California. Typically prefer areas near large water bodies such as sea coasts, coastal estuaries and inland lakes and rivers, in many areas, these birds are found within two miles of a water source. Most populations, specifically those in northern regions, migrate to southern, milder climates annually. Generally, these birds nest in the canopy of tall, coniferous trees, surrounded by smaller trees. They have been reported nesting on the ground, on cliffs, on cellular phone towers, on electrical poles and in artificial nesting towers.	No	No	Not Expected. Suitable habitat for this species is absent from the survey area. There are no recent occurrence records within 5 miles of the survey area.

Common Name <i>Scientific Name</i>	Special-Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
yellow-breasted chat <i>Icteria virens</i>	Federal: None State: None Other: SSC	Summer resident of California. Primarily found in tall, dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush with well-developed understories. Breeding habitat within southern California primarily consists of dense, wide riparian woodlands and thickets of willows, vine tangles, and dense brush with well-developed understories. Nesting areas are associated with streams, swampy ground, and the borders of small ponds. It winters south the Central America. Found at elevations ranging from 820 to 2,625 feet amsl.	No	No	Not Expected. Suitable habitat for this species is absent from the survey area. There are no recent occurrence records within 5 miles of the survey area.
coastal California gnatcatcher <i>Polioptila californica californica</i>	Federal: FT State: None Other: SSC	Obligate, permanent resident of coastal sage scrub below 2,500 feet (760 meters) in southern California. Inhabits low, coastal sage scrub in arid washes, on mesas and slopes.	No	Yes	Moderate. Although this species was not found during protocol surveys conducted in 2022, this species has been historically known to occur in the area and could potentially occur in the vicinity of the survey area.
yellow warbler <i>Setophaga petechia</i>	Federal: None State: None Other: SSC	Present in California from April through September. Nests in riparian areas dominated by willows, cottonwoods, California sycamores, or alders (<i>Alnus</i> spp.) or in mature chaparral. May also use oaks, conifers, and urban areas near stream courses.	No	No	Low. Although suitable habitat is present within the survey area, the nearest occurrence record is roughly 4.3 miles southwest of the survey area.

Common Name <i>Scientific Name</i>	Special-Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
least Bell's vireo <i>Vireo bellii pusillus</i>	Federal: FE State: SE	Occupy willow and cottonwood riparian woodland, usually associated with water or adjacent to a water source.	No	Yes	Not Expected. Although suitable habitat is marginally present within the survey area, the riparian area lacks the dense understory typically preferred by this species. In addition, this species usually prefers wide riparian areas rather than the narrow canyon habitat within the survey area. The nearest occurrence record is roughly 2.2 miles south of the survey area.
Mammals					
pallid bat <i>Antrozous pallidus</i>	Federal: None State: None Other: SSC	Locally common species locally common in the Great Basin, Mojave, and Sonoran deserts (specifically Sonoran life zone) and grasslands throughout the western U.S. Also occurs in shrublands, woodlands, and forests from sea level to 8,000 ft amsl. Prefers rocky outcrops, cliffs, and crevices for roosting with access to open habitats for foraging. May also roost in caves, mines, bridges, barns, porches, and bat boxes, and even on the ground under burlap sacks, stone piles, rags, baseboards, and rocks.	No	No	Not Expected. Although foraging habitat suitable for this species is present in the survey area, there are no recent occurrence records near the survey area.

Common Name <i>Scientific Name</i>	Special-Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
northwestern San Diego pocket mouse <i>Chaetodipus fallax fallax</i>	Federal: None State: None Other: SSC	Found terrestrially in a wide variety of temperate habitats ranging from chaparral and grasslands to scrub forests and deserts. Open habitat on the Pacific slope from southwestern San Bernardino County to northwestern Baja California. Habitat types include coastal sage scrub, sage scrub/grassland ecotones, and chaparral communities. Major habitat requirement is the presence of low growing vegetation or rocky outcroppings, as well as sandy soil to dig burrows.	No	No	High. Suitable habitat for this species is present within the survey area. In addition, the closest recent occurrence record is roughly 0.35 mile east of the project site.
Stephen's kangaroo rat <i>Dipodomys stephensi</i>	Federal: FE State: SE Other: None	Occur in arid and semi-arid habitats of open grassland or sparse shrublands with less than 50% protective cover. Require soft, well-drained substrate for building burrows and are typically found in areas with sandy soil in areas with <30 percent slope.	No	No	Not Expected. Although suitable habitat for this species is present within the survey area, there are no recent occurrence records for this species near the survey area.
western mastiff bat <i>Eumops perotis californicus</i>	Federal: None State: None Other: SSC	Roosts in rock crevices, on cliff faces and also uses crevices in buildings and structures. Limited to roosts that allow at least 10 feet of free fall.	No	No	Not Expected. Although foraging habitat suitable for this species is present in the survey area, there are no recent occurrence records near the survey area.

Common Name <i>Scientific Name</i>	Special- Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
western yellow bat <i>Lasiurus xanthinus</i>	Federal: None State: None Other: SSC	Uncommon in California, known only in Los Angeles and San Bernardino Counties. Occurs in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Prefers to roost and feed in, and near, palm oases and riparian habitats. Commonly found in the southwestern U.S. roosting in the skirt of dead fronds in both native and non-native palm trees.	No	No	Not Expected. Marginally suitable habitat for this species is absent from the survey area. However, there are no recent occurrence records near the survey area.
San Diego desert woodrat <i>Neotoma lepida intermedia</i>	Federal: None State: None Other: SSC	Coastal scrub of southern California from San Diego County to San Luis Obispo County. Moderate to dense canopies preferred. They are particularly abundant in rock outcrops and rocky cliffs and slopes.	No	Yes	High. Suitable habitat for this species is present within the survey area. The closest recent occurrence is roughly 0.3 mile east of the project site.
pocketed free- tailed bat <i>Nyctinomops femorosaccus</i>	Federal: None State: None Other: SSC	Often found in pinyon-juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree (<i>Yucca brevifolia</i>) woodland, and palm oasis habitats. Prefers rocky desert areas with high cliffs or rock outcrops, which are used as roosting sites.	No	No	Not Expected. Suitable habitat for this species is not present within the survey area.

Common Name <i>Scientific Name</i>	Special-Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
southern grasshopper mouse <i>Onychomys torridus ramona</i>	Federal: None State: None Other: SSC	Common in arid desert habitats of the Mojave and southern Central Valley of California. Known elevation range is generally below 3,000 feet amsl. Little is known about habitat requirements; however, it is commonly found in scrub habitats with friable soils for digging in desert areas. It is believed that alkali desert scrub and desert scrub habitats are preferred, with somewhat lower densities expected in other desert habitats, including succulent shrub, wash, and riparian areas. Also occurs in coastal scrub, mixed chaparral, sagebrush, low sage, and bitterbrush habitats.	No	No	High. Suitable habitat is present within the project site. In addition, the closest occurrence record is located about 0.3 mile east of the project site.

* **U.S. Fish and Wildlife Service (USFWS)**

- FE Endangered – any species which is in danger of extinction throughout all or a significant portion of its range.
- FT Threatened – any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

California Department of Fish and Wildlife (CDFW)

- SE Endangered – any native species or subspecies of 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.
- SCE State Candidate for Listing as Endangered – the classification provided to a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Fish and Game Commission has formally noticed as being under review by the Department of Fish and Wildlife for addition to the list of endangered species, or a species for which the commission has published a notice of proposed regulation to add the species to the list of endangered species.
- ST Threatened – any native species or subspecies of 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 under the California Endangered Species Act.
- FP Fully Protected – any native species or subspecies of bird, mammal, fish, amphibian, or reptile that were determined by the State of California to be rare or face possible extinction.
- SSC Species of Special Concern – any species, subspecies, or distinct population of fish, amphibian, reptile, bird, or mammal native to California that currently satisfies one or more of the following criteria:
- is extirpated from California or, in the case of birds, in its primary seasonal or breeding role;
 - is listed as Federally-, but not State-, threatened or endangered; meets the State definition of threatened or endangered but has not formally been listed.

- is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status; or
- has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for State threatened or endangered status.

WL Watch List - taxa that were previously designated as “Species of Special Concern” but no longer merit that status, or which do not yet meet SSC criteria, but for which there is concern and a need for additional information to clarify status.

Table C-2 Potentially Occurring Special-Status Plant Species and Sensitive Natural Communities

Common Name <i>Scientific Name</i>	Special-Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
Special-Status Plant Species					
chaparral sand-verbena <i>Abronia villosa</i> var. <i>aurita</i>	Federal: None State: None CRPR: 1B.1	Annual herb. Found in sandy habitats, including chaparral, coastal scrub, and desert dunes. Occurs between 245 – 5250 feet (75 – 1500 meters). Blooms occasionally as early as January, though generally March to September.	No	No	Not Expected. Potentially suitable habitat for this species is absent from the survey area, and the most recent occurrence is greater than 10 miles and more than 80 years old.
Yucaipa onion <i>Allium marvinii</i>	Federal: None State: None CRPR: 1B.2	Perennial bulbiferous herb. Found in chaparral. Occurs between 2495 – 3495 feet (790 – 1065 meters). Blooms April to May.	No	No	Not Expected. Potentially suitable habitat for this species is absent from the survey area as the survey area is outside of the elevational requirements of this species.
Braunton's milk-vetch <i>Astragalus brauntonii</i>	Federal: FE State: None CRPR: 1B.1	Perennial herb. Found sometimes in burned and/or disturbed areas, prefers carbonate and sandstone substrates, within chaparral, coastal scrub, and valley and foothill grasslands habitats. Occurs between 15 – 2100 feet (4 – 640 meters). Blooms from January to August.	No	No	High: Potentially suitable habitat for this species is present within the survey area and there is a known occurrence from 2016 that is within 1 mile of the survey area.
Malibu baccharis <i>Baccharis malibuensis</i>	Federal: None State: None CRPR: 1B.1	Perennial deciduous shrub, Found in chaparral, cismontane woodland, coastal scrub, and riparian woodland habitats. Occurs between 490 – 1000 feet (150 - 305 meters). Blooms in August.	No	No	Not Expected. Potentially suitable habitat for this species is absent from the survey area as the survey area is above the elevational requirements of this species.
thread-leaved brodiaea <i>Brodiaea filifolia</i>	Federal: FT State: SE CRPR: 1B.1	Perennial bulbiferous herb. Often found in clay soils within chaparral (openings), cismontane woodland, coastal scrub, playas, valley and foothill grasslands, and vernal pools. Occurs between 80 – 3675 feet (25 – 1120 meters). Blooms March-June.	No	No	Not Expected: Potentially suitable habitat for this species is present within the survey area. However, the only known occurrence record in the area was last seen in 1998..

Common Name <i>Scientific Name</i>	Special-Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
Brewer's calandria <i>Calandrinia breweri</i>	Federal: None State: None CRPR: 4.2	Annual herb. Occasionally found on sandy or loamy soils. Prefers disturbed areas and burn sites. Generally found in chaparral and coastal scrub habitats. Occurs between 35 – 4005 feet (10 – 1220 meters). Occasionally blooms as early as January, though generally from March to June.	No	No	Low. Although potentially suitable habitat for this species is present, no historic CNDDDB records occur within the survey area or close proximity.
Catalina mariposa-lily <i>Calochortus catalinae</i>	Federal: None State: None CRPR: 4.2	Perennial bulbiferous herb. Occurs in chaparral, cismontane woodland, coastal scrub, and valley and foothill grasslands. Found at elevations ranging from 50 to 2295 feet (15 – 700 meters). Blooming period is from March through June, and occasionally as early as late February.	No	Yes	High. Potentially suitable habitat for this species is present in the survey area. There are multiple recent observance records on Calflora within 1 mile of the survey area.
Plummer's mariposa-lily <i>Calochortus plummerae</i>	Federal: None State: None CRPR: 4.2	Perennial bulbiferous herb. Granitic or rocky habitats within chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and valley and foothill grassland. Occurs between 330 – 5580 feet (100 – 1700 meters). Blooms May to July.	No	No	Not Expected. Potentially suitable habitat for this species is present in the survey area. However, the nearest CNDDDB record is from 2003 and occurs approximately 6 miles north of the survey area.
intermediate mariposa-lily <i>Calochortus weedii</i> var. <i>intermedius</i>	Federal: None State: None CRPR: 1B.2	Perennial bulbiferous herb. Found in rocky soils within chaparral, and valley and foothill grassland. Occurs between 345 – 2805 feet (105 – 855 meters). Blooms May to July.	Yes	Yes	Present. This species was observed within the survey area during June 2022 field surveys.
Lewis' evening-primrose <i>Camissoniopsis lewisii</i>	Federal: None State: None CRPR: 3	Annual herb. Occasionally inhabits sandy or clay soils in coastal bluff-scrub, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland. Occurs between 0 – 985 feet (0 – 300 meters). Blooms March to May, occasionally into June.	No	No	Not Expected. Potentially suitable habitat for this species is absent from the survey area as the survey area is above the elevational requirements of this species.
peninsular spineflower <i>Chorizanthe leptotheca</i>	Federal: None State: None CRPR: 4.2	Annual herb. Found on granitic soils on alluvial fans within chaparral, coastal scrub and lower montane coniferous forest habitats. Occurs between 985 – 6235 feet (300 – 1900 meters). Blooms March to August.	No	No	Not Expected. Potentially suitable habitat for this species is absent from the survey area.

Common Name <i>Scientific Name</i>	Special-Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
San Fernando Valley spineflower <i>Chorizanthe parryi</i> var. <i>fernandina</i>	Federal: None State: SE CRPR: 1B.1	Annual herb. Preferred habitat includes sandy coastal scrub and valley and foothill grasslands. Occurs between 490 – 4005 feet (150 – 1220 meters). Blooms April to July.	No	No	Not Expected. Potentially suitable habitat for this species is absent from the survey area, and the closest CNDDDB record is greater than 10 miles from the survey area and more than 100 years old.
long-spined spineflower <i>Chorizanthe polygonoides</i> var. <i>longispina</i>	Federal: None State: None CRPR: 1B.2	Annual herb. Often found on clay soils within chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, and vernal pool habitats. Occurs between 100 – 5020 feet (30 – 1530 meters). Blooms between April to July.	No	No	Not Expected. Habitat for the species occurs in the survey area. However, the closest CNDDDB record is more than 10 miles north of the survey area and is over 20 years old.
San Miguel savory <i>Clinopodium chandleri</i>	Federal: None State: None CRPR: 1B.2	Perennial shrub. Habitats include chaparral, coastal scrub, cismontane woodland, riparian woodland, and valley and foothill grasslands. Occasionally on gabbroic and/or rocky soils. Occurs between 395 – 3525 feet (120 – 1075 meters). Blooms March to July.	No	No	Low: Although potentially suitable habitat for this species is present in the survey area, no historic CNDDDB records occur within the survey area or the surrounding vicinity.
Summer holly <i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>	Federal: None State: None CRPR: 1B.2	Perennial evergreen shrub. Found in chaparral and cismontane woodlands. Occurs between 100 – 2590 feet (30 – 790 meters). Blooms April to June.	No	No	Moderate. Potentially suitable habitat for this species is present in the survey area. The nearest CNDDDB record is from 2013 and occurs approximately 2.5 miles east of the survey area.
small-flowered morning-glory <i>Convolvulus simulans</i>	Federal: None State: None CRPR: 4.2	Annual herb. Found in clay, serpentine seeps in chaparral openings, coastal scrub, and valley and foothill grassland habitats on clay and serpentine soils and in seeps. Occurs between 100 – 2430 feet (30 – 740 meters). Blooms March to July.	No	No	Low. Although potentially suitable habitat for this species is present in the survey area, a CNPS inventory database record occurrence from 2019 is about 4.5 miles east of the survey area.

Common Name <i>Scientific Name</i>	Special-Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
paniculate tarplant <i>Deinandra paniculata</i>	Federal: None State: None CRPR: 4.2	Annual herb. Usually prefers vernal mesic, sometimes sandy coastal scrub, valley foothill grassland, and vernal pool habitats. Occurs between 80 – 3085 feet (25 – 940 meters). Blooms (March) April to November.	No	No	Not Expected. Potentially suitable habitat for this species is absent from the survey area.
Cleveland's bush monkeyflower <i>Diplacus clevelandii</i>	Federal: None State: None CRPR: 4.2	Perennial rhizomatous herb. Prefers gabbroic and rocky habitats, and openings in chaparral, cismontane woodland, and lower montane coniferous forests. Often found in disturbed areas. Occurs between 1475 – 6560 feet (450 – 2000 meters). Blooms April to July.	No	No	Low. Although potentially suitable habitat for this species is present in the survey area, the closest extant occurrence record is from the CNPS Inventory Database roughly 3 miles west of the survey area.
Santa Monica dudleya <i>Dudleya cymosa ssp. ovatifolia</i>	Federal: FT State: None CRPR: 1B.1	Perennial herb. Found in chaparral and coastal scrub on rocky and sometimes volcanic and sedimentary soils. Occurs between 490 – 5495 feet (150 – 1675 meters). Blooms March to June.	No	Yes	Not Expected. Potentially suitable habitat for this species is absent from the survey area.
many-stemmed dudleya <i>Dudleya multicaulis</i>	Federal: None State: None CRPR: 1B.2	Perennial herb. Found in chaparral, coastal scrub, and valley and foothill grassland habitats. Often in clay soils. Occurs between 50 – 2590 feet (15 – 790 meters). Blooms April to July.	No	No	Moderate. Potentially suitable habitat for this species is present in the survey area. The closest extant occurrence is roughly 1.7 miles northwest of the survey area.
sticky dudleya <i>Dudleya viscida</i>	Federal: None State: None CRPR: 1B.2	Perennial herb. Found on rocky soils in coastal bluff scrub, chaparral, cismontane woodland and coastal scrub. Occurs between 35 – 1805 feet (10 – 550 meters). Blooms May to June.	No	No	Not Expected. Although potentially suitable habitat for this species is present in the survey area, no historic CNDDDB records occur within the survey area or the surrounding quadrangles.
Santa Ana River woollystar <i>Eriastrum densifolium ssp. sanctorum</i>	Federal: FE State: SE CRPR: 1B.1	Found in sandy or gravelly sites in chaparral and coastal scrub habitats. Occurs between 590 – 7515 feet (180 – 2290 meters). Blooms April to September.	No	No	Not Expected. Potentially suitable habitat for this species is absent from the survey area. Additionally, the closest extant occurrence record from Calflora is over 7 miles north of the project site.

Common Name <i>Scientific Name</i>	Special-Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
Palomar monkeyflower <i>Erythranthe diffusa</i>	Federal: None State: None CRPR: 4.3	Annual herb. Found in chaparral and lower montane coniferous forest. Sometimes on gravelly and/or sandy substrates. Occurs between 1740 – 7515 feet (530 – 2290 meters). Blooms from April to June.	No	No	Not Expected. Potentially suitable habitat for this species is absent from the survey area as the survey area is below of the elevational requirements of this species.
Palmer's grapplinghook <i>Harpagonella palmeri</i>	Federal: None State: None CRPR: 4.2	Annual herb. Chaparral, coastal scrub, and valley and foothill grassland. Occurs 65 – 3135 feet (between 20 – 955 meters). Blooms from March to May.	No	Yes	Not Expected. Although potentially suitable habitat for this species is present in the survey area, no historic CNDDDB records occur within the survey area or the surrounding quadrangles.
Tecate cypress <i>Hesperocyparis forbessii</i>	Federal: None State: None CRPR: 1B.1	Perennial evergreen tree. Prefers clay and sometimes gabbroic or metavolcanic habitats. Occurs in closed-cone coniferous forest, chaparral. Occurs between 260 – 4920 feet (80 – 1500 meters).	No	Yes	Not Expected. Potentially suitable habitat for this species is absent from the survey area.
Gowen cypress <i>Hesperocyparis goveniana</i>	Federal: FT State: None CRPR: 1B.2	Perennial evergreen tree. Found in closed-cone coniferous forests and chaparral (maritime). Occurs between 100 – 985 feet (30 – 300 meters).	No	No	Not Expected. Potentially suitable habitat for this species is absent from the survey area as the survey area is outside of the elevational requirements of this species.
vernal barley <i>Hordeum intercedens</i>	Federal: None State: None CRPR: 3.2	Annual herb. Found in coastal dunes, coastal scrub, vernal pools, and in saline flats and depressions in valley and foothill grassland habitats. Occurs between 15 – 3280 feet (5 – 1000 meters). Blooms March to June.	No	No	Not Expected. Potentially suitable habitat for this species is present within the survey area. However, there are no recent extant occurrences within 5 miles of the survey area.
mesa horkelia <i>Horkelia cuneata var. puberula</i>	Federal: None State: None CRPR: 1B.1	Perennial herb. Prefers sandy or gravelly sites in chaparral (maritime), cismontane woodland, and coastal scrub habitats. Occurs between 230 – 2660 feet (70 – 810 meters). Blooms February to March, July, and occasionally September.	No	No	Not Expected. Potentially suitable habitat for this species is present within the survey area. However, there are no occurrence records within 10 miles of the survey area.

Common Name <i>Scientific Name</i>	Special-Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
Southern California black walnut <i>Juglans californica</i>	Federal: None State: None CRPR: 4.2	Perennial deciduous tree. Found in alluvial sites in chaparral, cismontane woodland, coastal scrub, and riparian woodland habitats. Occurs between 165 – 2955 feet (50 – 900 meters). Blooms March to August.	Yes	No	Present. Two individuals of southern California black walnut were observed within the survey area.
heart-leaved pitcher sage <i>Lepechinia cardiophylla</i>	Federal: None State: None CRPR: 1B.2	Perennial shrub. Found in closed-cone coniferous forest, chaparral, or cismontane woodland habitats. Occurs between 1180 – 44390595 feet (360 – 1190 meters). Blooms April to July.	No	Yes	Low. Potentially suitable habitat for this species is present within the survey area. However, the closest extant occurrence is over 4 miles east of the project site.
Robinson's pepper-grass <i>Lepidium virginicum</i> var. <i>robinsonii</i>	Federal: None State: None CRPR: 4.3	Annual herb. Found in chaparral or coastal scrub habitats. Occurs between 5 – 2905 feet (1 – 885 meters). Blooms January to July.	No	No	High. Potentially suitable habitat for this species is present in the survey area. The nearest CNDDB record is from 2008 and occurs approximately 1 mile north of the survey area.
ocellated Humboldt lily <i>Lilium humboldtii</i> ssp. <i>ocellatum</i>	Federal: None State: None CRPR: 4.2	Perennial bulbiferous herb. Found in openings in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland. Occurs between 100 – 5905 feet (30 – 1800 meters). Blooms March to July, and occasionally into August.	No	No	Low. Habitat for the species occurs in the survey area and the nearest document occurrence record is about 4 miles east of the survey area.
intermediate monardella <i>Monardella hypoleuca</i> ssp. <i>intermedia</i>	Federal: None State: None CRPR: 1B.3	Perennial rhizomatous herb. Usually in understory. Prefers chaparral, cismontane woodland, or sometimes lower montane coniferous forest. Occurs between 1310 – 4100 feet (400 – 1250 meters). Blooms April to July and September.	No	No	High. Potentially suitable habitat for this species is present within the survey area. In addition, there is a recent occurrence record roughly 0.5 mile east of the project site.

Common Name <i>Scientific Name</i>	Special-Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
Hall's monardella <i>Monardella macrantha</i> ssp. <i>hallii</i>	Federal: None State: None CRPR: 1B.3	Perennial rhizomatous herb. Found in broadleaf upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grasslands. Occurs between 2395 – 7200 feet (730 – 2195 meters). Blooms June to October.	No	No	Not Expected. Potentially suitable habitat for this species is absent from the survey area as the survey area is outside of the elevational requirements of this species. In addition, there are no extant occurrence records within 5 miles of the survey area.
mud nama <i>Nama stenocarpa</i>	Federal: None State: None CRPR: 2B.2	Annual/perennial herb. Found in marshes, swamps, lake margins, and riverbanks. Occurs between 15 – 1645 feet (5 – 500 meters). Blooms January to July.	No	No	Not Expected. Potentially suitable habitat for this species is absent from the survey area.
chaparral nolina <i>Nolina cismontana</i>	Federal: None State: None CRPR: 1B.2	Perennial evergreen shrub. Prefers sandstone or gabbroic substrates in chaparral or coastal scrub habitats. Occurs between 460 – 4185 feet (140 – 1275 meters). Blooms occasionally in March, and May to July.	No	No	High. Potentially suitable habitat for this species is present within the survey area. There are multiple occurrences within 1 mile of the survey area.
California beardtongue <i>Penstemon californicus</i>	Federal: None State: None CRPR: 1B.2	Perennial herb. Prefers sandy areas in chaparral, lower montane coniferous forest, or pinyon and juniper woodland habitats. Occurs between 790 – 7510 feet (240 – 2290 meters). Blooms May to June and occasionally in August.	No	No	Not Expected. Potentially suitable habitat for this species is absent from the survey area. There are no extant occurrences within 5 miles of the survey area.
Allen's pentachaeta <i>Pentachaeta aurea</i> ssp. <i>allenii</i>	Federal: None State: None CRPR: 1B.1	Annual herb. Prefers opening in coastal scrub or valley and foothill grassland habitats. Occurs between 245 - 1705 feet (75 – 520 meters). Blooms March to June.	No	No	Not Expected. Potentially suitable habitat for this species is present in the survey area. However, there are no occurrence records within the past 20 years within 5 miles of the project site.

Common Name <i>Scientific Name</i>	Special-Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
Hubby's phacelia <i>Phacelia hubbii</i>	Federal: None State: None CRPR: 4.2	Annual herb. Prefers gravelly, rocky, or talus sites in chaparral, coastal scrub, and valley and foothill grassland habitats. Occurs between 0 – 3280 feet (0 – 1000 meters). Blooms April to July.	No	No	High. Potentially suitable habitat for this species is present in the survey area. In addition, there are multiple occurrence records on Calflora within 1 mile of the survey area.
Santiago Peak phacelia <i>Phacelia keckii</i>	Federal: None State: None CRPR: 1B.3	Annual herb. Found in closed-cone coniferous forest and chaparral habitats. Occurs between 1790 – 5250 feet (545 – 1600 meters). Blooms May to July.	No	No	Not Expected. Potentially suitable habitat for this species is absent from the survey area as the survey area is outside of the elevational requirements of this species.
chaparral rein orchid <i>Piperia cooperi</i>	Federal: None State: None CRPR: 4.2	Perennial herb. Found in chaparral, cismontane woodland, and valley and foothill grassland habitats. Occurs between 50 – 5200 feet (15 – 1585 meters). Blooms March through June.	No	No	Low. Potentially suitable habitat for this species is present within the survey area. However, the nearest documented occurrence is located roughly 4 miles southeast of the survey area.
narrow-petaled rein orchid <i>Piperia leptopetala</i>	Federal: None State: None CRPR: 4.3	Perennial herb. Found in cismontane woodland, lower montane coniferous forest, and upper montane coniferous forest habitats. Occurs between 1245 – 7300 feet (380 – 2225 meters). Blooms May to July.	No	No	Not Expected. Potentially suitable habitat for this species is absent from the survey area.
white rabbit-tobacco <i>Pseudognaphalium leucocephalum</i>	Federal: None State: None CRPR: 2B.2	Perennial herb. Prefers sandy, gravelly areas in chaparral, cismontane woodland, coastal scrub, or riparian woodland habitats. Occurs between 0 – 6890 feet (0 – 2100 meters). Blooms occasionally in July, generally from August to November, and as late as December.	No	No	Not Expected. Although potentially suitable habitat for this species is present in the survey area, there are no extant occurrence records within 5 miles of the survey area.
Fish's milkwort <i>Rhinotropis cornuta var. fishiae</i>	Federal: None State: None CRPR: 4.3	Perennial deciduous shrub. Found in chaparral, cismontane woodland, and riparian woodland habitats. Occurs 330 – 3280 feet (100 – 1000 meters). Blooms May to August.	No	No	Not Expected. Habitat for the species occurs in the survey area. However, there are no extant occurrence records within 5 miles of the project site.

Common Name <i>Scientific Name</i>	Special-Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
Coulter's matillija poppy <i>Romneya coulteri</i>	Federal: None State: None CRPR: 4.2	Perennial rhizomatous herb. Often found in burns in chaparral or coastal scrub habitats. Occurs between 65 – 3940 feet (20 - 1200 meters). Blooms March to July and occasionally August.	No	Yes	High. Potentially suitable habitat for this species is present in the survey area. In addition, there are multiple extant occurrence records on Calflora within 1 mile of the survey area.
chaparral ragwort <i>Senecio aphanactis</i>	Federal: None State: None CRPR: 2B.2	Annual herb. Sometimes occurs on alkaline substrates. Found in chaparral, cismontane woodland, or coastal scrub habitats. Occurs between 50 – 2625 feet (15 – 800 meters). Blooms January to April and occasionally May.	No	No	Not Expected. Although potentially suitable habitat for this species is present in the survey area, there are no recent occurrence records within 5 miles of the survey area.
salt spring checkerbloom <i>Sidalcea neomexicana</i>	Federal: None State: None CRPR: 2B.2	Perennial herb. Prefers alkaline or mesic areas in chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub, and playa habitats. Occurs between 45 – 5020 feet (15 – 1530 meters). Blooms March to June.	No	No	Not Expected. Although potentially suitable habitat for this species is present in the survey area, there are no recent occurrence records within 5 miles of the survey area.
San Diego County viguiera <i>Viguiera laciniata</i>	Federal: None State: None CRPR: 4.3	Perennial shrub. Found in chaparral and coastal scrub. Occurs between 195 – 2460 feet (60 -750 meters). Blooms February to June and occasionally August.	No	No	Moderate. Potentially suitable habitat for this species is present within the survey area. The most recent extant occurrence is roughly 2 miles north of the survey area.

Common Name <i>Scientific Name</i>	Special-Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
Special-Status Vegetation Communities					
<u>CNDDB/Holland (1986)</u> California Walnut Woodland <u>MCV (1995)</u> California Walnut Series <u>NVCS (2009)</u> <i>Juglans californica</i> Woodland Alliance	G3 S3.2	Found at elevations ranging from 490 to 2,952 feet amsl in riparian corridors, but most stands cover all hillslopes. Southern California black walnut is dominant or co-dominant in the tree canopy with white alder (<i>Alnus rhombifolia</i>), two petaled ash (<i>Fraxinus dipetala</i>), toyon (<i>Heteromeles arbutifolia</i>), coast live oak (<i>Quercus agrifolia</i>), valley oak (<i>Quercus lobata</i>), polished willow (<i>Salix laevigata</i>), arroyo willow (<i>Salix lasiolepis</i>), black elderberry (<i>Sambucus nigra</i>), and California bay (<i>Umbellularia californica</i>). Trees are less than 50 feet tall; canopy is open to continuous. Shrub layer is sparse to intermittent. Herbaceous layer is sparse or grassy.	No	N/A	Absent. This vegetation community was not observed within or adjacent to the project site during the field survey.
<u>CNDDB/Holland (1986)</u> Canyon Live Oak Ravine Forest <u>MCV (1995)</u> Canyon Live Oak Series <u>NVCS (2009)</u> <i>Quercus chrysolepis</i> Forest Alliance	G5 S5	Found at elevations ranging from 1,476 to 6,562 feet amsl on stream benches and terraces in canyon bottoms near streams and upland slopes on steep, shallow, rocky, infertile soils. Gold cup live oak (<i>Quercus chrysolepis</i>) is a dominant or co-dominant in the tree canopy with white fir, bigleaf maple (<i>Acer macrophyllum</i>), madrono (<i>Arbutus menziesii</i>), California incense-cedar (<i>Calocedrus decurrens</i>), tanoak (<i>Notholithocarpus densiflorus</i>), Coulter pine (<i>Pinus coulteri</i>), sugar pine, single leaf pinyon pine (<i>Pinus monophylla</i>), yellow pine, bigcone spruce (<i>Pseudotsuga macrocarpa</i>), Douglas fir, Oregon oak (<i>Quercus garryana</i> var. <i>garryana</i>), California black oak (<i>Quercus kelloggii</i>), interior live oak (<i>Quercus wislizeni</i>), and California bay. Trees are less than 100 feet tall; canopy is intermittent to continuous, may be one or two tiered. Shrub layer is sparse to intermittent. Herbaceous layer is sparse.	No	N/A	Absent. This vegetation community was not observed within or adjacent to the project site during the field survey.

Common Name <i>Scientific Name</i>	Special-Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
<p><u>CNDDB/Holland (1986)</u> Riversidian Alluvial Fan Sage Scrub</p> <p><u>MCV (1995)</u> Scalebroom Series</p> <p><u>NVCS (2009)</u> <i>Lepidospartum squamatum</i> intermittently flooded Shrubland Alliance</p>	<p>G3 S3</p>	<p>Found at elevations ranging from 164 to 4,922 feet amsl on intermittently or rarely flooded, low-gradient alluvial deposits along streams, washes, and fans. Scalebroom (<i>Lepidospartum squamatum</i>) is dominant, co-dominant, or conspicuous in the shrub canopy with burrobrush (<i>Ambrosia salsola</i>), California sagebrush, mulefat, bladderpod (<i>Cleome isomeris</i>), California cholla (<i>Cylindropuntia californica</i>), brittlebush (<i>Encelia farinosa</i>), thick leaved yerba santa (<i>Eriodictyon crassifolium</i>), hairy yerba santa (<i>Eriodictyon trichocalyx</i>), California buckwheat, chaparral yucca (<i>Hesperoyucca whipplei</i>), deerweed (<i>Acmispon glaber</i>), laurel sumac (<i>Malosma laurina</i>), prickly-pear cactus, lemonade berry (<i>Rhus integrifolia</i>), sugar bush (<i>Rhus ovata</i>), skunkbrush (<i>Rhus aromatica</i>), and poison oak (<i>Toxicodendron diversilobum</i>). Emergent trees or tall shrubs may be present at low cover, including mountain mahogany (<i>Cercocarpus betuloides</i>), southern California black walnut, California juniper (<i>Juniperus californica</i>), California sycamore, Fremont cottonwood, or black elderberry. Shrubs are less than 7 feet tall; canopy is open to continuous, and two tiered. Herbaceous is layer variable and may be grassy.</p>	<p>No</p>	<p>N/A</p>	<p>Absent. This vegetation community was not observed within or adjacent to the project site during the field survey.</p>
<p><u>CNDDB/Holland (1986)</u> Southern California Arroyo Chub/Santa Ana Sucker Stream</p> <p><u>MCV (1995)</u> Not Identified</p> <p><u>NVCS (2009)</u> Not Identified</p>	<p>N/A N/A</p>	<p>Characterized by a functioning hydrological system that experiences peaks and ebbs in water volume throughout the year; a mosaic of loose sand, gravel, cobble, and boulder substrates in a series of riffles, runs, pools and shallow sandy stream margins with water depths greater than 1.2 inches and water bottom velocities of more than 0.01 feet per second; non-turbid conditions or only seasonally turbid water; water temperatures less than 86° Fahrenheit; and stream habitat that includes algae, emergent aquatic vegetation, macroinvertebrates, and riparian vegetation.</p>	<p>No</p>	<p>N/A</p>	<p>Absent. This vegetation community was not observed within or adjacent to the project site during the field survey.</p>

Common Name <i>Scientific Name</i>	Special-Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
<p><u>CNDDB/Holland (1986)</u> Southern Coast Live Oak Riparian Forest</p> <p><u>MCV (1995)</u> Coast Live Oak Series</p> <p><u>NVCS (2009)</u> <i>Quercus agrifolia</i> Woodland Alliance</p>	<p>G5 S4</p>	<p>Found at elevations ranging from sea level to 3,937 feet amsl in alluvial terraces, canyon bottoms, stream banks, slopes, and flats. Soils are deep, sandy or loamy with high organic matter. Coast live oak is a dominant or co-dominant in the tree canopy with bigleaf maple (<i>Acer macrophyllum</i>), box elder (<i>Acer negundo</i>), madrono (<i>Arbutus menziesii</i>), southern California black walnut, California sycamore, Fremont cottonwood, blue oak (<i>Quercus douglasii</i>), Engelmann oak, California black oak (<i>Quercus kelloggii</i>), valley oak (<i>Quercus lobata</i>), arroyo willow (<i>Salix lasiolepis</i>), and California bay (<i>Umbellularia californica</i>). Trees are less than 98 feet tall; canopy is open to continuous. Shrub layer is sparse to intermittent. Herbaceous layer is sparse or grassy.</p>	<p>No</p>	<p>N/A</p>	<p>Absent. This vegetation community was not observed within or adjacent to the project site during the field survey.</p>
<p><u>CNDDB/Holland (1986)</u> Southern Cottonwood Willow Riparian Forest</p> <p><u>MCV (1995)</u> Fremont Cottonwood Series</p> <p><u>NVCS (2009)</u> <i>Populus fremontii</i> Forest Alliance</p>	<p>G4 S3.2</p>	<p>Found at elevations ranging from sea level to 7,874 feet amsl on floodplains, along low-gradient rivers, perennial or seasonally intermittent streams, springs, in lower canyons in desert mountains, in alluvial fans, and in valleys with a dependable subsurface water supply that varies considerably during the year. Fremont cottonwood is a dominant or co-dominant in the tree canopy with box elder, desert baccharis (<i>Baccharis sergiloides</i>), Oregon ash (<i>Fraxinus latifolia</i>), northern California black walnut (<i>Juglans hindsii</i>), California sycamore, coast live oak, narrowleaf willow (<i>Salix exigua</i>), Goodding's willow (<i>Salix goodingii</i>), polished willow (<i>Salix laevigata</i>), arroyo willow, pacific willow (<i>Salix lasiandra</i> ssp. <i>lasiandra</i>), and yellow willow (<i>Salix lutea</i>). Trees and less than 25 meters tall; canopy is continuous to open. Shrub layer is intermittent to open. Herbaceous layer is variable.</p>	<p>No</p>	<p>N/A</p>	<p>Absent. This vegetation community was not observed within or adjacent to the project site during the field survey.</p>

Common Name <i>Scientific Name</i>	Special-Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
<u>CNDDB/Holland (1986)</u> Southern Interior Cypress Forest <u>MCV (1995)</u> Tecate cypress stands <u>NVCS (2009)</u> <i>Hesperocyparis forbesii</i> Woodland Alliance	G2 S2.2	Occurs at elevations ranging from 984 to 4,757 feet amsl on dry, exposed hillsides and ridgetops, stream banks, and arroyos. Tecate cypress is dominant in the tree canopy or emergent above a shrub canopy with chamise, Eastwood manzanita (<i>Arctostaphylos glandulosa</i>), big berry manzanita (<i>Arctostaphylos glauca</i>), Otay manzanita (<i>Arctostaphylos otayensis</i>), hoary leaved ceanothus (<i>Ceanothus crassifolius</i>), buckbrush (<i>Ceanothus cuneatus</i>), desert ceanothus (<i>Ceanothus greggii</i>), Otay mountain ceanothus (<i>Ceanothus otayensis</i>), southern bearclover (<i>Chamaebatia australis</i>), bush poppy (<i>Dendromecon rigida</i>), Bisbee peak rushrose (<i>Helianthemum scoparium</i>), laurel sumac, Montana chaparral pea (<i>Pickeringia montana</i>), scrub oak, Munz's sage (<i>Salvia munzii</i>) and Mission manzanita (<i>Xylococcus bicolor</i>).	No	N/A	Absent. This vegetation community was not observed within or adjacent to the project site during the field survey.
<u>CNDDB/Holland (1986)</u> Southern Riparian Forest <u>MCV (1995)</u> N/A <u>NVCS (2009)</u> N/A	N/A N/A	Riparian zones dominated by larger, mature trees consisting of various species of willows, cottonwoods, and sycamores.	Yes	N/A	Present: This vegetation community is present within the survey area.
<u>CNDDB/Holland (1986)</u> Southern Riparian Scrub <u>MCV (1995)</u> N/A <u>NVCS (2009)</u> N/A	N/A N/A	Riparian zones dominated by small trees or shrubs, lacking taller riparian trees.	No	N/A	Absent. This vegetation community was not observed within or adjacent to the project site during the field survey.

Common Name <i>Scientific Name</i>	Special-Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
<p><u>CNDDB/Holland (1986)</u> Southern Sycamore Alder Riparian Woodland</p> <p><u>MCV (1995)</u> California Sycamore Series</p> <p><u>NVCS (2009)</u> <i>Platanus racemosa</i> Woodland Alliance</p>	<p>G3 S3</p>	<p>Found at elevations ranging from sea level to 7,874 feet amsl in gullies, intermittent streams, springs, seeps, stream banks, and terraces adjacent to floodplains that are subject to high-intensity flooding. Soils are rocky or cobbly alluvium with permanent moisture at depth. California sycamore is a dominant or co-dominant in the tree canopy with white alder, southern California black walnut, Fremont cottonwood, coast live oak, valley oak, narrowleaf willow, Gooding's willow, polished willow, arroyo willow, yellow willow, Peruvian pepper tree (<i>Schinus mole</i>), and California bay.</p>	<p>No</p>	<p>N/A</p>	<p>Absent. This vegetation community was not observed within or adjacent to the project site during the field survey.</p>
<p><u>CNDDB/Holland (1986)</u> Southern Willow Scrub</p> <p><u>MCV (1995)</u> N/A</p> <p><u>NVCS (2009)</u> N/A</p>	<p>N/A N/A</p>	<p>Dense, broadleaved, winter-deciduous riparian thickets dominated by several willow species, with scattered emergent Fremont's cottonwood and California sycamore. Most stands are too dense to allow much understory development. Loose, sandy or fine gravelly alluvium deposited near stream channels during flood flows. This early seral type required repeated flooding to prevent succession to Southern Cottonwood-Sycamore Riparian Forest.</p>	<p>No</p>	<p>N/A</p>	<p>Absent. This vegetation community was not observed within or adjacent to the project site during the field survey.</p>

Common Name <i>Scientific Name</i>	Special-Status Rank*	General Habitat Description	Species Observed On-Site	NCCP/HCP Covered Species	Potential to Occur
<p><u>CNDDB/Holland (1986)</u> Valley Needlegrass Grassland</p> <p><u>MCV (1995)</u> Foothill Needlegrass Series, Nodding Needlegrass Series, Purple Needlegrass Series</p> <p><u>NVCS (2009)</u> <i>Nassella cernua</i> Herbaceous Alliance, <i>Nassella lepida</i> Herbaceous Alliance, <i>Nassella pulchra</i> Herbaceous Alliance</p>	G4 S4	Occurs at elevations ranging from 0 to 5,577 feet amsl on all topographic locations. Soils may be deep with high clay content, loamy, sandy, or silty derived from mudstone, sandstone, or serpentine substrates. California melicgrass (<i>Melica californica</i>), Torrey melic (<i>Melica torreyana</i>), nodding needle grass (<i>Stipa cernua</i>), foothill needle grass (<i>Stipa lepida</i>) and/or purple needle grass (<i>Stipa pulchra</i>) is dominant or characteristically present in the herbaceous layer with other perennial grasses and herbs including spidergrass (<i>Aristida ternipes</i>), milkvetch (<i>Astragalus</i> spp.), wild oat (<i>Avena</i> spp.), bromes (<i>Bromus</i> spp.), fire reedgrass (<i>Calamagrostis koelerioides</i>), mariposa (<i>Calochortus</i> spp.), morning glory (<i>Calystegia</i> spp.), amole (<i>Chlorogalum pomeridianum</i>), clarkia (<i>Clarkia</i> spp.), common sandaster (<i>Corethrogyne filaginifolia</i>), turkey-mullein (<i>Croton setiger</i>), cryptantha (<i>Cryptantha</i> spp.), American wild carrot, (<i>Daucus pusillus</i>), blue dicks (<i>Dichelostemma capitatum</i>), blue wildrye (<i>Elymus glaucus</i>), buckwheat (<i>Eriogonum</i> spp.), erodium (<i>Erodium</i> spp.), California poppy (<i>Eschscholzia californica</i>), California fescue (<i>Festuca californica</i>), shortpod mustard (<i>Hirschfeldia incana</i>), narrow tarplant (<i>Holocarpha virgata</i>), meadow barley (<i>Hordeum brachyantherum</i>), June grass (<i>Koeleria macrantha</i>), goldfields (<i>Lasthenia</i> spp.), plantain (<i>Plantago</i> spp.), one sided blue grass (<i>Poa secunda</i>), sanicle (<i>Sanicula</i> spp.), western blue eyed grass (<i>Sisyrinchium bellum</i>), clover (<i>Trifolium</i> spp.) and/or fescue (<i>Vulpia</i> spp.). Emergent trees and shrubs may be present at low cover. Herbs are less than 3 feet; cover is open to continuous.	No	N/A	Absent. This vegetation community was not observed within or adjacent to the project site during the field survey.

* U.S. Fish and Wildlife Service (USFWS)

- FE Endangered – any species which is in danger of extinction throughout all or a significant portion of its range.
- FT Threatened – any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

California Department of Fish and Wildlife (CDFW)

- SE Endangered – any native species or subspecies of 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.
- ST Threatened – any native species or subspecies of 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 under the California Endangered Species Act.

California Native Plant Society (CNPS) California Rare Plant Rank

- 1B Plants rare, threatened, or endangered in California and elsewhere.
- 2B Plants rare, threatened, or endangered in California but more common elsewhere.
- 4 Plants of limited distribution – Watch List.

Threat Ranks

- .1 Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat).
- .2 Moderately threatened in California (20 to 80 percent of occurrences threatened/moderate degree and immediacy of threat).
- .3 Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known).

NatureServe Conservation Status Rank

The Global Rank (G#) reflects the overall condition and imperilment of a species throughout its global range. The Intraspecific Taxon Rank (T#) reflects the global situation of just the subspecies or variety. The State Rank (S#) reflects the condition and imperilment of an element throughout its range within California. (G#Q) reflects that the element is very rare but there are taxonomic questions associated with it; the calculated G rank is qualified by adding a Q after the G#). Adding a ? to a rank expresses uncertainty about the rank.

- G1/T1 Critically Imperiled – At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
- G2/T2 Imperiled— At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.
- G3/T3 Vulnerable— At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.
- G4/T4 Apparently Secure— Uncommon but not rare; some cause for long-term concern due to declines or other factors.
- G5 Secure – Common; widespread and abundant.
- S1 Critically Imperiled – Critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the State.
- S2 Imperiled – Imperiled in the State because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or State.
- S3 Vulnerable – Vulnerable in the State due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.
- S4 Apparently Secure – Uncommon but not rare; some cause for long-term concern due to declines or other factors.

October 26, 2022

189853

Orange County Public Works

Contact: Dhanusha Arullendran, PE
601 North Ross Street
Santa Ana, CA 92703

SUBJECT: Results of Coastal California Gnatcatcher Protocol Surveys for the Modjeska Grade Road Improvement Project in Orange County, California

Dear Ms. Arullendran:

Michael Baker International (Michael Baker) is pleased to submit this report to Orange County Public Works (OCPW) documenting the results of Coastal California Gnatcatcher (*Polioptila californica californica*; CAGN) protocol surveys conducted for the Modjeska Grade Road Improvement Project (project or project site) located in unincorporated Orange County, California. Surveys occurred during the 2022 breeding season (refer to Table 1), when Michael Baker was contracted by OCPW to perform CAGN surveys in suitable habitat on the project site and within 250 feet (survey area).

Project Location

The project is located along Modjeska Grade Road in unincorporated Orange County, California. It is located north and east of State Route 241 (SR-241), south of SR-91, and west of SR-74. More specifically, the project site is located along Modjeska Grade Road from 100 feet south of the Markuson Road/Modjeska Canyon Road intersection to the East Santiago Canyon Road (also referred to as County Road S18)/Modjeska Grade Road intersection. It is depicted mostly in an un-sectioned area of Township 5 South, Range 7 West (T5S, R7W) of the United States Geological Survey's (USGS) *El Toro, California 7.5-minute quadrangle*, with the northern terminus falling into Section 29 of T5S, R7W. The survey area is located entirely within the un-sectioned portion of the road from just north of the Santiago Truck Trail to Santiago Canyon Road (refer to Figure 1, *Regional and Project Vicinity*, in Attachment A).

Project Description

The County of Orange proposes to construct roadway, drainage, and erosion control improvements on and along Modjeska Grade Road.

Roadway improvements would generally include pavement rehabilitation, widening of travel lanes from 8 feet wide to 10 feet wide travel lanes (from 150 feet south of the Markuson Road and Modjeska Canyon Road intersection to the East Santiago Canyon Road and Modjeska Grade Road intersection), new and/or widened shoulders (northbound shoulder from Santiago Truck Trail to East Santiago Canyon Road),

retaining walls, and guardrails.

To channelize storm flows and reduce the potential for erosion, the proposed project would construct concrete-lined or riprap swales, v-ditches, and curb and gutter along the roadway edges. Additional improvements would include replacing or upsizing the existing drainpipes and installing catch basins and inlets within project limits to adequately capture and convey on-site stormwater flows. Energy dissipation measures would be installed to the outlet system to prevent erosion, turbulence, and turbidity since the project discharges to the Santiago Creek and Aliso Creek, which are not engineered or hardened and are susceptible to hydromodification. Erosion control measures such as hydroseed, open weave textile, and wire blankets would be installed to reduce side slope erosion on-site.

Regulatory Framework

Federal Endangered Species Act of 1973

As defined within the Federal Endangered Species Act of 1973 (FESA), an endangered species is any animal or plant listed by regulation as being in danger of extinction throughout all or a significant portion of its geographical range. A threatened species is any animal or plant that is likely to become endangered within the foreseeable future throughout all or a significant portion of its geographical range. Without a special permit, federal law prohibits the “take” of any individuals or habitat of federally-listed species. Under Section 9 of the FESA, take is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct.” The term “harm” has been clarified to include “any act which actually kills or injures fish or wildlife, and emphasizes that such acts may include significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife.” Enforcement of FESA is administered by the U.S. Fish and Wildlife Service (USFWS).

Under the definition used by the FESA, “Critical Habitat” refers to specific areas within the geographical range of a species that were occupied at the time it was listed that contain the physical or biological features that are essential to the survival and eventual recovery of that species and that may require special management considerations or protection, regardless of whether the species is still extant in the area. Areas that were not known to be occupied at the time a species was listed can also be designated as Critical Habitat if they contain one or more of the physical or biological features that are essential to that species’ conservation and if the occupied areas are inadequate to ensure the species’ recovery. If a project may result in take or adverse modification to a species’ designated Critical Habitat and the project has a federal nexus, the project proponent may be required to provide suitable mitigation. Projects with a federal nexus may include projects that occur on federal lands, require federal permits (e.g., Clean Water Act Section 404 permit), or receive any federal oversight or funding. If there is a federal nexus, then the federal agency that is responsible for providing funds or permits would be required to consult with the USFWS under the FESA.

Species Background

Coastal California Gnatcatcher

CAGN is a federally threatened species with restricted habitat requirements, being a near-obligate resident of sage scrub habitats, particularly—but not exclusively—those that are dominated by California sagebrush

(*Artemisia californica*). This species generally occurs below 750 feet elevation in coastal regions and below 1,500 feet inland. It ranges from Ventura County south to San Diego County and northern Baja California and is less common in sage scrub with a high percentage of tall shrubs. CAGN is considered a short-distance disperser through contiguous, undisturbed habitat (USFWS 2010). However, juveniles are capable of dispersing long distances (up to 14 miles) across fragmented and highly disturbed sage scrub habitat (USFWS 2010). CAGN prefers habitat with more low-growing vegetation (< 3 feet high). CAGN breeds between mid-February and the end of August, with peak activity from mid-March to mid-May. Population declines are attributed to loss of sage scrub habitat due to development, as well as brown-headed cowbird (*Molothrus ater*) nest parasitism. Federally designated Critical Habitat for CAGN is not located within the project site. The primary constituent elements essential to support the biological needs of foraging, reproducing, rearing of young, intra-specific communication, dispersal, genetic exchange, or sheltering for CAGN are:

- 1) Dynamic and successional sage scrub habitats and associated vegetation (Riversidean alluvial fan sage scrub, coastal sage-chaparral scrub, etc.) that provide space for individual and population growth, normal behavior, breeding, reproduction, nesting, dispersal and foraging; and
- 2) Non-sage scrub habitats such as chaparral, grassland, and riparian areas in proximity to sage scrub habitats that provide linkages to help with dispersal, foraging, and nesting (USFWS 2007).

A study of seasonal and daily CAGN use by Campbell et al. (1998) found that despite the widespread view in literature that CAGN are restricted to coastal sage scrub (CSS), CAGN have been observed on many occasions to actively use non-CSS habitats, particularly chamise chaparral and riparian habitats. This seems to be particularly pronounced in summer and fall when CSS is more likely to be dried out and to provide less habitat value than surrounding areas. This can be particularly exacerbated in drought conditions, when greener and lusher vegetation may provide better foraging and sheltering opportunities. The survey area provides a relatively dense combination of CSS and non-CSS (chaparral) species throughout the areas that were surveyed.

Based on information in the CNDDDB (California Department of Fish and Wildlife [CDFW] 2022), eBird (eBird 2022), and personal experience, CAGN is an uncommon to relatively common and local resident in CSS habitat in the southern half of Orange County. Populations are widespread throughout this area, from the Santa Ana Mountain foothills to the San Joaquin Hills and Laguna Coast Wilderness and suitable lowland habitat between. In higher elevation foothills, however, such as Santiago, Silverado, Modjeska, and Trabuco Canyons, this species is more rare and usually harder to find in such locations compared to areas in the adjacent lowlands, such as around the cities of Rancho Santa Margarita, Mission Viejo, and Lake Forest that abut higher-elevation interior canyons (personal experience). Despite having an abundance of suitable CAGN habitat, the general area surrounding the survey area does not have a strong history of supporting CAGN. There is only one known eBird record in the vicinity of the survey area, a 1990 record of a CAGN pair at the intersection of the Santiago Truck Trail and Modjeska Grade Road (eBird 2022). Per the observer, this was the only time CAGN was observed in this area, including during focused surveys conducted in 1993 for the Orange County Central/Coastal Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) (Daniels personal communication 2022). There are four more eBird

records in nearby Modjeska Canyon in the vicinity of Tucker Wildlife Sanctuary and the Harding Truck Trail, a marked reduction from observations further south at lower elevations (eBird 2022). The CNDDDB indicates an irregular pattern of CAGN occurrence along Modjeska Grade Road, with one bird observed in 1991, a pair and two individuals in 1998 (the CNDDDB does not specify if these were on the same date), one juvenile in 2004, and at least two (a pair in April and a single bird in May) in 2006 (CDFW 2022).

Environmental Setting

The survey area is located in generally undeveloped open space along the foothills of the Santa Ana Mountains in Orange County, California. The project site is centered along Modjeska Grade Road, a paved road connecting Santiago Canyon Road to the south with Modjeska Canyon Road to the north. In the southern half of the project site (south of the intersection of Santiago Truck Trail and Modjeska Grade Road), parcels along the roadway are generally covered by CSS habitats and survey efforts were focused in this area. Private residences are present along the road in the northern half of the project site and this area was not surveyed.

Topography and Soils

The topography of the survey area is generally moderate to steep slopes on either side of Modjeska Grade Road. The survey area is located at an elevation range of approximately 1,380 to 1,700 feet above mean sea level. According to the *Custom Soil Resource Report for Orange County and Part of Riverside County, California* (USDA 2022), the survey area is underlain by the following soil units: Alo variant clay, 15 to 30 percent slopes (104); Anaheim clay loam, 15 to 30 percent slopes (108); Anaheim clay loam, 30 to 50 percent slopes (109); Botella clay loam, 9 to 15 percent slopes (133); Calleguas clay loam, 50 to 75 percent slopes, eroded (134); Capistrano sandy loam, 9 to 15 percent slopes (136); Cieneba sandy loam, 30 to 75 percent slopes, eroded (142); Myford sandy loam, 15 to 30 percent slopes (176); Soper loam, 30 to 50 percent slopes (200); Soper cobbly loam, 15 to 50 percent slopes (203); and Water (W).

Vegetation Communities

Several terrestrial vegetation communities were identified on-site during field surveys conducted by Michael Baker biologists leading up to the CAGN protocol survey effort. Vegetation classification was based on *A Manual of California Vegetation (Second Edition)* (Sawyer et al. 2009) and cross-checked with the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986). Vegetation present within the survey area that is suitable for CAGN is depicted on Figure 3, *Survey Area*, in Attachment A, and described in further detail below. This vegetation encompasses approximately 31.91 acres. Figure 3 and the description below only include those communities that provide suitable habitat for CAGN and do not include all vegetation communities or land uses in the project or within 250 feet of the project limits.

Chamise - Sage Chaparral (*Adenostoma fasciculatum* – *Salvia* spp. Shrubland Alliance [*Adenostoma fasciculatum* – *Salvia mellifera* – *Malosma laurina* Association])

Approximately 31.91 acres of chamise - sage chaparral are located within the survey area. This on-site community is dominated by chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), laurel sumac (*Malosma laurina*), and California sagebrush (*Artemisia californica*). Associated species growing

on-site include lemonade berry (*Rhus ovata*), toyon (*Heteromeles arbutifolia*), California buckwheat (*Eriogonum fasciculatum*), white sage (*Salvia apiana*), and chaparral yucca (*Yucca whipplei*). Scrub oak (*Quercus berberidifolia*) is interspersed with other vegetation on the slopes, and there is a corridor of coast live oak (*Quercus agrifolia*) at the canyon bottom. The understory consists primarily of shortpod mustard (*Hirschfeldia incana*), ripgut brome (*Bromus diandrus*), and star-thistle (*Centaurea* sp.). The southern portion of the survey area has semi-dense to dense stands of poison oak (*Toxicodendron diversilobum*).

Methods

Literature Review

Prior to conducting the protocol surveys, Michael Baker performed a detailed literature review and record search of the project site, vicinity, and region for CAGN records. The literature search included a review of records reported in the CNDDDB (CDFW 2022) and the Cornell Lab of Ornithology’s eBird database (eBird 2022). The author and surveyor are also a local resident and is familiar with the general status of CAGN in this area.

Protocol Surveys

Protocol surveys for CAGN were conducted in areas of suitable habitat within 250 feet of the southern half of the project site in 2022. Surveys were not conducted in the northern half of the project site, where private residences are present, the habitat generally consists mostly of large chaparral and woodland species that are not strongly correlated with this species (particularly toyon, scrub oak, and coast live oak), and where steep slopes prevent access and visibility. Surveys were also not conducted at the extreme southern end of the project site adjacent to Santiago Canyon Road due to the high levels of ambient disturbance and degraded habitat suitability along the road. All surveys were conducted by Michael Baker biologist Ryan Winkleman (USFWS recovery permit TE-88331A-2) (refer to Table 1, *Survey Dates, Surveyor, Time, and Weather Conditions*). The surveys followed the CAGN guidelines described in the USFWS protocol *Coastal California Gnatcatcher (Polioptila californica californica) Presence/Absence Survey Guidelines, February 28, 1997* (USFWS 1997). The survey area is located on unincorporated land mostly managed by the County of Orange. Because the County of Orange is a participating local government and landowner in the NCCP/HCP and the survey area is located within the County’s jurisdiction, a total of three (3) surveys were conducted between August 2 and August 31, 2022 in accordance with the NCCP/HCP protocol.

Table 1: Survey Dates, Surveyor, Time, and Weather Conditions

Date	Surveyor	Time (start/finish)	Weather Conditions		
			Temperature Range (°F)	Wind Speed Range (miles per hour)	Cloud Cover Range (%) and Visibility
8/2/22	Ryan Winkleman	0930 / 1200	83 / 89	0 – 2	0 – 0 and clear
8/15/22	Ryan Winkleman	0730 / 1020	78 / 88	0 – 3	5 – 5 and clear
8/31/22	Ryan Winkleman	0700 / 0945	80 / 98	1 – 6	0 – 0 and clear

During each survey, the biologist walked areas of suitable habitat for CAGN within the survey area, stopped at strategically-placed call stations, and use taped playback of CAGN recordings to attempt to lure the target species into view. All recordings were obtained from xeno-canto.org (2022) and were played with a Pixel 6 Pro smartphone amplified with a MIFA F10 portable Bluetooth speaker. In each instance the biologist would position himself in an area of suitable habitat and wait up to one (1) minute to see if any CAGN could be incidentally detected. If no birds were detected, the biologist would play a recording or short portion of a recording, followed by approximately one (1) minute of silence before playing another recording. Recordings were cycled rather than immediately repeated to more realistically mimic variable bird vocalizations. If birds responded aurally or flew into view, all playback was stopped while the biologist observed the bird(s) from a distance and took notes on age, sex, and behavior. The biologist did not enter any areas of unknown property ownership, any areas of obvious private property, or any areas that were fenced, including the western side of Modjeska Grade Road. Areas of poison oak were avoided; because the southeastern portion of the survey area is largely obstructed by poison oak in the lower slopes and canyon bottom, the southernmost portion of the survey area was surveyed from Modjeska Grade Road by playing tapes while moving downslope and scanning habitats adjacent to the road. Photographs of surrounding habitat were taken at each of the call stations (refer to Figure 3, *Survey Area*, in Attachment A, as well as to Attachment B).

Results and Discussion

No CAGN were detected within the survey area during any of Michael Baker’s 2022 protocol breeding season surveys. The general survey area has a seemingly infrequent history of supporting CAGN based on data from the CNDDDB (CDFW 2022) and eBird (eBird 2022), with the last known occurrence of CAGN from 2006, sixteen (16) years prior to the surveys described in this report.

In total, thirty-two (32) wildlife species were observed within the survey area during Michael Baker’s 2022 protocol breeding season CAGN surveys including one (1) reptile, thirty (30) birds, and one (1) mammal. Special-status species detected during the surveys included a red-diamond rattlesnake (*Crotalus ruber*; State Species of Special Concern) found dead on the side of the road, multiple southern California rufous-crowned sparrows (*Aimophila ruficeps canescens*; State Watch List species) found in the chamise-sage chaparral, and a peregrine falcon (*Falco peregrinus*; State and federally delisted, State Fully Protected species) seen during two of the three surveys perched in a transmission tower. The approximate locations of these sightings are mapped on Figure 4, *Survey Results*, in Attachment A. A complete list of wildlife species observed during the protocol survey effort is included in Attachment C.

Conclusions and Recommendations

Based on the results of the protocol surveys, it was determined that CAGN was likely not present within the survey area at the time of the surveys. As a result, the project is unlikely to directly affect this species within the survey area at this time. However, because this site has an infrequent history of supporting low numbers of this species and because this species is more commonly found on the opposite side of Santiago Canyon Road (e.g., Whiting Ranch Wilderness Park to the southwest) where elevations are lower, it is possible that this species could occur in the vicinity of the project. Although the northern half and extreme

southern end of the project site were not surveyed as part of this effort, CAGN is not expected to occur in these areas based on habitat suitability and existing disturbance from residential development to the north and high levels of ambient disturbance and degraded habitat suitability to the south.


The project site is located within the boundaries of the NCCP/HCP, for which the County of Orange is a participating local government, participating landowner, and the driving force behind the development of the NCCP/HCP. As a result, take coverage for CAGN is already extended to the County of Orange, although focused surveys are still required during the environmental analysis for compliance with the California Environmental Quality Act. However, to reduce or avoid the potential for take of CAGN should they occupy the survey area again, it is recommended that all project-related construction occur outside of the CAGN breeding season (mid-February to late August). Timing construction outside of this window of time would avoid impacts to CAGN nests, if any pairs are present. If it is not possible to construct the project outside of this time period, it is recommended that a nesting bird survey be conducted within seven (7) days prior to the start of construction within a 500-foot buffer of the project limits. The survey should be conducted by a qualified biologist with demonstrable experience identifying CAGN nesting behavior and finding their nests, and who has been approved by the USFWS to conduct a CAGN nesting survey. If an active CAGN nest is found during the survey, no project-related construction should be allowed within 500 feet of an active CAGN nest, or within an alternative safe distance as determined by the qualified biologist based on topography, visual shielding, nest progress, and the type of construction and associated disturbance, until the active nest has been determined by the qualified biologist to have failed or to have successfully gone to completion (i.e. the nestlings have fledged and are no longer reliant on the nest). Results of any nesting bird survey(s) should be compiled in a memorandum and submitted to the County of Orange, the CDFW, and the USFWS for the project record.

Please do not hesitate to contact me at (949) 533-0918 or ryan.winkleman@mbakerintl.com should you have any questions or require further information regarding the information presented in this report.

Certification Statement

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

Sincerely,



Ryan Winkleman
Senior Biologist
USFWS 10(a)(1)(A) Recovery Permit TE-88331A-1
Natural Resources and Regulatory Permitting

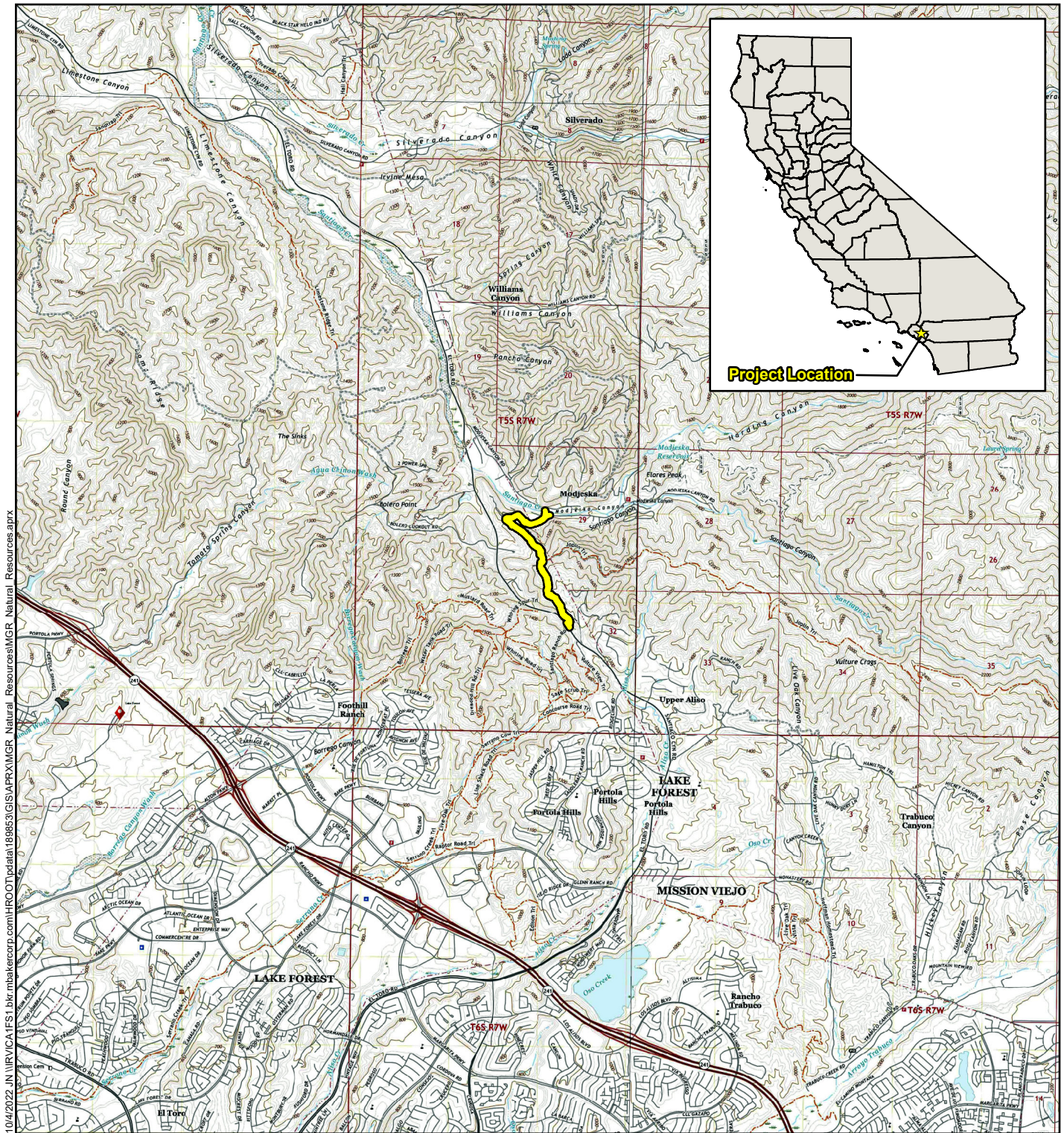
_____10/26/22_____
Date

Attachments:

- A. Figures*
- B. Site Photographs*
- C. Wildlife Species Observed List*
- D. References*

Attachment A

Figures

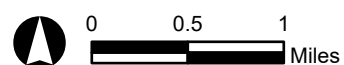


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Legend

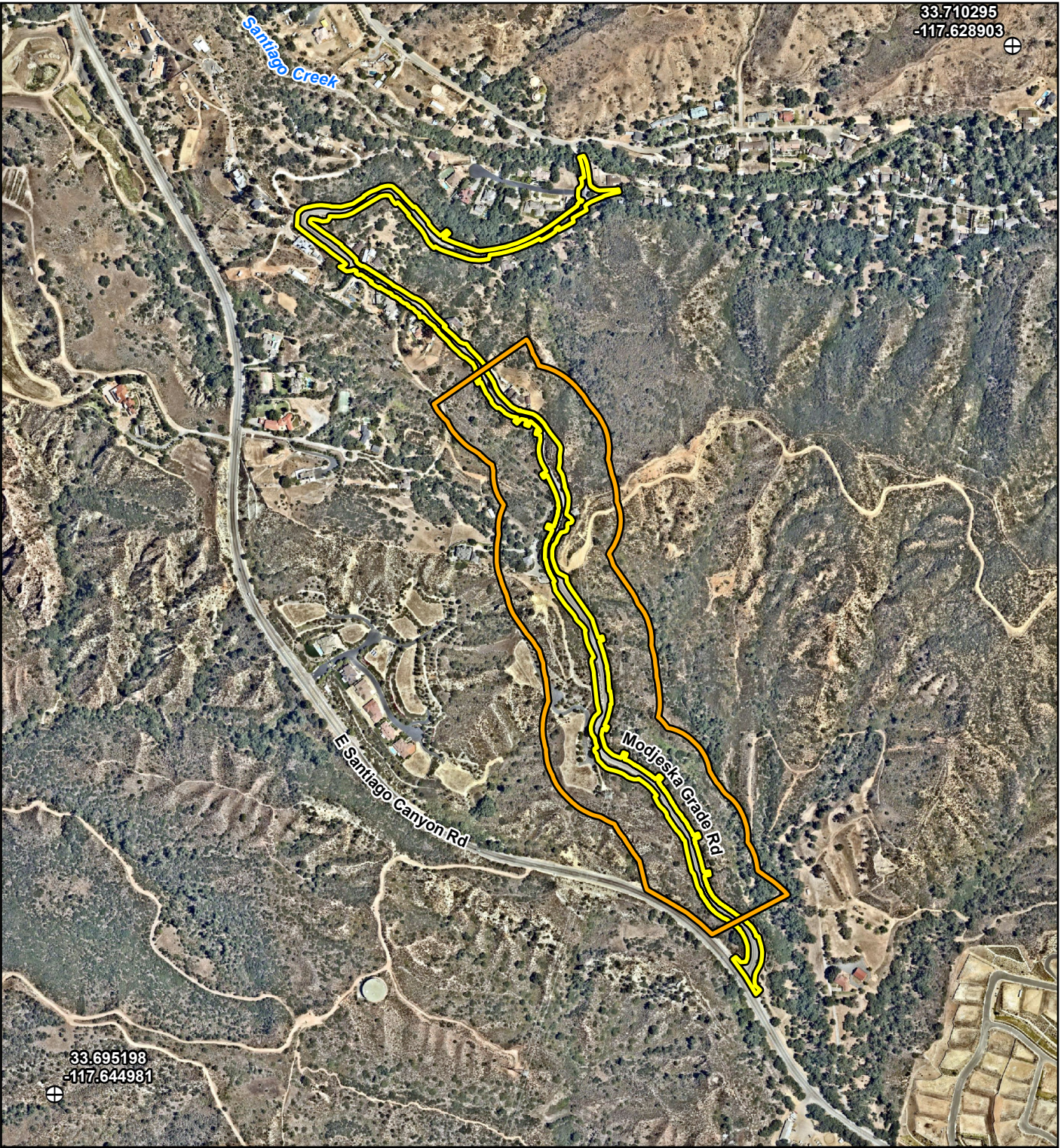
 Project Site

MODJESKA GRADE ROAD IMPROVEMENT PROJECT
 COASTAL CALIFORNIA GNATCATCHER PROTOCOL SURVEY RESULTS
Regional and Project Vicinity



Source: USGS 7.5-Minute topographic quadrangle maps: Black Star Canyon, Corona South, Lake Forest, and Santiago Peak, California (2022)

Figure 1

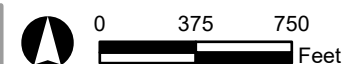


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Legend

-  Project Site
-  Survey Area (250-foot Buffer)
-  Reference Point

Michael Baker
INTERNATIONAL



Source: Nearmap (05/2022)

MODJESKA GRADE ROAD IMPROVEMENT PROJECT
COASTAL CALIFORNIA GNATCATCHER PROTOCOL SURVEY RESULTS
Project Site

Figure 2

33.7059
-117.631284



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33.697754
-117.639978

Legend		Suitable CAGN Habitat	
	Project Site		Chamise-Sage Chaparral (31.91 acres)
	Survey Area (250-foot Buffer)		
	Photograph Point and Direction		
	Reference Point		

Michael Baker
INTERNATIONAL



Source: Nearmap (05/2022)

MODJESKA GRADE ROAD IMPROVEMENT PROJECT
 COASTAL CALIFORNIA GNATCATCHER PROTOCOL SURVEY RESULTS
Survey Area and Suitable CAGN Habitat

Figure 3

33.7059
-117.631284



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33.697754
-117.639978

Legend		Results	
	Project Site		Peregrine Falcon Detection
	Survey Area (250-foot Buffer)		Red-diamond Rattlesnake (Carcass)
	CAGN Call Station		Southern California Rufous-crowned Sparrow Detection
	Reference Point		

Michael Baker
INTERNATIONAL



Source: Nearmap (05/2022)

MODJESKA GRADE ROAD IMPROVEMENT PROJECT
COASTAL CALIFORNIA GNATCATCHER PROTOCOL SURVEY RESULTS
Survey Results

Figure 4

Attachment B

Site Photographs



Photograph 1: Facing south from call station #1 at chamise - sage chaparral at the northern end of the survey area.



Photograph 2: Facing north from call station #2 at chamise, a primary component of chamise - sage chaparral, just north of the Santiago Truck Trail.



Photograph 3: Facing east from call station #3 at chamise - sage chaparral along the Santiago Truck Trail.



Photograph 4: Facing southeast from call station #4 at chamise - sage chaparral along the Santiago Truck Trail.



Photograph 5: Facing northeast from call station #5 at chamise - sage chaparral, southeast of the intersection of Modjeska Grade Road and Santiago Truck Trail.



Photograph 6: Facing southeast from call station #5 at chamise - sage chaparral.



Photograph 7: Facing east/northeast from call station #6 at chamise - sage chaparral.



Photograph 8: Facing southwest from call station #6 at California sagebrush, a component of chamise - sage chaparral and a plant that is strongly identified with coastal California gnatcatcher.



Photograph 9: Facing south/southeast from call station #7 at California sagebrush with chamise - sage chaparral and coast live oak woodland in the background.



Photograph 10: Facing west from call station #7 at California sagebrush.



Photograph 11: Facing east from call station #8 at chamise - sage chaparral.



Photograph 12: Facing southwest from call station #8 at a relatively open flat vegetated primarily by California sagebrush and non-native grasses, with chamise - sage chaparral in the background.



Photograph 13: Facing southwest from call station #9 at chamise - sage chaparral with a dense canopy of poison oak at the bottom.



Photograph 14: Facing south from call station #10 at chamise - sage chaparral along Modjeska Grade Road.



Photograph 15: Facing northeast from call station #11 at chamise - sage chaparral along Modjeska Canyon Road.



Photograph 16: Facing northwest from call station #11 at chamise - sage chaparral along Modjeska Canyon Road.



Photograph 17: Facing east from call station #12 at chamise - sage chaparral with coast live oak woodland in the background at the canyon bottom.



Photograph 18: Facing northwest from call station #12 at chamise - sage chaparral along Modjeska Canyon Road.



Photograph 19: Facing west from call station #13 at chamise - sage chaparral along Modjeska Canyon Road.

Attachment C

Wildlife Species Observed List

Table C-1: Wildlife Species Observed List

<i>Scientific Name*</i>	Common Name	Special-Status Rank**
Reptiles		
<i>Crotalus ruber</i>	red-diamond rattlesnake	SSC
Birds		
<i>Aimophila ruficeps canescens</i>	southern California rufous-crowned sparrow	WL
<i>Aphelocoma californica</i>	California scrub jay	
<i>Ardea herodias</i>	great blue heron	
<i>Baeolophus inornatus</i>	oak titmouse	
<i>Callipepla californica</i>	California quail	
<i>Calypte anna</i>	Anna's hummingbird	
<i>Cathartes aura</i>	turkey vulture	
<i>Chamaea fasciata</i>	wrentit	
<i>Corvus brachyrhynchos</i>	American crow	
<i>Corvus corax</i>	common raven	
<i>Dryobates nuttallii</i>	Nuttall's woodpecker	
<i>Empidonax difficilis</i>	pacific-slope flycatcher	
<i>Falco peregrinus</i>	peregrine falcon	FP
<i>Geococcyx californianus</i>	greater roadrunner	
<i>Haemorhous mexicanus</i>	house finch	
<i>Icterus cucullatus</i>	hooded oriole	
<i>Melanerpes formicivorus</i>	acorn woodpecker	
<i>Melospiza crissalis</i>	California towhee	
<i>Mimus polyglottos</i>	northern mockingbird	
<i>Phainopepla nitens</i>	phainopepla	
<i>Pipilo maculatus</i>	spotted towhee	
<i>Poliophtila caerulea</i>	blue-gray gnatcatcher	
<i>Psaltirparus minimus</i>	bushtit	
<i>Spinus psaltria</i>	lesser goldfinch	
<i>Stelgidopteryx serripennis</i>	northern rough-winged swallow	
<i>Thryomanes bewickii</i>	Bewick's wren	
<i>Toxostoma redivivum</i>	California thrasher	
<i>Troglodytes aedon</i>	house wren	
<i>Tyrannus vociferans</i>	Cassin's kingbird	
<i>Zenaida macroura</i>	mourning dove	
Mammals		
<i>Otospermophilus beecheyi</i>	California ground squirrel	

* Non-native species

** **Special-Status Rank**

California Department of Fish and Wildlife

FP Fully Protected – fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research, relocation of

the bird species for the protection of livestock, or if they are a covered species whose conservation and management is provided for in a Natural Community Conservation Plan (NCCP).

SSC Species of Special Concern – any species, subspecies, or distinct population of fish, amphibian, reptile, bird, or mammal native to California that currently satisfies one or more of the following criteria:

- is extirpated from California or, in the case of birds, in its primary seasonal or breeding role;
- is listed as Federally-, but not State-, threatened or endangered; meets the State definition of threatened or endangered but has not formally been listed.
- is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status; or
- has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for State threatened or endangered status.

WL Watch List - taxa that were previously designated as “Species of Special Concern” but no longer merit that status, or which do not yet meet SSC criteria, but for which there is concern and a need for additional information to clarify status.

Attachment D

References

- California Department of Fish and Wildlife (CDFW). 2022. RareFind 5, California Natural Diversity Data Base, California. Data base report on threatened, endangered, rare or otherwise sensitive species and communities for Orange County.
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December 19, 2023

JN 189853

ORANGE COUNTY PUBLIC WORKSAttn: *Dhanusha Arullendran*

601 N. Ross Street

Santa Ana, California 92703

SUBJECT: Delineation of State and Federal Jurisdictional Waters for the Modjeska Grade Road Improvements Project located in unincorporated Orange County, California

Dear Ms. Arullendran:

On behalf of Orange County (OC) Public Works, Michael Baker International (Michael Baker) has prepared this technical letter report to document the jurisdictional authority of the U.S. Army Corps of Engineers Los Angeles District (USACE), Santa Ana Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife South Coast Region (CDFW) within the proposed Modjeska Grade Road Improvements Project (project or project site). Specifically, this report has been prepared to describe, map, and quantify aquatic features located within the project site. The initial fieldwork for this jurisdictional delineation was conducted on June 23, 2022. An additional site visit was conducted on October 31, 2023, to assess an updated project footprint.

This report explains the methodology utilized throughout the course of the delineation, defines the jurisdictional authority of the regulatory agencies, and documents the findings made by Michael Baker. This report presents Michael Baker's determination of jurisdictional boundaries using the most up-to-date regulations, written policy, and guidance provided by the regulatory agencies. However, it should be noted that the regulatory agencies must confirm this determination.

Project Location

The project site is generally located within the southwestern portion of unincorporated Orange County, California. The project site is depicted in Sections 29 and 32 of Township 5 south and Range 7 west on the United States Geological Survey's (USGS) *El Toro, California* 7.5-minute quadrangle. The project site is located approximately 2.2 miles north of State Route 241 (SR 241) in Modjeska Canyon, which is situated within the greater Santa Ana Mountains. Specifically, the project site is located along a 1.3-mile segment of Modjeska Grade Road from 100 feet south of the Markuson Road/Modjeska Canyon Road intersection to the East Santiago Canyon Road (also referred to as County Road S18)/Modjeska Grade Road intersection.

Purpose and Need

Due to the existing mountainous terrain and existing soil conditions on-site, the project site and surrounding properties experience soil erosion, roadway washouts, and localized stormwater flooding during large storm events. Soil and debris, some from adjacent slopes and a majority collected by concentrated flows along unpaved shoulders on Modjeska Grade Road, cause inlets and ditches to become clogged with sediment, which reduces drainage capacity and prevents proper drainage. Erosion caused by concentrated flows along unpaved shoulders at the tops of downslopes also lead to roadway washouts. These issues can lead to roadway closures and detours. Storm fighting and post-storm clean-up maintenance activities are excessive and critical to prepare this area for the next storm that passes through.

OC Public Works proposes the Modjeska Grade Road Improvements Project to provide roadway, drainage, and erosion control improvements on-site. These improvements would result in safety enhancements for residents and travelers along Modjeska Grade Road, in addition to surrounding uses along the corridor. Further, the proposed project would improve long-term operational maintenance activities and reduce temporary and emergency maintenance needs within the project area.

Project Description

OC Public Works proposes to construct roadway, drainage, and erosion control improvements on and along Modjeska Grade Road within the project limits.

Roadway improvements would generally include pavement rehabilitation, paved shoulder (northbound shoulder from Santiago Truck Trail to East Santiago Canyon Road), construction of retaining walls, and installing guardrails. The existing pavement would be rehabilitated by removing and replacing the existing structural section for the entire length of the Project. Similar to existing conditions, the travel lanes would typically be 10 feet wide, except for a segment from the Shadowland Circle and Modjeska Grade Road intersection to approximately 630 feet south, where the travel lanes will be 8 feet wide. Paved shoulders will typically be one-foot wide, minimum. Roadway re-pavement would include a five- to seven-foot-wide paved northbound shoulder from the Santiago Truck Trail to East Santiago Canyon Road. The Project would construct up to four retaining walls ranging in height from three to six feet tall, and install and upgrade guardrails at approximately seven locations within the Project limits. For the purposes of improving the existing drainage system, the proposed Project would reconstruct up to four residential driveways.

Drainage improvements along Modjeska Grade Road would reduce the existing flooding, channelize storm flows, and reduce the potential for erosion. The proposed Project would construct concrete-lined swales, v-ditches, and asphalt concrete dikes along the roadway edges. Additional improvements would include replacing or upsizing the existing drainpipes and installing catch basins and inlets within Project limits to adequately capture and convey on-site stormwater flows. Energy dissipation measures would be installed to the system outlets to minimize erosion, turbulence, and turbidity since the Project discharges indirectly to the Santiago Creek and Aliso Creek, which are not engineered or hardened and are susceptible to hydromodification. An existing unlined manmade drainage structure adjacent to Modjeska Canyon Road between Shadowland Circle and Santiago Creek will be modified to improve capacity and minimize erosion. The structure will be widened, and the westerly bank will be shifted west. The easterly bank and

associated trees will be protected in place. Channel protection such as rip rap will be included where necessary to protect the structure bottom and banks.

The soil erosion of unpaved roadway shoulders and side slopes on-site would be reduced by paving roadway shoulders and installing erosion control measures such as hydroseed containing only locally prevalent native plant species, open weave textile, and turf reinforcement mat. Erosion along the roadway edges, which lead to sediment collection, inlet clogging, and slope stability issues at the tops of slopes, would be reduced by constructing concrete-lined swales and asphalt dikes that would convey channelized surface flows. The Project site includes both overhead and underground utilities, including overhead electric and telecommunication lines and power poles, as well as underground power, communication, and water lines.

Summary of Regulations

There are three (3) key agencies that regulate activities within streams, wetlands, and riparian areas in California. The USACE Regulatory Division regulates activities pursuant to Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Of the State agencies, the CDFW regulates activities under Sections 1600 *et seq.* of the California Fish and Game Code (CFGC), and the RWQCB regulates activities pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act (Porter-Cologne Act).

Methodology

Michael Baker delineators April Nakagawa and Tim Tidwell (Professional Wetland Scientist [PWS]), conducted a jurisdictional delineation of the project site on June 23, 2022, using the most recent, agency approved methodology, to identify and map jurisdictional limits within the project site. An additional site visit was conducted by Michael Baker delineators Stephen Anderson and John Parent on October 31, 2023, to assess the project site per an updated project footprint and confirm site conditions. The delineation was conducted to determine the jurisdictional limits of waters of the U.S. (WoUS), including potential wetlands, and waters of the State located within the boundaries of the project site. For this location, potential wetlands were delineated using the methods outlined in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* (Arid West Regional Supplement; Corps, 2008). Non-wetland WoUS were delineated using methods outlined in *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Lichvar and McColley, 2008). An OHWM can be determined by the observation of a natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; presence of litter and debris; wracking; vegetation matted down, bent, or absent; sediment sorting; leaf litter disturbed or washed away; scour; deposition; multiple observed flow events; bed and banks; water staining; and/or change in plant community. For evaluation of wetland waters of the State, methods were modified so that an area can lack vegetation and still qualify as a State wetland in accordance with the recently implemented (May 2020) *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*. The RWQCB generally shares the USACE jurisdictional methodology for non-wetland waters, unless the waterbody is not jurisdictional to the USACE. In the case the waterbody is not a WoUS, the RWQCB considers such waterbodies to be jurisdictional waters of the State. The CDFW's jurisdiction extends to the top of bank of the streambed or to the limit (outer dripline) of the adjacent riparian vegetation. Within the

Santa Ana Region, the RWQCB extends their jurisdiction to that of the CDFW's jurisdiction to the top of bank of the streambed.

While in the field, jurisdictional features were recorded on an aerial base map at a scale of 1" = 120' using topographic contours and visible landmarks as guidelines. Data points were obtained with a Garmin Map66i Global Positioning System (GPS) device to record and identify specific widths for ordinary highwater mark (OHWM) indicators, locations of photographs, soil pits, and other pertinent jurisdictional features, if present. This data was then transferred as a .shp file and added to the project's jurisdictional figures. The jurisdictional figures were prepared using ESRI ArcGIS Pro software.

Site Conditions

Refer to Attachment F for representative photographs taken within the project site during the jurisdictional delineation.

Non-Wetland Features

Santiago Creek

The project site is located along the southern bank of Santiago Creek with a portion of its streambed and bank and associated riparian vegetation within the project site. Santiago Creek is a perennial earthen channel that conveys flows from the surrounding hills and canyons northwesterly before eventually draining into the Santa Ana River. The portion of Santiago Creek adjacent to the project site is surrounded by residential development and infrastructure and is spanned by Modjeska Grade Road Bridge. This portion of Santiago Creek has moderate slopes leading downward from the road and generally widens to an earthen channel and floodplain consisting of very coarse sand and cobble. Portions of the channel slopes beneath the bridge are reinforced with concrete with apparent sediment buildup. Flowing surface water was observed within Santiago Creek and additional evidence of an OHWM was observed including a presence of drift and debris, and a defined bed and bank. No significant precipitation events occurred within this watershed prior to the field investigation, which indicates that Santiago Creek receives supplemental water from springs or other sources and is considered an intermittent or perennial aquatic feature. Santiago Creek consists of a dense riparian overstory consisting primarily of arroyo willow (*Salix lasiolepis* [FACW]), coast live oak (*Quercus agrifolia* [NI]), western sycamore (*Platanus racemosa* [FAC]), and white alder (*Alnus rhombifolia* [FACW]). The upper banks adjacent to the road generally contained a mix of chaparral yucca (*Hesperoyucca whipplei* [NI]), laurel sumac (*Malosma laurina* [NI]), poison oak (*Toxicodendron diversilobum* [FACU]), periwinkle (*Vinca major* [FACU]), ripgut brome, (*Bromus diandrus* [NI]); and wild oats (*Avena barbata* [NI]). the lower banks adjacent to the wetted portion of the channel were cobbly and dotted with patches of horsetail (*Equisetum* sp. [FAC]), smilo grass (*Stipa miliacea* [NI]), tall flatsedge (*Cyperus eragrostis* [FACW]), watercress (*Nasturtium officinale* [OBL]), and seedlings of California walnut (*Juglans californica* [FACU]), Mexican fan palm (*Washingtonia robusta* [FACW]), and shamel ash (*Fraxinus uhdei* [NI]). A soil pit was sampled along the channel streambank within the study area, followed by a wetland determination assessment. Although hydric vegetation and wetland hydrology were present, hydric soils were not present. Therefore, this area of Santiago Creek would be considered non-wetland waters. Within the project site, Santiago Creek measures approximately 44 feet in length and 10 feet in width for the RWQCB and CDFW. In addition, CDFW jurisdiction includes associated riparian vegetation

along Santiago Creek outside of the RWQCB jurisdiction. Table 1, *Jurisdictional Limits within the Project Site*, below provides a summary of the jurisdictional limits for the onsite aquatic feature.

Table 1: Jurisdictional Limits within the Project Site

Feature	Location Lat/Long	Cowardin Type	Linear Feet	Jurisdictional Limits (acres)			
				RWQCB		CDFW	
				Non-Wetland Waters of the State	Wetland Waters of the State	Jurisdictional Streambed	Associated Riparian Vegetation
Santiago Creek	33.708653°/ - 117.636347°	Riverine	44	0.01	0.00	0.01	0.01
AF-1	33.708436°, - 117.636302°	N/A	149	0.04	0.00	0.04	0.00
TOTAL			193	0.05	0.00	0.05	0.01

Aquatic Feature 1 (AF-1)

Aquatic Feature 1 (AF-1) is an unnamed ephemeral tributary to Santiago Creek. AF-1 conveys surface flows from the southern upslope portion of Modjeska Grade Road to the downslope northern portion of Modjeska Grade Road towards Santiago Creek. The upstream water source for this feature is directly fed by a curb and gutter along Modjeska Grade Road and only consists of road runoff and overland flow from rain events. It is not supplemented by snowmelt or springs and is therefore considered an ephemeral drainage. Flows are conveyed generally northeast as overland sheet flow and erosional rills across the majority of the Modjeska Grade Road. AF-1 begins to exhibit evidence of an OHWM including a presence of drift and debris, and a defined bed and bank, approximately 50 feet south of Shadowland Circle where the feature enters the project site via a small concrete culvert. Flows continue north via a concrete-lined channel for approximately 50 feet before undergrounding into a concrete culvert, continuing underground beneath Shadowland Circle, and emerging on the northern side of the road via another concrete culvert. AF-1 appears to either transition from concrete-lined to earthen bottomed, or a buildup of sediment has occurred within AF-1’s concrete bottom moving downstream towards Santiago Creek. No surface water was observed during the site reconnaissance. AF-1 is vegetated with an upland overstory of coast live oak; portions of the channel invert are concrete and unvegetated while other portions consist of a mosaic of periwinkle, poison oak, and non-native grasses including rigput brome, smilo grass, and wild oats. A small amount of California walnut, Mexican fan palm, and western sycamore are present at the downstream portion of AF-1 north of Shadowland Circle where it confluences with Santiago Creek. Within the project site, AF-1 measures approximately 149 feet in length and ranges in width from approximately 10 to 14 feet for the RWQCB and CDFW.

Findings

U.S. Army Corps of Engineers

Although Santiago Creek qualifies as USACE non-wetland WoUS and evidence of an OHWM was noted, areas within the OHWM are entirely outside of the project site. In addition, AF-1 is considered an ephemeral drainage, is not considered a relatively permanent water (RPW) and would therefore not be subject to USACE jurisdiction under Section 404 of the Clean Water Act. Therefore, there is no USACE jurisdiction within the project site and no Section 404 permit is required prior to commencement of construction activities.

Regional Water Quality Control Boards

The RWQCB regulates discharges of fill and dredged material to surface waters under Section 401 of the CWA and the Porter-Cologne Act. USACE jurisdiction is not present within the project site. Therefore, the jurisdiction of the RWQCB reflects that of the State and totals approximately 0.05 acre (193 linear feet) of non-wetland waters of the State. Refer to Figure 4, *RWQCB Jurisdictional Map*, provided in Attachment A. In the absence of a Section 404 permit, a Waste Discharge Requirements (WDR) issued from the Regional Board would be required prior to commencement of any construction activities within jurisdictional waters of the State.

California Department of Fish and Wildlife

Santiago Creek and AF-1 exhibited a bed and bank and are considered CDFW jurisdictional streambed. Based on the results of the field delineation, it was determined approximately 0.05 acre (193 linear feet) of CDFW jurisdictional streambed and 0.01 acre of associated riparian vegetation is located within the boundaries of the project site. Refer to Figure 5, *CDFW Jurisdictional Map*, provided in Attachment A. The CDFW regulates alterations to streambed under Section 1602 of the CFGC. Therefore, formal notification to, and subsequent authorization from CDFW, would be required prior to commencement of any construction activities within the CDFW jurisdictional areas.

Please feel free to contact me at (949) 330-4147 or at stephen.anderson@mbakerintl.com with any questions you may have regarding the information presented in this report.

Sincerely,

Stephen Anderson

Stephen Anderson
Senior Biologist
Natural Resources and Regulatory Permitting

Attachments:

- A. *Project Figures*
- B. *References*
- C. *Site Photographs*

D. Wetland Determination Data Forms



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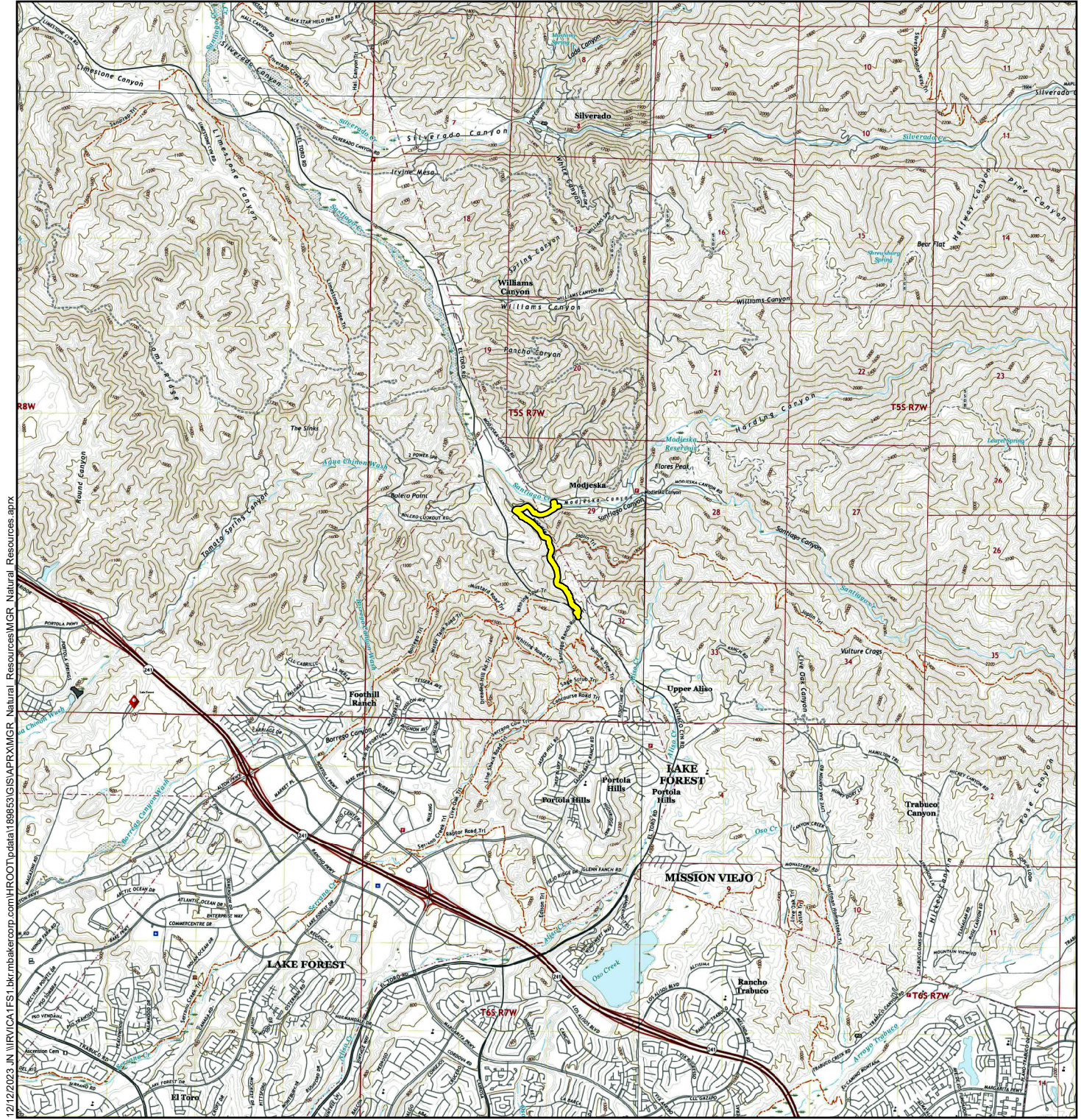
MODJESKA GRADE ROAD IMPROVEMENTS PROJECT
AQUATIC RESOURCES DELINEATION REPORT

Regional Vicinity



Source: ArcGIS Online, 2018

Figure 1



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Legend

Project Site



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Legend

- Project Site
- Reference Point






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-117.635719

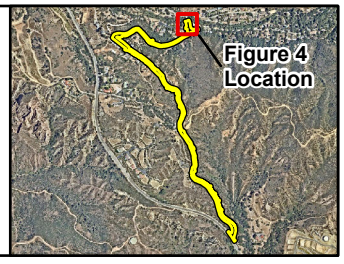


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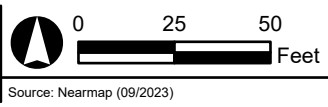
33.707936
-117.63682

Legend

-  Project Site
-  Non-Wetland Waters of the State (0.05 acre)
-  Reference Point
-  Photograph Point and Direction
-  Flow Direction



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INTERNATIONAL



MODJESKA GRADE ROAD IMPROVEMENTS PROJECT
AQUATIC RESOURCES DELINEATION REPORT
RWQCB Jurisdictional Map

Figure 4

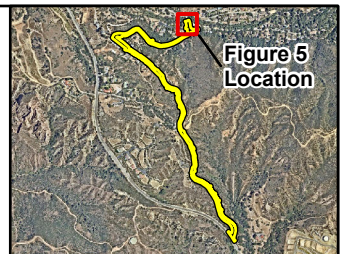
33.708937
-117.635719



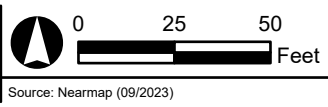
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Legend

- Project Site
- Associated Riparian Vegetation (0.01 acre)
- Streambed (0.05 acre)
- Reference Point
- Photograph Point and Direction
- Flow Direction



Michael Baker
INTERNATIONAL



MODJESKA GRADE ROAD IMPROVEMENTS PROJECT
AQUATIC RESOURCES DELINEATION REPORT
CDFW Jurisdictional Map

Figure 5

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USDA, NRCS. 2018. *Hydric Soils List of California*. Accessed online at: <http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/>.

U.S. Department of Homeland Security (USDHS), Federal Emergency Management Agency (FEMA), National Flood Hazard Layer Viewer. 2022. *Flood Insurance Rate Map No. 06053C1090G*. Accessed online at: <https://msc.fema.gov/portal/home>.

USFWS, 2023. *National Wetlands Inventory Mapper*. Accessed on online at: <http://www.fws.gov/wetlands/Data/Mapper.html>.

U.S. Geological Survey (USGS), 7.5 Minute Series Topographic Quadrangle, *El Toro, California*, 2021.



Photograph 1: View looking west at the Modjeska Grade Road Bridge spanning Santiago Creek. Latitude 33.708694°, Longitude -117.636086°.



Photograph 2: View looking east at the Modjeska Grade Road Bridge spanning Santiago Creek. Latitude 33.708703°, Longitude -117.636444°.



Photograph 3: View looking west at Santiago Creek underneath Modjeska Grade Road Bridge. Latitude 33.708747°, Longitude -117.636344°.



Photograph 4: View looking south from Modjeska Canyon Road/Markuson at Santiago Creek. Latitude 33.708843°, Longitude -117.636358°.



Photograph 5: View looking north at Santiago Creek. Latitude 33.708508°, Longitude -117.636314°.



Photograph 6: View looking south at AF-1 towards Santiago Creek. Latitude 33.708478°, longitude -117.636361°.



Photograph 7: View looking southwest at AF-1 before it undergrounds at Shadowland Circle. Latitude 33.708122°, longitude -117.636183°



Photograph 8: View looking south at a non-jurisdictional erosional feature located within the southern portion of the project site. Latitude 33.697072°, Longitude -117.633111°.

Project/Site: Modjeska Grade Road Improvement Project City/County: Unincorporated Orange County Sampling Date: 06/23/22
 Applicant/Owner: Orange County Public Works State: CA Sampling Point: SP1
 Investigator(s): A. Nakagawa and T. Tidwell Section, Township, Range: Section 29, Township 5 South, and Range 7 West
 Landform (hillside, terrace, etc.): Channel streambank Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR): LRR C Lat: 33.708676 Long: -117.636444 Datum: WGS84
 Soil Map Unit Name: Riverwash NWI classification: Riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
---	--

Remarks:
 Significant drought conditions present. Modjeska Canyon Road/Markuson Road to the north, Modjeska Grade Road and Modjeska Grade Road Bridge to the east, Shadowland Circle to the south, and surrounding residential development.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Fraxinus uhdei</u>	25	Yes	UPL	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)
2. <u>Alnus rhombifolia</u>	9	Yes	FACW	
3. <u>Platanus racemosa</u>	4	No	FAC	
4. <u>Washingtonia robusta</u>	3	No	FACW	
41 =Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. <u>N/A</u>	0			Total % Cover of: <u>6</u> x 1 = <u>6</u> FACW species <u>14</u> x 2 = <u>28</u> FAC species <u>34</u> x 3 = <u>102</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>25</u> x 5 = <u>125</u> Column Totals: <u>79</u> (A) <u>261</u> (B) Prevalence Index = B/A = <u>3.30</u>
2. _____				
3. _____				
4. _____				
5. _____				
_____ =Total Cover				
Herb Stratum (Plot size: <u>5 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Equisetum</u>	30	Yes	FAC	<input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Nasturtium officinale</u>	6	No	OBL	
3. <u>Washingtonia robusta</u>	2	No	FACW	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
38 =Total Cover				
Woody Vine Stratum (Plot size: <u>30 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?
1. <u>N/A</u>	0			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____				
_____ =Total Cover				
% Bare Ground in Herb Stratum <u>21</u> % Cover of Biotic Crust <u>0</u>				

Remarks:
 Open water and cobble with thatch extending upslope towards uplands.

SOIL

Sampling Point: SP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/3	100		0			Sandy	Sandy clay loam. Formed ball 2", gravelly
4-8	10YR 2/2	100		0			Sandy	Sandy loam. Ball + ribbon, gritty

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) **Indicators for Problematic Hydric Soils³:**

- | | | |
|--|---|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> 1 cm Muck (A9) (LRR C) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> 2 cm Muck (A10) (LRR B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR D) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Red Parent Material (F21) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D) | <input type="checkbox"/> Redox Dark Surface (F6) | <input type="checkbox"/> Very Shallow Dark Surface (F22) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) | |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | |
- ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Cobbles throughout
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
 Very rocky/cobbly soil. Formed ball 1-2", very gritty. Organic material and coarse sand throughout with lots of gravel and cobble.

HYDROLOGY

Wetland Hydrology Indicators:

- | | | |
|---|---|---|
| Primary Indicators (minimum of one is required; check all that apply) | | Secondary Indicators (minimum of two required) |
| <input checked="" type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Water Marks (B1) (Riverine) |
| <input checked="" type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) | <input checked="" type="checkbox"/> Sediment Deposits (B2) (Riverine) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input checked="" type="checkbox"/> Drift Deposits (B3) (Riverine) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input checked="" type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Thin Muck Surface (C7) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | <input type="checkbox"/> Other (Explain in Remarks) | <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 0
 Water Table Present? Yes X No _____ Depth (inches): 4
 Saturation Present? Yes X No _____ Depth (inches): 0
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

N/A

Remarks:
 Ponded and flowing water immediately adjacent to pit.