Biological Resources Assessment and MSHCP Consistency Analysis

Elsinore Valley Municipal Water District (EVMWD) Rice Canyon Reservoir Access Road and New Conduit Project, City of Lake Elsinore, California

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Executive Summary

Introduction: This report includes the findings of a Biological Resources Assessment (BRA) conducted by South Environmental for proposed improvements by Elsinore Valley Municipal Water District (EVMWD) to the Rice Canyon Reservoir Access Road in the City of Lake Elsinore, California. The purpose of this report is to identify and characterize biological resources that occur on the project site and surrounding 300-feet (study area), quantify and assess potential impacts to protected biological resources, and propose regulatory compliance measures, mitigation, and avoidance measures to reduce impacts to a less than significant level according to the thresholds in Appendix G of the California Environmental Quality Act (CEQA), and detailed recommendations for avoiding or mitigating impacts. The project is within the Western Riverside County (WRC) Multiple Species Habitat Conservation Plan (MSHCP) area and the report includes a consistency analysis with the MSHCP regulations. However, EVMWD is not a Permittee nor a participating special entity (PSE) to the MSHCP.

Proposed Development: The EVMWD proposes to make improvements to Rice Canyon Reservoir Access Road that include widening the road to a width of 40-feet and creating three new low water crossings through Rice Canyon Creek for a total project footprint of 2.56-acres. The EVMWD also proposes to repair the electrical conduit from the terminus of Dale Court to the reservoir. The improvements to the road will allow access for future operation and maintenance of the road and continued access to the reservoir.

Plant Communities/Habitats/Sensitive Natural Communities: There are five plant communities and one land cover type on the study area, and they are summarized in the table below.

Community or Cover Type	Acres on Survey Area	Acres on Project Site
Chaparral	9.37	0.15
Coast Live Oak Woodland	8.11	0.43
Disturbed/Developed	4.73	1.10
Riparian Forest	1.28	0.19
Riversidean Alluvial Fan Sage Scrub	3.55	0.08
Riversidean Sage Scrub	18.03	0.61
Total	**45.07**	**2.56**

The project would largely be constructed on disturbed or developed areas where an existing access road occurs (1.10-acre, 43%), and the remaining impacts would occur to areas of native plant communities at the edge of the existing road. These plant communities have the potential to support special-status species as described in Section 2.5. In addition, there will be impacts to

riparian forest (0.19-acre, 7%) and RAFSS (0.08-acre, 3%) that are considered sensitive natural communities by the CDFW.

MSHCP Consistency Analysis: Based on the analysis in this report the project would have direct unavoidable impacts to 0.98-acre of riparian/riverine features and would be constructed within an area at the urban/wildlands interface that could result in impacts to MSHCP resources. With the implementation of BIO-1 that includes the proposed compensatory mitigation for impacts to riparian/riverine resources, and the implementation of Recommendations BIO-5, BIO-6, and BIO-7 that pertain to permits for jurisdictional resource impacts, BMPs, and avoiding deterrents and barriers to fish and wildlife movement the project would be consistent with the goals and requirements of the WRC MSHCP.

Narrow endemic, criteria, and area plan plants are absent from the project site, focused surveys for burrowing owls, coastal California gnatcatcher, and Quino checkerspot butterfly determined that the species are not present on the project site or in the vicinity, and a delineation of aquatic resources on the site determined that vernal pools are absent, and no impacts would occur to these MSHCP covered resources.

Nesting Birds and Raptors: The proposed development would require potential removal of trees, shrubs, and herbaceous plants that could provide potential nesting habitat for birds and raptors protected by the MBTA, MBPA, and the Fish and Game Code. If present at the time of vegetation removal, active nests, eggs, or young could be destroyed or otherwise disturbed to a point at which the young do not survive, which would be a violation of the MBTA, MBPA, and the Fish and Game Code. In addition, indirect impacts from noise or vibration has the potential to disturb an active bird nest that may occur in adjacent landscaping to the point of failure if the nest is within immediate proximity to project activities, and this would also be a violation of the MBTA and Fish and Game Code. To avoid impacts to active bird nests, eggs, or young, preconstruction nesting bird surveys and monitoring is required per the MBTA and Fish and Game Code as described in BIO-2 in Section 5.

Special-Status Plants: CRPR 4 species Coulter's Matilija poppy and Cleveland monkeyflower occur on the study area and 24 Coulter's Matilija poppy would be removed by the project. CRPR 4 taxa are only of limited distribution and are not rare, threatened, or endangered at a state or federal level including under Section 15380 of CEQA. Thus, as CRPR 4 species, Coulter's Matilija poppy and Cleveland monkeyflower do not meet CEQA standards and thresholds for impact consideration and loss of the species would not be considered an impact under CEQA. Therefore, any impacts that would occur to these species during the project would not be considered significant according to CEQA. Therefore, impacts to special-status plants would be considered less than significant according to CEQA.

Special-Status Wildlife: Southern California rufous-crowned sparrow, Cooper's hawk, long-eared owl, and white-tailed kite are special-status birds with the potential to nest on the site. If present at the time of vegetation removal, active nests, eggs, or young could be destroyed or otherwise disturbed to a point at which the young do not survive, which would be a significant impact according to CEQA, and avoidance of impacts to active nests is recommended. The nesting bird and raptor surveys proposed in BIO-2 in Section 5 would result in avoidance of impacts to nesting special-status birds.

The California glossy snake, coast horned lizard and orange-throated whiptail have the potential to use the study area in the scrub and chaparral habitats as well as in the streambed. These species could also sun themselves in the dirt access roads. The removal of vegetation and ground disturbance could potentially result in the trampling and death or injury to the reptiles. Noise and vibrations could push the lizards from their burrows where they could be trampled. Vegetation removal and grading could also threaten the species when faced with pruning and weed whacking activity. To avoid any impact to the special-status reptiles BIO-4 in Section 5 is recommended and includes preconstruction survey and protection and relocation of special-status reptiles.

Jurisdictional Resources: As summarized in Table below the total permanent impacts anticipated from the project include 0.3-acre (413 linear feet) of non-wetland waters of the US under the jurisdiction of the USACE and the RWQCB within the OHWM of Rice Canyon Creek. The total permanent impacts anticipated from the project include 0.3-acre (413 linear feet) of non-wetland waters of the state under the jurisdiction of the CDFW and is the same area as the Non-Wetland Waters of the US within Rice Canyon Creek. An additional 0.7-acre (1,560 linear feet) of permanent impact to the bank of Rice Canyon Creek (between the OHWM and the top-of-bank) and associated riparian habitat that is under the jurisdiction of CDFW would occur as a result of the project.

Feature	Non-Wetland Waters of the US and State (USACE/RWQCB/CDFW) (acres/linear feet of permanent impacts)	Bank and Riparian Habitat (CDFW only) (acres of permanent impacts)
Rice Canyon Creek	0.3/413	0.7/1,560
Total	0.3/413	0.7/1,560

The impacts specifically will occur from the fill of the streambed with Arizona crossings and the grading and trimming of vegetation for the widening of the access road within the CDFW riparian areas surrounding the stream. The impacts from construction and operation of the access road through the ephemeral stream would be permanent as the road will be used and maintained into perpetuity to allow access to the reservoir facility at the end.

As described in BIO-5, permits should be sought for impacts to these features that include: 1.) CDFW Notification of Lake or Streambed Alteration via the online portal, 2.) RWQCB Discharges of Dredged or Fill Material to Waters of the State notice of intent, and 3.) a USACE application. The project likely qualifies to proceed under USACE Nationwide Permit 14 – Linear Transportation Projects and will require a Preconstruction Notification (PCN). Permit conditions should be followed to compensate or mitigate for the impacts, and to avoid impacts to the remaining features during construction and operation of the development.

In addition, BMPs proposed in BIO-6 will result in avoidance of water quality issues to downstream areas from the project site.

Protected Trees: There are no protected trees on the project site, and none would be impacted by the project.

Wildlife Movement Corridors and Habitat Linkages: The proposed project is within a habitat linkage area associated with the MSHCP, Cleveland National Forest, and within Rice Canyon. These areas support a large contiguous area of protected and undeveloped native habitats that provide wildlife movement opportunities and habitat linkages for a variety of wildlife. As described in Section 3.10, the project potential impacts to wildlife movement and habitat linkages includes lighting and noise during construction that could deter wildlife from using the area and the proposed Arizona crossings could create barriers to fish and wildlife movement if done improperly.

Recommended mitigation for these impacts presented in Section 5 includes BIO-7 for limiting work to daylight hours and avoiding using lights at night, BIO-8 for designing the Arizona crossings in a way that does not inhibit or redirect the stream flow or create any barrier to overland or aquatic movements, and BIO-6 for conducting all work within the streambed during dry months and avoiding working when rain is in the forecast.

Conclusions: With the implementation of recommended BIO-1 through BIO-9, the project would compensate, avoid, or mitigate impacts to biological resources of the region to the extent possible. Based on the analysis in Section 3, the project is consistent with the WRC MSHCP and no impacts to covered species or habitat would result. Therefore, the project would not contribute to the cumulative impacts to biological resources in the region and would be consistent with the regulations and goals of the MSHCP.

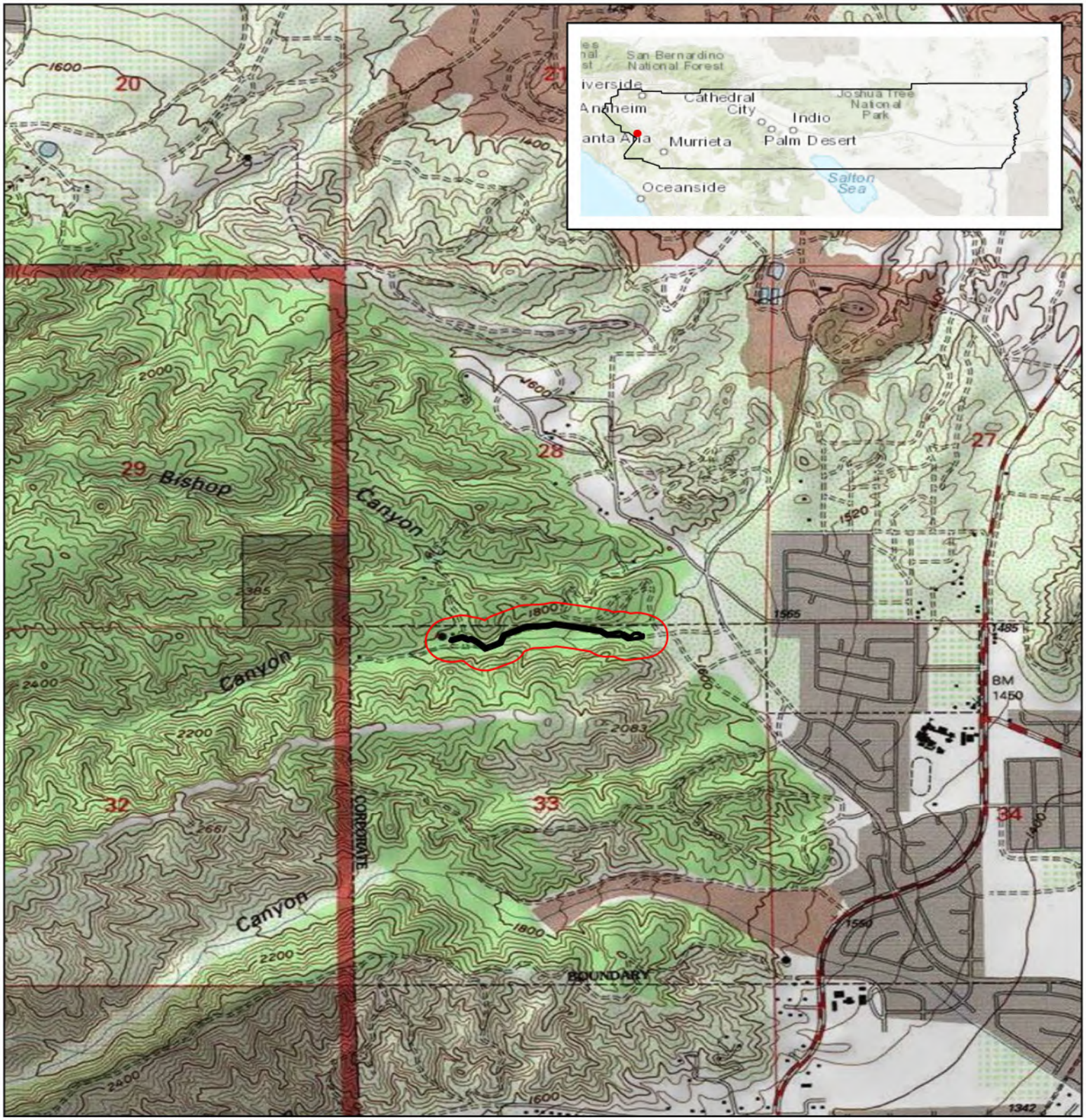
1. Introduction

This report includes the findings of a Biological Resources Assessment (BRA) conducted by South Environmental for a proposed improvements by Elsinore Valley Municipal Water District (EVMWD) to the Rice Canyon Reservoir Access Road in the City of Lake Elsinore, California. The purpose of this report is to identify and characterize biological resources that occur on the project site and surrounding 300-feet (study area), quantify and assess potential impacts to protected biological resources, and propose regulatory compliance measures, recommended mitigation, and avoidance measures to reduce impacts to a less than significant level. The scope of this report includes a description of the proposed development, methods used to assess the biological resources, the environmental setting including technical characterizations and maps of vegetation communities and jurisdictional features, an assessment of the potential for special-status plants and animals to occur on the study area, a description of the regulatory setting, an analysis of the potential for the project to impact biological resources according to the thresholds in Appendix G of the California Environmental Quality Act (CEQA), and detailed recommendations for avoiding or mitigating impacts. The project is within the Western Riverside County (WRC) Multiple Species Habitat Conservation Plan (MSHCP) area and the report includes a consistency analysis with the MSHCP for CEQA purposes. However, EVMWD is not a Permittee nor a participating special entity (PSE) to the MSHCP. Representative photographs of the study area are in Appendix A.

1.1 Project Description

Location and Setting

The project site includes 2.56-acres located west of Dale Court in Lake Elsinore, California where a dirt access road extends west from Dale Court for approximately 2,500-feet and ends at an EVMWD water tank facility (attached Figure 1 and Figure 2). The project site is located on portions of five assessor's parcels (APNs 394-140-001, -003, -004, and 394-150-001, and -011) on the Alberhill USGS 7.5-minute quad in Sections 28 and 33 of Township 05 South and Range 05 West. APN 394-140-001 which contains the District's Rice Canyon Reservoir is owned by the City of Lake Elsinore. The project site is within Rice Canyon and the dirt road to be improved crosses through the creek at two locations. The areas surrounding the project site to the north, south, and west are undeveloped native habitats except for the existing water tank facilities at the west end of the project site. Houses occur to the east of the project site along Dale Court.



Source: ESRI USA Topo Maps and World Topo Map 2022

EVMWD Rice Canyon Project

Figure 1. Project Location

Study Area (300-ft buffer)

Project Site

0 1,000 2,000 Feet

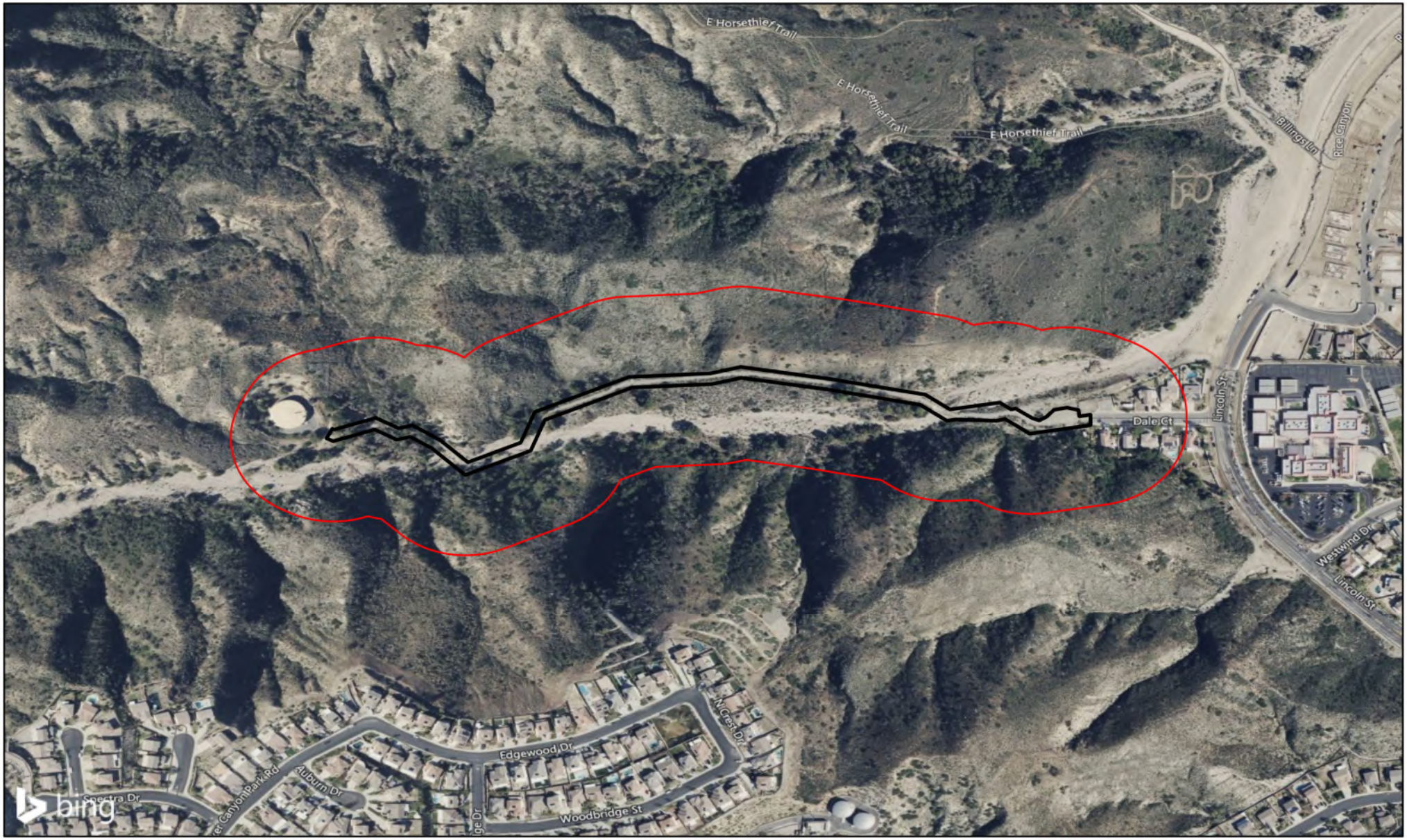
Scale: 1:24,000

N

Project Site is within the City of Lake Elsinore, California, in Riverside County on the USGS Alberhill 7.5-minute quadrangle map in Sections 28 and 33 of Township 05 South and Range 05 West

Center Coordinate (Decimal Degrees):
Latitude: 33.698366N, Longitude: -117.407709W

SOUTH ENVIRONMENTAL



Source: BING Aerial Basemap 2022

EVMWD Rice Canyon Project

Figure 2. Project Site Vicinity

0 300 600 Feet

N

Study Area (300-ft buffer)

Project Site

SOUTH ENVIRONMENTAL

Proposed Development

The EVMWD proposes to make improvements to Rice Canyon Reservoir Access Road that include widening the road to a width of 40-feet and creating three new low water crossings through Rice Canyon Creek for a total project footprint of 2.56-acres. The EVMWD also proposes to repair the electrical conduit from the terminus of Dale Court to the reservoir. The improvements to the road will allow access for future operation and maintenance of the road and continued access to the reservoir.

1.2 Methodology

This biological resource assessment is based on information compiled through a reconnaissance survey and a literature review involving an assessment of appropriate reference materials and literature regarding the biological resources of the region.

Literature Review

The assessment of the project began with a review of literature relating to the natural resources — flora, fauna, and water resources — that were targeted for study as part of the MSHCP area assessment. To better understand these resources including the occurrence of the aforementioned plants and animals, the following were consulted:

Flora and Fauna

- The California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) was reviewed to identify special-status plants and animals that have previously recorded in the United States Geological Survey (USGS) Alberhill 7.5”quad in which the project site is located, and the eight surrounding USGS 7.5”quads: Lake Elsinore, Lake Matthews, Corona South, Santiago Peak, Canada Gobernadora, Sitton Peak, Wildomar, and Steele Peak, (CDFW 2022a).
- CDFW California Wildlife Habitat Relationships (CWHR) life history accounts and range maps (CDFW 2022b)
- United States Fish and Wildlife Service (USFWS) Environmental Conservation Online System (ECOS) Information for Planning and Consultation (IPaC) (USFWS 2022a)
- USFWS Designated and Proposed Critical Habitat GIS data (USFWS 2022b)
- California Native Plant Society (CNPS) online Inventory of Rare and Endangered Plants of California (CNPS 2022a).
- Botanical Survey Elsinore Valley Municipal Water District Rice Canyon Reservoir Access Road and New Conduit Project in Lake Elsinore, California (South Environmental 2022a)

- Burrowing Owl Survey Report for the Elsinore Valley Municipal Water District (EVMWD) Rice Canyon Reservoir Access Road and New Conduit Project, City of Lake Elsinore, California (South Environmental 2022b)
- Focus Quino Checkerspot Butterfly Survey Report for the Proposed Rice Canyon Reservoir Access Road Project, Lake Elsinore, CA (Osprey Environmental Associates 2022)
- Coastal California Gnatcatcher United States Fish and Wildlife Service Focused Surveys for the 2.60-Acre Elsinore Valley Municipal Water District (EVMWD) Rice Canyon Reservoir Access Road & New Conduit Project Site, Lake Elsinore, California (Cadre Environmental 2022).

Water Resources

- National Hydrography Dataset (USGS 2022a)
- National Wetlands Inventory (USFWS 2022c)
- California Protected Areas Database (CPAD 2022)
- WRC MSHCP GIS Data (Riverside County 2022)
- US Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Soils Database (USDA 2022)
- Jurisdictional Delineation for Elsinore Valley Municipal Water District Rice Canyon Reservoir Access Road and New Conduit Project in Lake Elsinore, California (South Environmental 2022c)

Field Reconnaissance

South Environmental biologists Matthew South, Scott Altmann, and James McNutt conducted a field reconnaissance on February 5, 2022 to record plants and animals observed on the site, characterize and map plant communities according to the WRCMSHCP and assess the potential for special-status species to occur. A formal jurisdictional delineation of "waters of the U.S." and or wetlands and waters of the state was conducted, and numerous focused survey were also conducted (i.e. botanical survey, burrowing owl habitat assessment and survey, coastal California gnatcatcher protocol survey, and Quino checkerspot butterfly protocol survey) and methods and results of the those surveys is described in the reports cited in the Literature Review above, and results are referenced throughout the analysis in this report.

MSHCP Consistency Analysis

As shown in Figure 3 below, the project site is in the MSHCP Plan Area within two Criteria Cells: 4250 and 4251 and within the Alberhill Subunit of the Elsinore Area Plan. This report analyzes the proposed improvement to the Rice Canyon Access Road project in relation to the goals of the MSHCP and assesses the potential impacts to MSHCP covered species and resources.

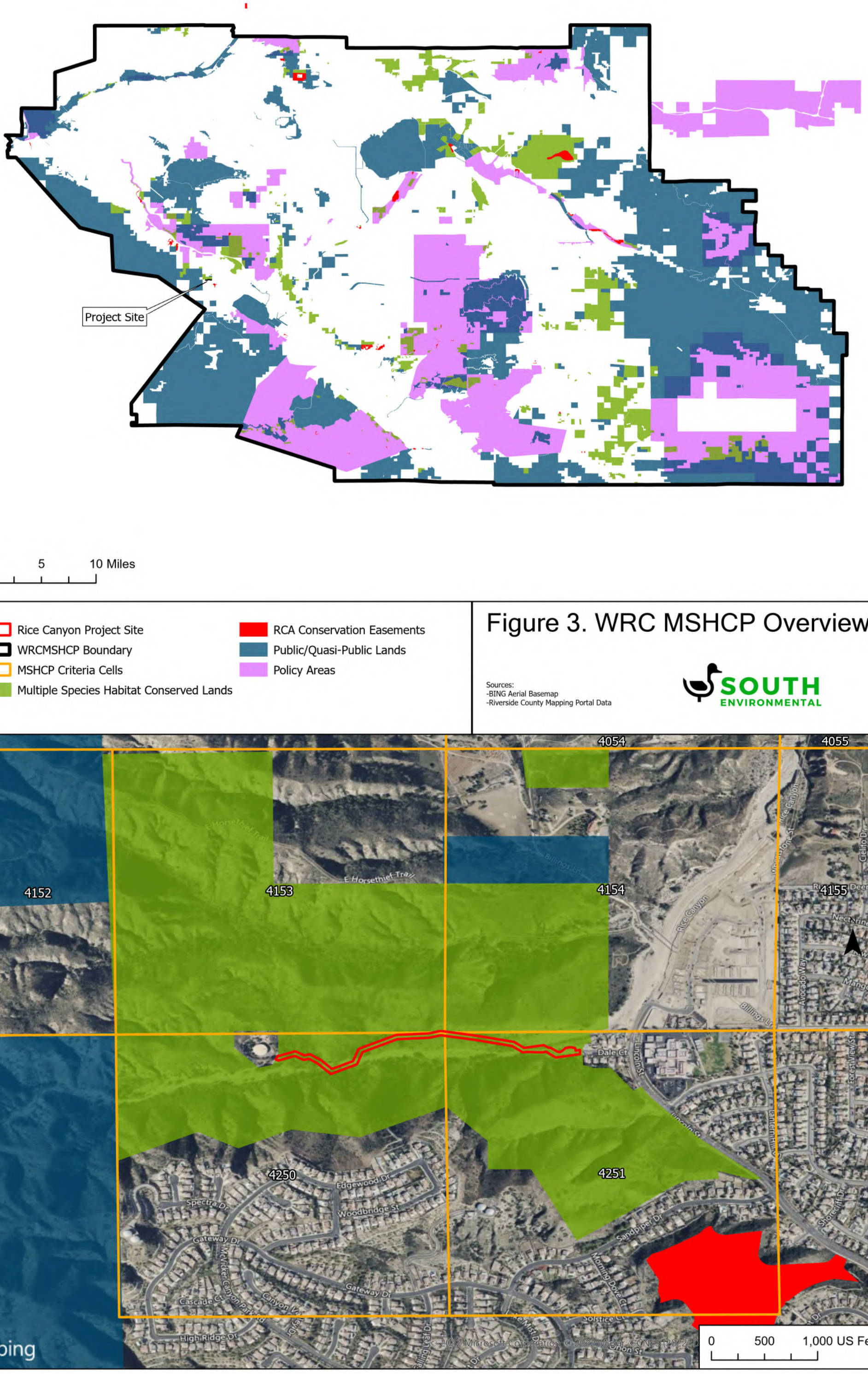


Figure 3. WRC MSHCP Overview

Sources:
-BING Aerial Basemap
-Riverside County Mapping Portal Data

SOUTH ENVIRONMENTAL

2. Environmental Setting

The project site includes a dirt road that travels through a mosaic of upland and riparian/riverine habitats at the base of Rice Canyon. The creek is intermittent and is dry for large portions of the year, including during the survey. The project site is immediately south of the Alberhill Conservation Area and 1,000-feet east of the Cleveland National Forest. The study area is relatively undeveloped aside from the existing access road that leads to a large water tank facility. There are single-family house developments to the east along Dale Court after which the area opens into a heavily settled suburban environment with single-family houses and roadways. Overall, the study area is relatively undisturbed outside of the project site.

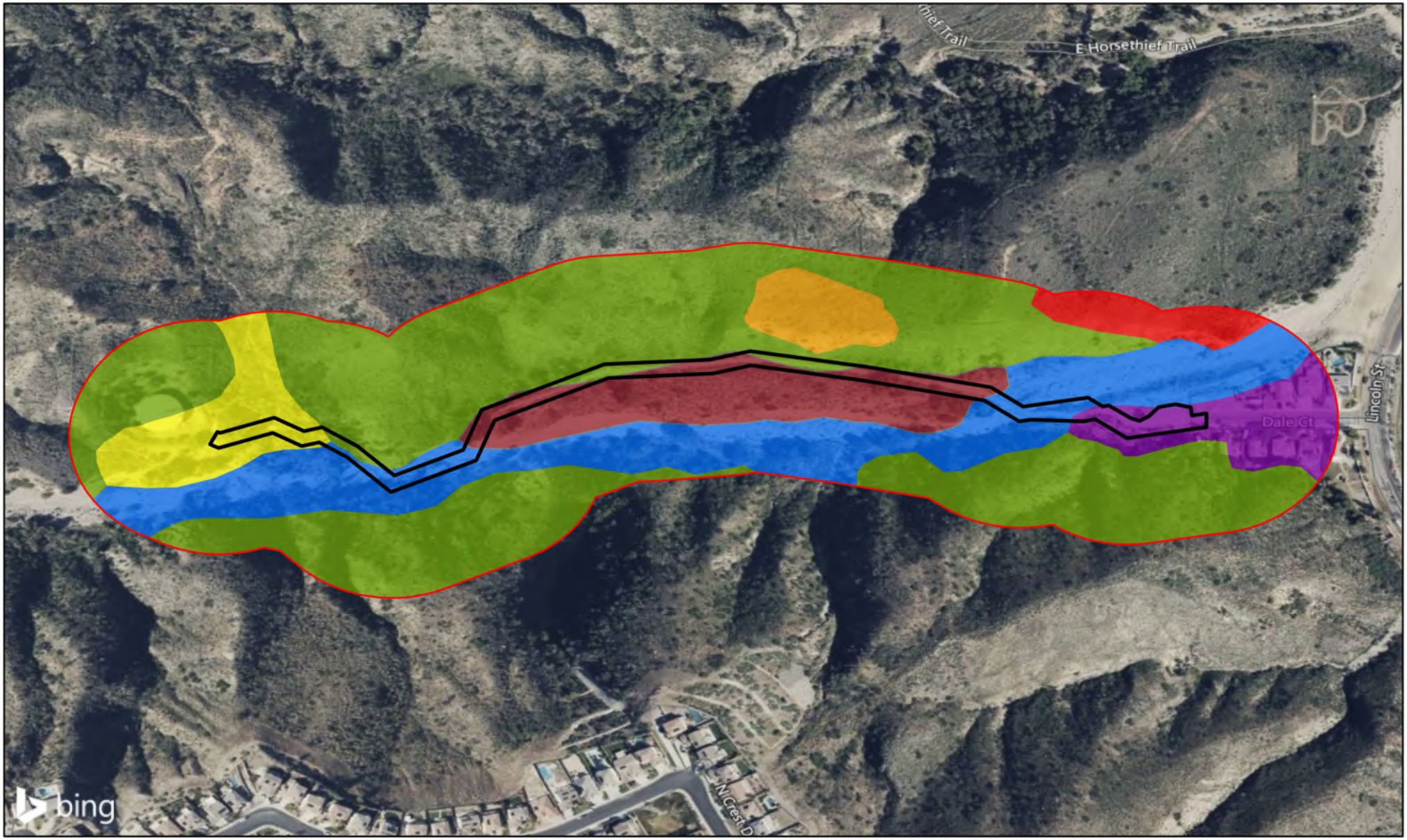
2.1 Topography and Climate

The project site is at the eastern edge of the Santa Ana Mountains and approximately 2.60-miles northwest of Lake Elsinore. It is within a relatively flat canyon area with steep slopes to the north and south. Areas to the north, south, and west are undeveloped and mountainous; to the east the topography is relatively flat. At the base of the canyon is an ephemeral riverine streambed that is the remnant of a geologic feature that has created Rice Canyon. The project site is at an elevation of 1785-feet near the western end and 1650-feet near the eastern end (USGS 2022). Climate in the region is hot and dry, with average summer high temperatures in the mid-90s and average winter lows in the low-40s. Average yearly rainfall is 2.63-inches, and the wettest months are December – March, and almost no precipitation between June-September.

2.3 Soils

Seven soils occur on the project site as shown in Figure 4 (USDA/NRCS 2022):

- **Hanford coarse sandy loam, 2 to 8 percent slopes** occurs in the western part of the project site. This is an alluvial fan soil and is well drained.
- **Riverwash** occurs in the western part and eastern part of the project site. This is an alluvial fan soil and is well drained.
- **Tujunga loamy sand, channeled, 0 to 8 percent slopes** occurs in the central part of the project site. This is an alluvial fan and flood plain soil and is excessively drained.
- **Cieneba sandy loam, 30 to 75 percent slopes, eroded** occurs in the central part and western part of the project site. This is a residuum soil that is found on the side slope and backslope of hills and is somewhat excessively drained.
- **Soboba cobbly loamy sand, 2 to 25 percent slopes** occurs in the eastern part of the project site. This is an alluvial fan soil and is excessively drained.



Source: BING Aerial Basemap 2022

EVMWD Rice Canyon Project

Figure 4. Soils

Project Site

Survey Area

Soils

Cieneba sandy loam, 30 to 75 percent slopes, eroded

Hanford coarse sandy loam, 2 to 8 percent slopes

Riverwash

Soboba cobbly loamy sand, 2 to 25 percent slopes

Tujunga loamy sand, channeled, 0 to 8 percent slopes

Vista coarse sandy loam, 15 to 35 percent slopes, eroded

Vista coarse sandy loam, 8 to 15 percent slopes, eroded

0 230 460 Feet

N

SOUTH ENVIRONMENTAL

- **Vista coarse sandy loam, 8 to 15 percent slopes and 15 to 35 percent slopes, eroded** occurs in the eastern part of the project site and study area. These are non-hydric soils found on hills and backslopes that are well drained.

2.3 Plants

A total of 84 plant species were identified on the project site. Of these 67 are native to this region of California and 17 are non-native. The habit of the species consisted of trees, shrubs, perennials, annuals, and vines. Non-native species were primarily annual herbs. A list of the species observed on the site is presented below in Table 1.

Table 1. List of plant species at Rice Canyon in Lake Elsinore, California.

Scientific name	Common name	Habit	MSHCP Narrow Endemic	MSHCP Criteria Plant	CRPR*
Acacia redolens	vanilla-scented wattle	*Tree/shrub	--	--	NR
Acmispon glaber	deerweed	Perennial herb	--	--	NR
Adenostoma fasciculatum	chamise	Shrub	--	--	NR
Ambrosia acanthicarpa	flatspine bursage	Annual herb	--	--	NR
Antirrhinum coulterianum	Coulter snapdragon	Annual herb	--	--	NR
Artemisia californica	California sagebrush	Shrub	--	--	NR
Artemisia douglasiana	California mugwort	Perennial herb	--	--	NR
Avena barbata	slender wild oat	*Annual herb	--	--	NR
Baccharis salicifolia	mulefat	Shrub	--	--	NR
Bromus diandrus	ripgut brome	*Annual herb	--	--	NR
Bromus madritensis	compact brome	*Annual herb	--	--	NR
Bromus rubens	red brome	*Annual herb	--	--	NR
Calystegia macrostegia	coast morning glory	Perennial herb	--	--	NR
Camissoniopsis bistorta	California suncup	Annual herb	--	--	NR
Centaurea melitensis	Maltese star thistle	*Annual herb	--	--	NR
Cerastium semidecandrum	little mouse ear	*Annual herb	--	--	NR
Chaenactis artemisiifolia	Artemisia-leaved chaenactis	Annual herb	--	--	NR
Chaenactis glabriuscula	common yellow chaenactis	Annual herb	--	--	NR
Clarkia purpurea	winecup clarkia	Annual herb	--	--	NR
Clarkia similis	Ramona clarkia	Annual herb	--	--	NR
Claytonia perfoliata	miner's lettuce	Annual herb	--	--	NR
Corethrogyne filaginifolia	California sandaster	Perennial herb	--	--	NR
Crocanthemum scoparium	peak rushrose	Shrub	--	--	NR
Cuscuta campestris	field dodder	Annual herb/vine	--	--	NR
Dendromecon rigida	bush poppy	Shrub	--	--	NR

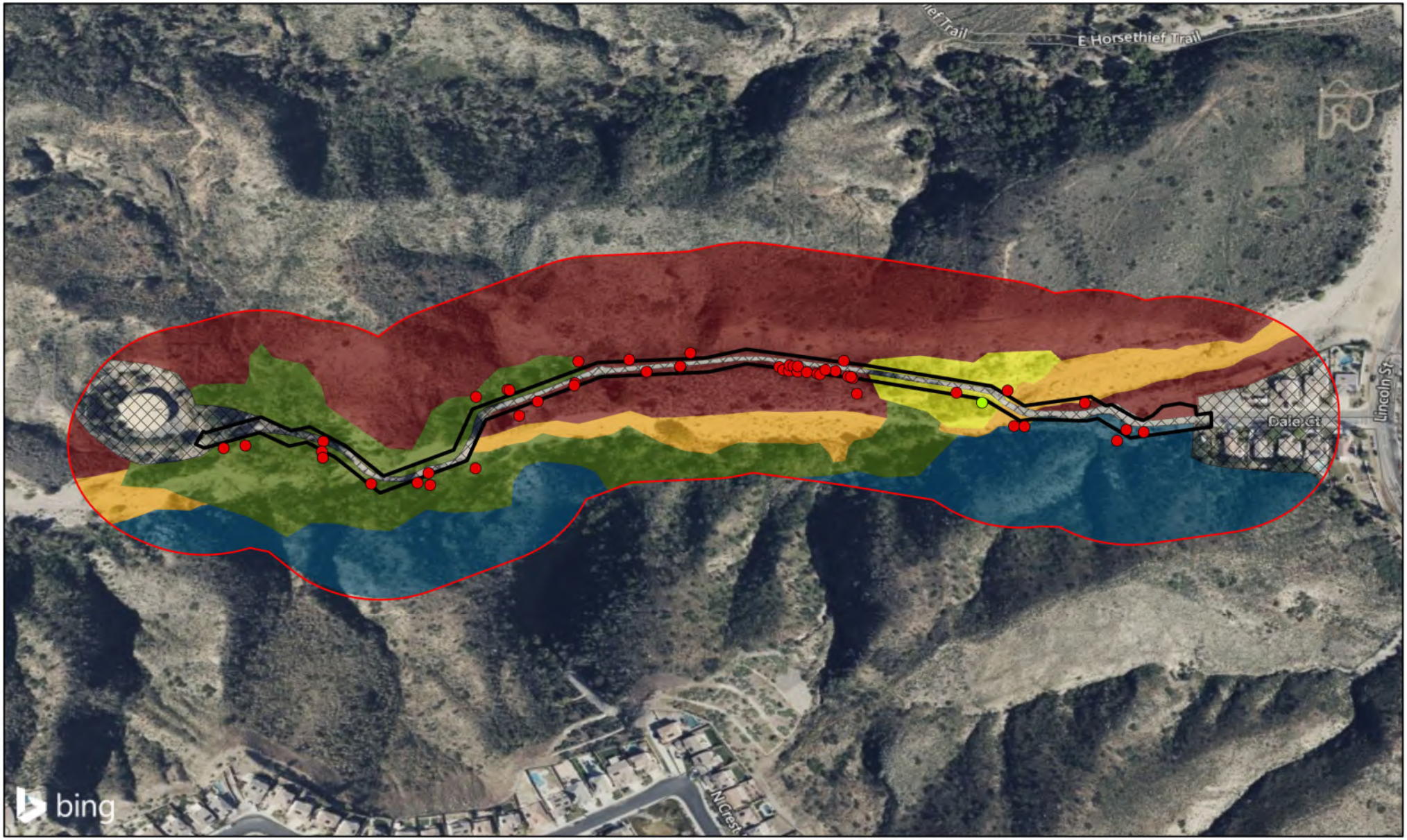
Scientific name	Common name	Habit	MSHCP Narrow Endemic	MSHCP Criteria Plant	CRPR*
Diplacus brevipes	wide-throated yellow monkeyflower	Annual herb	--	--	NR
Diplacus clevelandii[1]	Cleveland monkeyflower	Perennial herb	--	--	**4.2**
Diplacus longiflorus	southern bush monkeyflower	Shrub	--	--	NR
Ehrendorferia chrysantha	golden eardrops	Perennial herb	--	--	NR
Elymus condensatus	giant wild rye	Perennial herb	--	--	NR
Emmenanthe penduliflora	whispering bells	Annual herb	--	--	NR
Encelia californica	California brittlebush	Shrub	--	--	NR
Encelia farinosa	brittlebush	Shrub	--	--	NR
Eriastrum sapphirinum	sapphire woollystar	Annual herb	--	--	NR
Eriodictyon crassifolium	thick-leaved yerba santa	Shrub	--	--	NR
Eriogonum fasciculatum	California buckwheat	Shrub	--	--	NR
Eriogonum gracile	slender woolly buckwheat	Annual herb	--	--	NR
Eriophyllum confertiflorum	golden yarrow	Shrub	--	--	NR
Erodium cicutarium	redstem storks-bill	*Annual herb	--	--	NR
Gazania linearis	striped treasureflower	*Perennial herb	--	--	NR
Helianthus gracilentus	slender sunflower	Perennial herb	--	--	NR
Hesperoyucca whipplei	chaparral yucca	Shrub	--	--	NR
Heteromeles arbutifolia	toyon	Shrub	--	--	NR
Heterotheca grandiflora	telegraph weed	Annual/perennial herb	--	--	NR
Hirschfeldia incana	shortpod mustard	*Annual/perennial herb	--	--	NR
Keckiella antirrhinoides	chaparral beardtongue	Shrub	--	--	NR
Lepidospartum squamatum	California broomsage	Shrub	--	--	NR
Linanthus californicus	prickly phlox	Shrub	--	--	NR
Malacothrix saxatilis	cliff aster	Perennial herb	--	--	NR
Malacothamnus densiflorus	many-flowered bush-mallow	Shrub	--	--	NR
Malosma laurina	laurel sumac	Tree/shrub	--	--	NR
Marah macrocarpa	chilicothe	Perennial herb/vine	--	--	NR
Mentzelia micrantha	San Luis blazingstar	Perennial herb	--	--	NR
Mirabilis laevis	wishbone bush	Perennial herb	--	--	NR
Nicotiana glauca	tree tobacco	*Tree/shrub	--	--	NR
Oncosiphon pilulifer	stinknet	*Annual herb	--	--	NR
Pellaea andromedifolia	coffee fern	Fern	--	--	NR
Penstemon spectabilis	showy penstemon	Perennial herb	--	--	NR
Phacelia cicutaria	caterpillar scorpionweed	Annual herb	--	--	NR
Phacelia distans	distant phacelia	Annual herb	--	--	NR
Phacelia minor	wild Canterbury bells	Annual herb	--	--	NR

[1] This species is synonymous with *Mimulus diplacus* which is the name that is used in the MSHCP.

Scientific name	Common name	Habit	MSHCP Narrow Endemic	MSHCP Criteria Plant	CRPR*
Platanus racemosa	western (California) sycamore	Tree	--	--	NR
Populus fremontii	Fremont cottonwood	Tree	--	--	NR
Pseudognaphalium californicum	California cudweed	Annual/perennial herb	--	--	NR
Pseudognaphalium microcephalum	feltleaf everlasting	Perennial herb	--	--	NR
Quercus agrifolia	coast live oak	Tree	--	--	NR
Quercus berberidifolia	California scrub oak	Tree	--	--	NR
Rhamnus ilicifolia	hollyleaf redberry	Shrub	--	--	NR
Rhus ovata	sugar bush	Shrub	--	--	NR
Ribes indecorum	white-flowering currant	Shrub	--	--	NR
Romneya coulteri	Coulter's matilija poppy	Perennial herb	--	--	**4.2**
Romneya trichocalyx	hairy matilija poppy	Perennial herb	--	--	NR
Salix gooddingii	Gooding's willow	Tree	--	--	NR
Salsola australis	southern Russian thistle	*Annual herb	--	--	NR
Salsola tragus	tumbleweed	*Annual herb	--	--	NR
Sambucus nigra ssp. caerulea	blue elder	Tree/shrub	--	--	NR
Schismus barbatus	common Mediterranean grass	*Annual herb	--	--	NR
Scrophularia californica	California beeplant	Perennial herb	--	--	NR
Sisymbrium orientale	eastern rocket	*Annual/perennial herb	--	--	NR
Solanum parishii	Parish's nightshade	Perennial herb/shrub	--	--	NR
Stephanomeria diegensis	San Diego wirelettuce	Annual/perennial herb	--	--	NR
Tamarix ramosissima	tamarisk	*Tree/shrub	--	--	NR
Tetradymia comosa	hairy horsebrush	Shrub	--	--	NR
Toxicodendron diversilobum	poison oak	Vine/shrub	--	--	NR
*Non-native, NR = Not ranked					

2.4 Plant Communities

There are five plant communities and one land cover type on the project site as shown in Figure 5, and the acres of each is summarized in Table 2 below.



Source: BING Aerial Basemap August 2022

EVMWD Rice Canyon Project

Figure 5. Plant Communities and Cover Types

0 225 450 Feet

N

Rice Canyon Project Site

Study Area (300-ft buffer)

Botanical Survey

- Cleveland monkeyflower (*Diplacus clevelandii*)
- Coulter's matilija poppy (*Romneya couteri*)

Plant Communities

- Chaparral
- Coast Live Oak Woodland
- Disturbed/Developed
- Riparian Forest
- Riversidean Alluvial Fan Sage Scrub
- Riversidean Sage Scrub

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Table 2. Summary of Plant Communities on the Study Area

Community or Cover Type	Acres on Survey Area	Acres on Project Site
Chaparral	9.37	0.15
Coast Live Oak Woodland	8.11	0.43
Disturbed/Developed	4.73	1.10
Riparian Forest	1.28	0.19
Riversidean Alluvial Fan Sage Scrub	3.55	0.08
Riversidean Sage Scrub	18.03	0.61
Total	**45.07**	**2.56**

- **Chaparral** is found on 0.15-acre of the project site south of the dirt access road near Dale Court. Chaparral also occurs on the north-facing slopes south of the project site. This community is dominated by thick-leaved yerba santa (*Eriodictyon crassifolium*), laurel sumac (*Malosma laurina*), nightshade (*Solanum* spp.), and deerweed (*Acmispon glaber*) near the project site, and a variety of other species are found on the slopes south of the project site: scrub oak (*Quercus berberidifolia*), hollyleaf cherry (*Prunus ilicifolia*), sugar bush (*Rhus ovata*), blue elderberry (*Sambucus cerulea*), and tree tobacco (*Nicotiana glauca*).

- **Coast live oak woodland** is found on 0.43-acre of the project site on the western third and surrounding the creek. This community is dominated by coast live oak (*Quercus agrifolia*) and has western sycamore (*Platanus racemosa*), toyon (*Heteromeles arbutifolia*), thick-leaved yerba santa, blue elderberry, laurel sumac, hollyleaf redberry (*Rhamnus ilicifolia*), sugar bush, deerweed, California buckwheat (*Eriogonum fasciculatum*), mulefat (*Baccharis salicifolia*), chamise (*Adenostoma fasciculatum*), coffee fern (*Pellaea andromedifolia*), giant wild rye (*Elymus condensatus*), chaparral bush mallow (*Malacothamnus fasciculatum*), and nightshade. This is a mature woodland with a mostly-closed canopy of oaks and a mixture of shrubs in a dense understory in upland areas, and a sparser understory of mulefat and other riparian and alluvial species in the woodland in the active floodplain of the creek.

- **Disturbed and developed** areas occur on 1.10-acres of the project site. These areas include the existing dirt access road and damaged Arizona crossings, as well as portions of the reservoir development and the entrance at Dale Court. This is the most abundance cover type found on the project site.

- **Riparian forest** occurs on 0.19-acre of the project site surrounding the access road on the north edge of the first creek crossing on the eastern portion of the project site. This community is dominated by mature western sycamore and has laurel sumac, California sagebrush (*Artemisia californica*), Russian thistle (*Salsola tragus*), blue elderberry, deerweed, thick-leaved yerba santa, brittlebush (*Encelia farinosa*), and chaparral bush mallow. This community forms a loose canopy and has a dense understory of shrubs.

- **Riversidean alluvial fan sage scrub (RAFSS)** occurs on 0.08-acre of the project site within the two areas where the access road crosses the active floodplain of the creek. This is an early successional community that is often scoured by flows that would remove most of the vegetation. The project site is largely developed through this community and very few shrubs or vegetation cover occurs at that location. On the project site and surrounding study area this community has sparse vegetation with small shrubs such as scale broom (*Lepidospartum squamatum*), thick-leaved yerba santa, brittlebush, deerweed, California sagebrush, chaparral yucca (*Hesperoyucca whipplei*), and a variety of ruderal species in the disturbed portions, including tamarisk (*Tamarix ramosissima*), striped treasureflower (*Gazania linearis*), shortpod mustard (*Hirschfeldia encana*), two-color rabbit tobacco (*Pseudognaphalium biolettii*), and wild Canterbury bells (Phacelia minor). There is a smaller portion of this community near the oak woodland within the active floodplain that has a minor amount of sapling Fremont's cottonwood (*Populus fremontii*) and willow (*Salix* spp.).

- **Riversidean sage scrub (RSS)** occurs on 0.61-acre of the project site primarily on the north side of the creek and on the south-facing slopes north of the project site. This community is dominated by thick-leaved yerba santa near the streambed, and has scrub oak, brittlebush, deerweed, chaparral yucca, laurel sumac, and California buckwheat. This community is mature, and the shrubs have some separation with less density and smaller size than the chaparral shrubs.

2.4 Wildlife

The wildlife observed on the study area is listed below in Table 3. Numerous other animals are expected to occur at the site but were not observed during the reconnaissance.

Table 3. Summary of Wildlife Observed on the Study Area

Scientific name	Common name	Status
Birds		
Aphelocoma californica	California scrub-jay	None
Buteo jamaicensis	Red-tailed hawk	None
Corvus brachyrhynchos	American crow	None
Dendroica coronata	Yellow-wrumped warbler	None
Dryobates nuttallii	Nuttal' s woodpecker	None
Melozone crissalis	California towhee	None
Sayornis nigricans	Black phoebe	None
Tyrannus vociferans	Cassin' s kingbird	None
Reptiles		
Sceloporus occidentalis longipes	Great Basin fence lizard	None
Uta stansburiana elegans	Side-blotched lizard	None

Scientific name	Common name	Status
Mammals		
Canis latrans	coyote	None

2.5 Special-Status Species

The literature analysis of the CNDDB, CNPS, and IPAC databased for special-status species with the potential to inhabit the project site resulted in 135 special-status species. This included 75 plants and 60 animals. The list includes rare, threatened, endangered species at a federal and state level. In the case of plants, it also includes California Rare Plant Rank (CRPR) species with a classification of 1-4. The study area is not within any designated or proposed USFWS Critical Habitat units (USFWS 2022b) for any plant or animal species.

The 60 special-status wildlife species that CNDDB, CNPS, and IPAC identify as occurring in the region of the project and could inhabit the project site are presented in Appendix B. No special-status species were observed during any of the surveys and the project site is not within designated or proposed USFWS Critical Habitat. Based on the analysis in Appendix B, the wildlife listed below has the potential to occur on the study area. Other species have been determined to be absent during protocol surveys (ie coastal California gnatcatcher, burrowing owl, Quino checkerspot butterfly) and others are known to be absent due to lack of habitat:

- **Cooper's hawk** (*Accipiter cooperii*) is a CDFW watchlist species that nests mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks. This species could nest in the woodlands on the project site.
- **Southern California rufous-crowned sparrow** (*Aimophila ruficeps canescens*) is a CDFW watchlist species that frequents relatively steep, often rocky hillsides with grass and forb patches in southern California sage scrub and chapparal. The species has the potential to nest in the steep sage scrub and chaparral habitats on the study area.
- **Long-eared owl** (*Asio otus*) is a USFWS Bird of Conservation Concern that occurs in belts of live oak paralleling stream courses. This species has the potential to nest in the oak woodlands on the project site.
- **White-tailed kite** (*Elanus leucurus*) is a Fully Protected Species in California that occurs in rolling foothills and valley margins with scattered oaks and river bottomlands or marshes. The species has the potential to nest in the woodlands on the project site.
- **Crotch's bumble bee** (*Bombus crotchii*) is a species of concern in California that occurs in areas with food plants available. Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum. These food plants are found throughout the study area and the species has the potential to occur.

- **California glossy snake** (*Arizona elegans occidentalis*) is a CDFW species of special concern that is a generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils. This species has the potential to occur in the scrub habitats on the site.
- **Orange-throated whiptail** (*Aspidoscelis hyperythra*) is a CDFW watchlist species that inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats. This species has the potential to occur throughout the study area.
- **Coast horned lizard** (*Phrynosoma blainvillii*) is a CDFW species of special concern that is found in a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. This species has the potential to occur near the stream and in scrub habitats on the study area.

The 75 special-status plant species were considered before and during the botanical survey for the site (South Environmental 2022a). According to the botanical survey report, two special-status plants — Coulter's matilija poppy (*Romneya coulteri*) and Cleveland's bush monkeyflower (*Diplacus clevelandii*) — were observed on or near the project site.

- **Coulter's matilija poppy**: The Coulter's matilija poppy was found throughout the project site in all identified plant communities. The plant is not rare, threatened, or endangered at a State of California or federal level but has a CRPR of 4.2. According to the CNPS (2022), the species inhabits chaparral and coastal scrub.

- **Cleveland monkeyflower**: The Cleveland monkeyflower was found in one place just outside the project footprint near the edge of the access road in the riparian forest. The plant is not rare, threatened, or endangered at a State of California or federal level. However, it has a CRPR of 4.2 indicating the species has a limited distribution or is uncommon in California and must be monitored.

Based on 5 field visits from February to July, 2022, South Environmental concludes that there are no other special-status plants present on the project site.

2.6 Sensitive Natural Communities

CDFW 2018 *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* defines sensitive natural communities as those that are "of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects." CDFW considers a natural community sensitive if it has a Global or State rarity rank of 1-3, which includes communities that are vulnerable (G3/S3), imperiled (G2/S2), and critically imperiled (G1/S1). CDFW uses the alliances and groups described in the California Natural Community List (CDFW 2022c) and the California Natural Communities List from

A Manual of California Vegetation Online (CNPS 2022b) to characterize California's natural communities. The current global and state rarity rank for natural communities of California are listed in these resources.

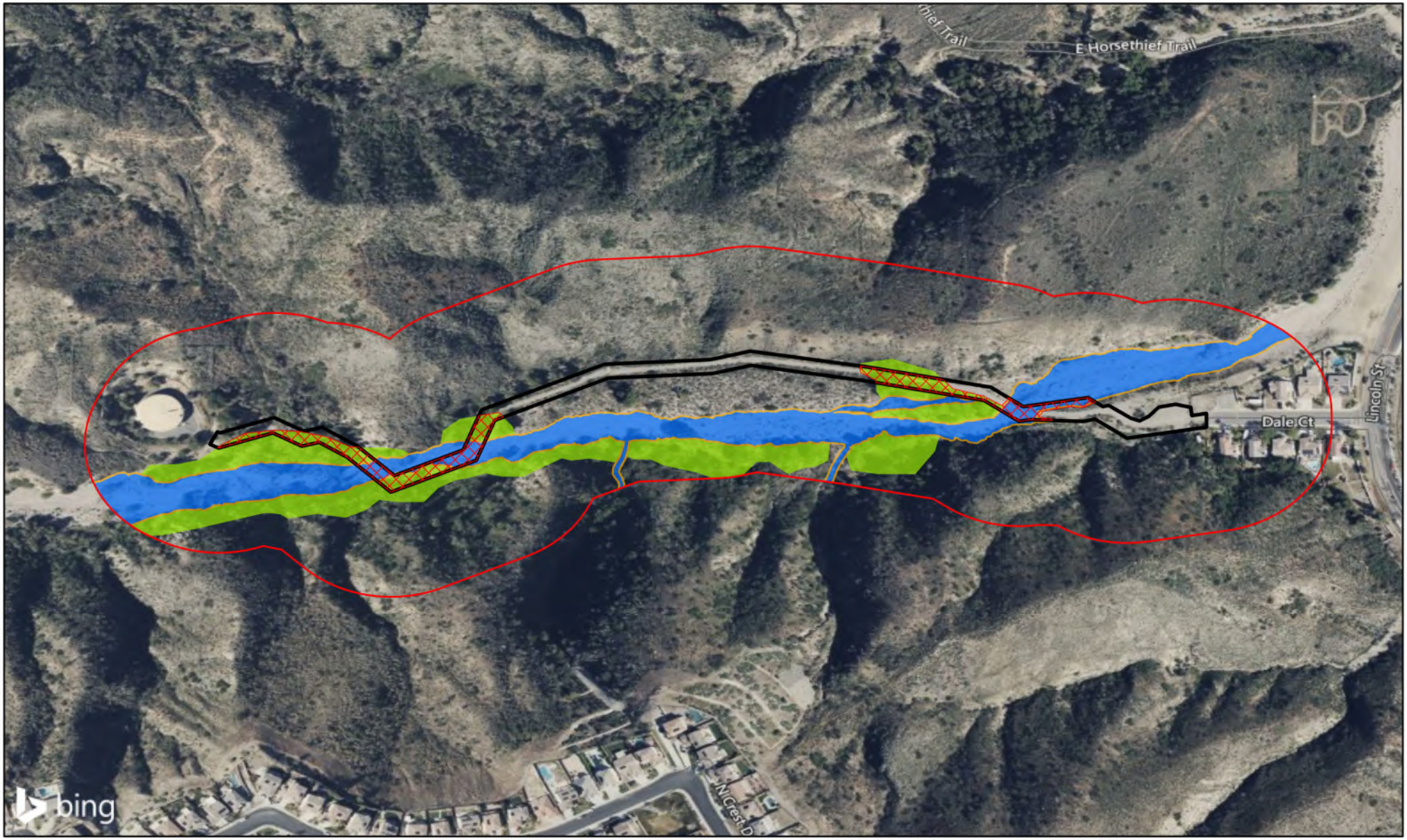
The CDFW in its Protocols document indicates that all riparian plant communities are considered sensitive natural communities. On the project site there are two riparian plant communities that are described in the MSHCP that are on the project site: Riparian Forest and Riversidean Alluvial Fan Sage Scrub (RAFSS). These two sensitive natural communities can also be classified using the California Natural Community list based on the dominant species present. The dominant species in the Riparian Forest was western sycamore and coast live oak were in the area. Therefore according to the CDFW and CNPS community classification resources, the Riparian Forest would best be described as a Western Sycamore – Coast Live Oak Riparian Woodland (CDFW 2022c; CNPS 2022b) with a rarity rank at the global and state level of "3" indicating it as a sensitive natural communities. Based on the dominant species in the RAFFSS, it would classify as Scale Broom Scrub, another community with riparian features with a global and state rarity ranking of "3" designating it as a sensitive natural community. No other riparian or sensitive natural communities occur on the project site.

2.7 Protected Trees

The City of Lake Elsinore does not have an ordinance protecting trees in the City. The Riverside County "Code of Ordinances" protects native trees on private and public property that are at an elevation of >5,000-ft and are " at least thirty (30) feet and are not less than twelve (12) inches in diameter when measured four and one-half feet above the ground." And the "Open Space and Conservation Element" is a general vision document that discusses protection of different plant communities and native tree species primarily in relation to the MSHCP. The trees on the site are not special-status species or conservation species recognized in the MSHCP (e.g., covered, narrow endemic). No protected trees occur on the study area.

2.8 Hydrology and Jurisdictional Features

According to the Jurisdiction Delineation Report prepared for the project, the project site is located within the Santa Ana watershed (HUC8) and within the Dawson Canyon-Temescal Wash sub-watershed (HUC12). As shown in Figure 6, Rice Canyon Creek, an ephemeral stream, occurs in the survey area, and it crosses through the project site at three locations. There is also associated riparian areas surrounding the creek. The NHD shows the creek as a blueline stream and NWI classifies the creek as an R4SBC, which is a riverine system, intermittent streambed class that has a seasonally flooded water regime. This indicates a water body along a channel that only holds water during certain times of the year. Table 4 below summarizes the acres of Rice Canyon Creek in the survey area.



Source: BING Aerial Basemap 2022

EVMWD Rice Canyon Project

Figure 6. Jurisdictional Delineation

0 230 460 Feet

N

- Project Site
- Study Area (300-ft buffer)
- Non-Wetland Waters of the US (USACE/RWQCB/CDFW) - 5.2-acres
- CDFW Riparian - 4.4-acres
- CDFW Streambed - 0.9-acres
- Permanent Impacts to Jurisdictional Features

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Table 4. Summary of Jurisdictional Features in the Study Area

Feature	Linear Feet	Non-Wetland Waters of the State (CDFW) - acres	Non-Wetland Waters of the US (USACE/RWQCB) (acres)	Bank and Riparian Habitat (CDFW) - acres
Rice Canyon Creek (R4SBC)	2,665	5.2	5.2	5.3
Total	2,665	5.2	5.2	5.3

2.9 Habitat Linkages and Wildlife Migration Corridors

There are several habitat linkages (i.e., wildlife migration corridors) addressing particular wildlife that are established in the MSHCP (Riverside County 2003) for the Elsinore Area Plan, Subunit Alberhill that the project site is located in. From the MSHCP, Table 3-4 "Criteria for Elsinore Area Plan" indicates how the two Criteria Cells on the project site — 4250 and 4251 — contribute specifically to an established habitat linkage (Riverside County, 2003):

Cell #4250: Conservation within this Cell will contribute to assembly of Proposed Linkage 1. Conservation within this Cell will focus on chaparral and Riversidean alluvial fan sage scrub habitat. Areas conserved within this Cell will be connected to chaparral habitat proposed for conservation in Cell #4153 to the north and #4251 to the east. Conservation within this Cell will range from 45%-55% of the Cell focusing in the northern half of the Cell.

Cell #4251: Conservation within this Cell will contribute to assembly of Proposed Linkage 1. Conservation within this Cell will focus on chaparral, coastal sage scrub and Riversidean alluvial fan sage scrub habitat. Areas conserved within this Cell will be connected to chaparral habitat proposed for conservation in Cell #4154 to the north and #4250 to the west. Conservation within this Cell will range from 15%-25% of the Cell focusing in the northwestern portion of the Cell

Thus, the two cells are important in terms of a habitat corridor known as Proposed Linkage 1. The proposed linkage is described in the MSHCP (Riverside County 2003) as follows:

"Proposed Linkage 1 consists of the foothills of the Santa Ana Mountains just west of Lee Lake in the west-central region of the Plan Area. The Linkage is contiguous with Existing Core B (Santa Ana Mountains) to the west, Proposed Constrained Linkages 5 (Horsethief Canyon) and 6 (Temescal Wash South) and Proposed Extension of Existing Core 2 (Lake Mathews/Estelle Mountain) to the north, and Proposed Core 1 (Alberhill) to the east. Both Live-In and movement Habitat are provided by the Linkage. Several different routes, ranging from 5,400 to 14,950 feet, may be taken through the Linkage to surrounding MSHCP Conservation Area lands. This Linkage likely provides for movement of common mammals such as bobcat. Mountain lions are also likely to use the Linkage

to access Core Areas in the Lake Mathews/Estelle Mountain Reserve. Maintenance of contiguous Habitat with appropriate refugia for resting, such as rockpiles, brushpiles, windfalls, hollow snags and hollow trees, is important for dispersal of juveniles. Since existing urban Development constrains much of the Linkage, and surrounding planned land uses include city (Lake Elsinore) and community center, management of Edge Effects in this area will be necessary."

3. MSHCP Consistency Analysis

3.1 MSHCP Literature Review

Based on the Western Riverside County MSHCP mapper of the Regional Conservation Authority 2022 the project site has the following attributes:

- The project site is within the Elsinore Area Plan, subunit Alberhill which is part of the Proposed Core 1
- The project site is not within any Cell Groups but is within two Criteria Cells: 4250 and 4251;
- The project is not within a burrowing owl, amphibian, or desert tortoise survey area;
- The project is not within the mammal survey area,
- The project is not within the Stephens' Kangaroo Rat Plan and Fee Area nor within the Reserves for the species,
- The project site is within RCA Conserved Lands
- The project site is within a Narrow Endemic Plant Survey Area, Criteria Species Survey Area, and Area Plan (Elsinore – Subunit Alberhill)
- The MSHCP requires an assessment of the project's potential to impacts riparian/riverine resources and an assessment of vernal pools and fairy shrimp.
- An analysis of the urban/wildlands interface is also required by the MSHCP.
- The project site is in the Elsinore – Alberhill Subunit Plan Area, the area for which there are several plant and wildlife of conservation concern as follows:
    - Wildlife: Bell's sage sparrow, cactus wren, coastal California gnatcatcher, Cooper's hawk, downy woodpecker, least Bell's vireo, southwestern willow flycatcher, tree swallow, tricolored blackbird, white-tailed kite, yellow-breasted chat, yellow warbler, Quino checkerspot butterfly, Riverside fairy shrimp. bobcat, mountain lion, Stephens' kangaroo rat
    - Plants: Coulter's goldfields, many-stemmed dudleya, Munz's onion, San Diego ambrosia, vernal barley
- Within the Alberhill Subunit Plan Area there are several "biological issues and considerations" in the MSHCP (Riverside County, 2003). Several of these are directed toward preserving habitat linkages or corridors and were already mentioned above.

3.2 Criteria Cell #4250

Cell #4250 is located on flat to mountainous areas on the western portion of the project site. It is comprised of several parcels designated as Publicly Managed (PM) and RCA Conserved Lands. It is adjacent to Cell #4251 to the east and Cell #4153 to the north.

These parcels within the cell indicate the following plant species based on the conservation area plan of the MSHCP (Riverside County, 2003) as important:

Narrow Endemic Plants: Munz's onion, San Diego ambrosia, Slender-horned spineflower, Many-stemmed dudleya, Spreading navarretia, California Orcutt grass, San Miguel savory, Hammitt's clay-cress, Wright's trichocoronis

Criteria Area Plants: heart-leaved pitcher sage

Furthermore, the map indicates that the project is "not in a Delhi sands flower-loving fly" area.

3.3 Criteria Cell #4251

Cell #4251 is located on flat to mountainous and developed areas on the eastern portion of the project site. It is to the east of Cell #4250 and the south of Cell #4154.

These parcels within the cell indicate the following plant species based on the conservation area plan of the MSHCP (Riverside County, 2003) as important:

Narrow Endemic Plants: Munz's onion, San Diego ambrosia, Slender-horned spineflower, Many-stemmed dudleya, Spreading navarretia, California Orcutt grass, San Miguel savory, Hammitt's clay-cress, Wright's trichocoronis

Criteria Area Plants: Thread-leaved brodiaea, Davidson's saltscale, Parish's brittlescale, Smooth tarplant, Round-leaved filaree, Coulter's goldfields, Little mousetail, Heart-leaved pitcher sage

Furthermore, the map indicates that the project is "not in a Delhi sands flower-loving fly" area.

3.4 Narrow Endemic, Criteria, and Area Plan Plants

The project site was surveyed for MSHCP Narrow Endemic, Criteria, and Area Plan Plants. The survey took place over 5 field visits from February to July of 2022. Over the course of these site visits, no narrow endemic, criteria, or area plan plants as previously discussed were observed for the project site. However, two species that are among the 146 "covered" plant and wildlife species that comprise the master list of all plant and animals species for the MSHCP area were observed (Figure 5): Coulter's matilija poppy and Cleveland bush monkeyflower. Coulter's matilija poppy was observed as healthy and in all plant communities and was prevalent in various locations directly adjacent to the Rice Canyon Access Road. It grows in concentrated tall clumps. The Cleveland monkeyflower was only observed once on the eastern portion of the project site directly adjacent to the access road in the Riparian Forest. There was only one flowering individual of this species (South

Environmental 2022a). According to I-Naturalist observations the species has also been observed in Rice Canyon further to the west.

Impacts: No narrow endemic, criteria, or area plan plant species were observed during the 5 field surveys. Furthermore, no rare, threatened, or endangered species at a State of California or federal level were observed. Therefore, none would be impacted by the project.

A total of 54 Coulter's matilija poppy and one (1) Cleveland monkeyflower were observed during the survey, and these species are part of the master list of "Covered Species" under the MSHCP. The covered species are a list of 146 plants and animals that are highlighted for conservation under the MSHCP. A list of these species can be found in Section 9.2 of the MSHCP and includes 29 plants. Twenty-four (24) Coulter's matilija poppy are within the proposed development footprint and would be removed by the project. Coulter's matilija poppy is considered Adequately Conserved as of 1/21/2022 per the MSHCP and Riverside Conservation Authority (RCA). The Cleveland monkeyflower is just outside the project site and will be avoided by the project.

3.5 Burrowing Owl Habitat Assessment and Surveys

The project site is not within the MSHCP burrowing owl survey area, nonetheless, it was assessed for the potential habitat for burrowing owls. The project site is within Rice Canyon and the majority of the study area lacks habitat for burrowing owls because it is too steep or has vegetation that is too dense. The steep walled canyons surrounding the stream are not suitable because burrowing owls use relatively flat areas for burrowing and foraging. The dense, tall vegetation in the woodlands and in the chaparral and sage scrub areas was unsuitable for burrowing owls due to the lack of open areas where owls could forage and the lack of burrows. The lack of observed burrows furthers our assessment that they are not suitable habitat for burrowing owls.

The Riversidean alluvial fan sage scrub habitat in the streambed is sparse and occasional boulder piles provide crevices and cavities that could be used by burrowing owls. The streambed also has very low density shrubs and high visibility, which burrowing owls prefer, but it lacks a prey base such as California ground squirrel which were not observed there in abundance. The flat topography, sparser plant distribution, and piles of boulders and cobbles in the eastern study area comprise fair habitat for the burrowing owl, but the lack of prey limits the potential for use by owls. The habitat along the western area of the streambed was sandier with fewer cobbles and boulders and less vegetation, and is less suitable due to lack of cover sites and the surrounding dense woodland that limits the visibility. The survey focused on the Riversidean alluvial fan sage scrub habitats, and largely on the eastern half of the study area (and extended out to 500-feet east of the project site within the creek) for the reasons indicated. The survey was conducted according to Appendix C and Appendix D of the *2012 Staff Report on Burrowing Owl Mitigation* and according

to the *Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area* (RCA 2006).

South Environmental observed no signs of burrowing owl at any time during the habitat assessment and four surveys conducted from early-February to mid-July of 2022. Thus, there were no sightings of burrowing owls or observance of active burrows or cavities. There were no signs of owl presence including guano, pellets, prey remains, whitewash, or decoration outside of a potential entrance. Based on the lack of owls observed and the lack of evidence of use by owls, South Environmental concludes that there are no burrowing owls inhabiting the Rice Canyon study area and none would be impacted by the project (South Environmental 2022b). Despite the lack of quality habitat and low potential for burrowing owls to occur, preconstruction surveys (BIO-3) are recommended to ensure no owls show up prior to initiation of the project.

3.6 Quino checkerspot butterfly

Quino checkerspot butterfly host plant mapping and a site assessment was conducted in February 2022 prior to the initiation of focused Quino surveys. Host plant mapping surveys focused on the identification and location of all seven recognized host plants for Quino. A total of 12 focused Quino surveys were between February and May 13th by Osprey Environmental. The entire Study Area was surveyed on-foot, at a rate of approximately 5-10 acres per person hour. No recognized host plants of the species were observed but some were identified as possible nectar sources. No Quino checkerspot butterflies were observed during the surveys (Osprey Environmental 2022) and none would be impacted by the project.

3.7 Coastal California Gnatcatcher

Suitable habitat for the federally threatened/state species of special concern coastal California gnatcatcher was documented within the survey area and included Riversidean sage scrub and ecotones with southern mixed chaparral. Other vegetation communities documented within the survey area included coast live oak woodland, coast live oak/sycamore riparian, and Riversidean alluvial fan sage scrub. All habitats within the survey area were covered during the focused survey efforts to determine the current status of the species within and immediately adjacent to the project site. A 16.85-acre survey area (Survey Area) was established which included the 2.60-acre Project Site. The gnatcatcher surveys were conducted on six occasions from March to April 2022. The coastal California gnatcatcher was not documented within or adjacent to the project site during the 2022 focused surveys. Therefore, the project would not have impacts to coastal California gnatcatcher.

3.8 Jurisdictional Resources/Riparian/Riverine Areas

The jurisdictional resources (i.e. Riparian/Riverine habitat) present within the study area were described previously in Section 2.8 and include 10.5-acres of streams and associated riparian habitat

in the study area. A total of 0.98-acres of the impact areas is to Riverine or Riparian areas as summarized below in Table 5.

Table 5. Summary of Riparian/Riverine Habitat on the Project Site

Community or Cover Type	Acres	Acres that are Riverine or Riparian
Chaparral	0.15	0.00
Coast Live Oak Woodland	0.43	0.31
Disturbed/Developed	1.10	0.38
Riparian Forest	0.19	0.19
Riversidean Alluvial Fan Sage Scrub	0.08	0.08
Riversidean Sage Scrub	0.61	0.02
Total	**2.56**	**0.98**

Following the project, the native habitats on the project site would largely remain intact because the project is linear, and impacts would only occur to a narrow 40-foot corridor that is already disturbed. Wildlife movement corridors and habitat linkages to the protected areas of Cleveland National Forest upstream and to the Alberhill Conservation Area north of the project would also remain intact, and the flow of the creek and alluvial action would not be altered by the Arizona crossing per the design features.

In addition, the project will seek permits for potential impacts to jurisdictional resources (Rice Canyon Creek) and water quality from the installation and operation of the three Arizona crossings. The permit measures will include compensatory mitigation for the loss of riparian/riverine areas (jurisdictional features) and Best Management Practices (BMPs) that will reduce and/or eliminate impacts to the creek and the water quality. This permitting would result in compensation required by the USACE, CDFW, and RWQCB for the loss of the 0.98-acres of coast live oak woodland, disturbed area, riparian forest, RAFSS, and RSS within the riparian/riverine portions of the project site. Therefore, overall impacts of the project would be the permanent loss of 1.46-acres of native habitats and 1.10-acres of disturbed areas that includes 0.98-acres of riparian/riverine resources. The project would avoid or compensate for impacts to jurisdictional resources and water quality through consultation and permitting with the appropriate resource agencies.

3.9 Vernal Pools and Fairy Shrimp

No vernal pools or wetland plants or other similar features were observed on the project site during the jurisdictional delineation or during the reconnaissance survey. The soils are non-hydric soil types and the plants were largely upland species, and none were obligates of wetlands, indicating that vernal pool soils and plants are absent from the project site. Therefore, no impacts would occur to vernal pools or fairy shrimp.

3.10 Urban/Wildlands Interface

Section 6.0 of the MSHCP requires an Urban/Wildlands Interface analysis be conducted in order to address the indirect effects associated with locating proposed development in proximity of MSHCP Conservation Areas. The access road is adjacent to MSHCP conserved lands to the north within the study area. However, the proposed project is a minor expansion of an existing access road that leads to an existing water facility and proposes no increase in future use. The road will be updated for safe use and does not propose unnecessary impacts. The road does not increase potential for future development as it is a maintenance road, and only a continuation of the existing use is the intended future use. Human presence will not be increased as only EVMWD crews will use the road and no new uses are proposed. This is a private road for EVMWD, and public access is restricted.

As indicated the project site is part of the Proposed Core 1 area and the Proposed Linkage 1 area. Specifically in relation to the attributes of the project site and the biological considerations for the Alberhill subunit, the linkage may provide

- Conserve clay soils supporting sensitive plants such as Munz's onion, many-stemmed dudleya, small-flowered morning glory and Palmer's grapplinghook.
- Maintain upland Habitats in Alberhill and provide connection north to Estelle Mountain, North Peak, and BLM Lands.
- Conserve foraging Habitat for raptors, providing a sage scrub-grassland ecotone.
- Maintain Core and Linkage Habitat for bobcat.
- Maintain opportunities for Core and Linkage Habitat for Quino checkerspot butterfly.

The project potential impacts to the urban/wildlands interface includes:

- Potential runoff of sediments or other toxins into Rice Canyon during the project,
- Lighting and noise during construction could deter wildlife from using the area,
- Construction equipment could introduce invasive plants into the system,
- The proposed Arizona crossings could create barriers to fish and wildlife movement if done improperly.

Recommendations for these impacts presented in Section 5 includes permitting for potential impacts to the jurisdictional areas and riparian areas (BIO-5), including potentially obtaining a water quality certification for the project, implementing Best Management Practices (BMPs) to avoid unnecessary erosion or runoff of sediments or toxins into downstream areas (BIO-6), limiting work to daylight hours and avoiding using lights at night (BIO-7), designing the Arizona crossings in a way that does not inhibit or redirect the stream flow or create any barrier to overland or aquatic movements (BIO-8), conducting all work within the streambed during dry months and avoiding

working when rain is in the forecast (BIO-6), and ensuring the construction equipment is clean of toxins or invasive plant materials prior to entering the job site (BIO-6). With the implementation of these recommended measures the project would avoid impacts to the urban/wildlands interface and be consistent with the goals of the MSHCP.

3.11 Stephens' Kangaroo Rat and San Bernardino Kangaroo Rat

The project is not within the Stephens' Kangaroo Rat (SKR) Fee Area nor within the conserved lands for this species. The site lacks the typical grasslands associated with this species. SKR also uses scrub areas with sparse cover, and there are some areas of sparse shrub cover but it is mostly scale broom and yerba santa in these areas and not the typical buckwheat or chamise that the species prefers. Therefore, there is a low potential for SKR to occur due to the lack of preferred habitat.

Similarly, the San Bernardino Kangaroo Rat (SBKR) is not known to occur in the vicinity of the project and requires larger alluvial areas than are present on the study area for preferred habitat. Due to the project being outside the known range of the species and the MSHCP Survey area for this species, areas well as lacking a large alluvial area for the species to forage and breed, there is a low potential for SBKR to occur.

3.12 MSHCP Consistency Analysis

Related to the Reserve Assembly goals of the MSHCP, since the project area is located within lands Conserved by the MSHCP, the District is actively working with the RCA to remove the project area (40-foot wide) which is comprised of the existing access road to the existing Reservoir from the lands considered Conserved. The District will replace the 2.56 acres of the project area with 2.6 acres of riparian woodland habitat with the Elsinore Area Plan but within the Sedco Hills Subunit. This "land swap" would ensure that the overall acreage of Conservation Lands per the MSHCP are replaced.

Based on the analysis in this report the project would have direct unavoidable impacts to 0.98-acre of riparian/riverine features and would be constructed within an area at the urban/wildlands interface that are resources protected under the MSHCP. With the implementation of BIO-1 that includes the proposed compensatory replacement for impacts to jurisdictional features/riparian/riverine resources, and the implementation of BIO-5, BIO-6, and BIO-7 that pertain to permits for jurisdictional resource impacts, BMPs, and avoiding deterrents and barriers to fish and wildlife movement the project would be consistent with the goals and requirements of the WRC MSHCP.

Narrow endemic, criteria, and area plan plants are absent from the project site, focused surveys for burrowing owls, coastal California gnatcatcher, and Quino checkerspot butterfly determined that the species are not present on the project site or in the vicinity, and a delineation of aquatic

resources on the site determined that vernal pools are absent, and no impacts would occur to these MSHCP resources.

4. Impacts Analysis

For the purposes of this report, impacts to protected biological resources are analyzed within the context of the regulatory setting. Below is an overview of the federal, state, and local regulations pertaining to protected biological resources on the study area, and an analysis of impacts to those resources that may occur as a result of the proposed development follows.

4.1 Regulatory Setting

Federal Regulations

Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973 defines an endangered species as "any species which is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species which is likely to become an Endangered species within the foreseeable future throughout all or a significant portion of its range." Under provisions of Section 9(a)(1)(B) of the FESA, unless properly permitted, it is unlawful to "take" any listed species. "Take" is defined in Section 3(18) of FESA: "...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Further, the USFWS, through regulation, has interpreted the terms "harm" and "harass" to include certain types of habitat modification as forms of "take." These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case where a property owner seeks permission from a federal agency for an action which could affect a federally listed plant or animal species, the property owner and agency are required to consult with USFWS pursuant to Section 7 of the FESA if there is a federal nexus, or pursuant to Section 10 of the FESA. Section 9(a)(2)(b) of the FESA addresses the protections afforded to listed plants.

The MSHCP constitutes an HCP compliant with Section 10 of the ESA, providing for take of endangered and threatened species within its purview. This report has been prepared, in part, to demonstrate compliance with the MSHCP and, by proxy, compliance of the Project with the ESA. More about the MSHCP and its implications for the Project, can be found in ensuing sections.

Clean Water Act Sections 404 and 401

Section 404 of the Clean Water Act (CWA) establishes a program to regulate the discharge of dredged and fill material into waters of the United States (U.S.), including wetlands. Activities in waters of the U.S. or wetlands regulated under this program include fill as a result of projects such as development, water resource projects (such as dams and levees), infrastructure development and

mining projects. Section 404 requires a permit before dredged or fill material may be discharged into waters of the U.S.

Section 401 of the CWA requires that any person applying for a federal permit or license which may result in a discharge of pollutants into waters of the United States (such as a Clean Water Act Permit under Section 404), must obtain a state water quality certification stating that the activity complies with all applicable water quality standards, limitations, and restrictions. No license or permit may be issued by a federal agency until certification required by section 401 has been granted or waived.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) protects individuals as well as any part, nest, or eggs of any bird listed as migratory. In practice, federal permits issued for activities that potentially impact migratory birds typically have conditions that require pre-disturbance surveys for nesting birds. In the event nesting is observed, a buffer area with a specified radius must be established, within which no disturbance or intrusion is allowed until the young have fledged and left the nest, or it has been determined that the nest has failed. If not otherwise specified in the permit, the size of the buffer area varies with species and local circumstances (e.g., presence of busy roads, intervening topography, etc.), and is based on the professional judgment of a monitoring biologist. A list of migratory bird species protected under the MBTA is published by USFWS.

California Regulations

California Endangered Species Act

The California ESA generally covers the central provisions of the ESA but with the distinction that the California ESA also applies the take prohibitions to "candidate" species proposed for listing. Section 2080 of the California Fish and Game Code prohibits "import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species" unless otherwise authorized by permit or in law. The California ESA permits take that is incidental to development projects that otherwise complies with current laws and regulations. Importantly, state agencies must consult with the California Department of Fish and Wildlife (CDFW) to ensure that any action they undertake is unlikely to jeopardize the existence of any endangered or threatened species or result in the destruction or harmful modification of their habitat.

Fully Protected Species (California Fish and Game Code § 4700)

Before the ESA of the State of California and at a federal level, wildlife species could receive a designation of "fully protected". The fully protected species were those animals that were rare or

confronted possible extinction. Fully protected wildlife could be fish, amphibians, reptiles, birds, and mammals. Subsequent to this legislation, the majority of these species have since been listed as threatened or endangered under the ESA at a state or federal level. The regulations that implement the statue dictate that fully protected species may never be taken or possessed.

Native Plant Protection Act (NPPA, California Fish and Game Code §§ 1900-1913)

The NPPA of 1977 is administered by the CDFW and was designed with the goal to "preserve, protect and enhance rare and endangered plants in this State." The legislation grants the Fish and Wildlife Commission the authority to designate native plants as "endangered" or "rare" and to protect these plants from take. The California ESA of 1984 provided additional protection for rare and endangered plant species, but the NPPA is still an integral part of the California Fish and Game Code.

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) is a statute that requires state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible. CEQA applies to certain activities of state and local public agencies. A public agency must comply with CEQA when it undertakes an activity defined by CEQA as a "project." A project is an activity undertaken by a public agency or a private activity which must receive some discretionary approval (meaning that the agency has the authority to deny the requested permit or approval) from a government agency which may cause either a direct physical change in the environment or a reasonably foreseeable indirect change in the environment.

An Initial Study (IS) is prepared when a proposed action is determined to be a "project" under CEQA. The IS is a checklist that asks specific questions about the project's level of environmental impacts in many categories, including biological resources. The checklist includes a series of questions to determine the projects level of potential impacts in each of the categories. The CEQA Checklist includes the following questions regarding biological resources:

- *Would the project:*
    - *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*
    - *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?*
    - *Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

- *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*
- *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance*
- *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

Potential level of impact choices includes: No Impacts, Less Than Significant Impact, Less Than Significant with Mitigation Incorporated, and Potentially Significant Impact. For projects that have no impact or less than significant impact a Negative Declaration is prepared, for those with Less Than Significant with Mitigation Incorporated prepare a Mitigated Negative Declaration, and for those with a Potentially Significant Impact prepare an Environmental Impact Report (EIR).

State of California Fish and Game Code Section 1600

Fish and Game Code Section 1602 outlines the Lake and Streambed Alteration Agreement (LSAA) permitting process, and states:

- An entity shall not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake*, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake

Fish and Game Code Section 1602 requires any entity (defined as any person, State or local governmental agency, or public utility) to notify the CDFW before beginning any activity that will do one or more of the following:

- substantially divert or obstruct the natural flow of and river, stream, or lake, or
- substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake*, or
- deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

A permit, known as a Lake or Streambed Alteration Agreement, from CDFW is required to conduct any of the activities described above.

State of California Fish and Game Code Section 3500

Section 3503.5 of the California Fish and Game Code states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any

regulation adopted pursuant thereto." Activities that result in the abandonment of an active bird of prey nest may also be considered in violation of this code. In addition, California Fish and Game Code, Section 3511 prohibits the taking of any bird listed as fully protected, and California Fish and Game Code, Section 3515 states that is it unlawful to take any non-game migratory bird protected under the MBTA.

California Migratory Bird Protection Act

The California Migratory Bird Protect Act (MBPA) was enacted in September 2019 to reinforce the MBTA at the state level. The Act states:

- "It is unlawful to take or possess any migratory nongame bird as designated in the federal Migratory Bird Treaty Act (16 U.S.C. Sec. 703 et seq.) before January 1, 2017, any additional migratory nongame bird that may be designated in that federal act after that date, or any part of a migratory nongame bird described in this section, except as provided by rules and regulations adopted by the United States Secretary of the Interior under that federal act before January 1, 2017, or subsequent rules or regulations adopted pursuant to that federal act, unless those rules or regulations are inconsistent with this code." This section is inactive on January 20, 2025 and the following language below will be adopted.

- "It is unlawful to take or possess any migratory nongame bird as designated in the federal Migratory Bird Treaty Act (16 U.S.C. Sec. 703 et seq.), or any part of a migratory nongame bird described in this section, except as provided by rules and regulations adopted by the United States Secretary of the Interior under that federal act." This section is operative starting on January 20, 2025.

Local Regulations

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

The MSHCP is an overarching, regional, multi-jurisdictional plan centered on the conservation of species with conservation problems (i.e., special-status species) and their associated habitats in western Riverside County. The MSHCP identified 146 species, termed "Covered Species," and then was given authority to grant federal and California ESA "take" authorizations to regional jurisdictions under the plan when they follow the state and federal ESAs and MSHCP regulations. Of the 146 Covered Species, 118 are considered to be "adequately conserved" and 28 Covered Species will be adequately conserved when certain conservation goals are met in accordance with the MSHCP. The MSHCP was designed to focus on core habitat and linkages in the region in relation to the species designated for protection. Its overall goal is to conserve the biological and ecological diversity in a

rapidly developing region while at the same time promoting economic development of western Riverside County.

The approval of the MSHCP and execution of the Implementing Agreement (IA) by the wildlife agencies allows signatories of the IA to issue "take" authorizations for all species covered by the MSHCP, including state- and federally listed species, as well as other identified sensitive species and/or their habitats. Each city of local jurisdiction will impose a Development Mitigation Fee for projects within their jurisdiction. With payment of the mitigation fee to the county and compliance with the survey requirements of the MSHCP where required, full mitigation in compliance with CEQA, National Environmental Policy Act (NEPA), the California ESA, and the ESA will be granted. The Development Mitigation Fee varies according to project size and project description and is dependent on development density (Riverside County Ordinance No. 810.2). Payment of the mitigation fee and compliance with the requirements of Section 6.0 of the MSHCP are intended to provide full mitigation under CEQA, NEPA, and the California and federal ESAs for impacts to the species and habitats covered by the MSHCP, pursuant to agreements with USFWS, CDFW, and/or any other appropriate participating regulatory agencies as set forth in the IA for the MSHCP.

4.2 Project Impacts

Impacts to Plant Communities/Habitat/Sensitive Natural Communities

The project would largely be constructed on disturbed or developed areas where an existing access road occurs (1.10-acre, 43%), and the remaining impacts would occur to areas of native plant communities at the edge of the existing road. These plant communities have the potential to support special-status species as described in Section 2.5. There will be impacts to 1-acre of riverine/riparian resources that includes riparian forest (0.19-acre, 7%) and RAFSS (0.08-acre, 3%) that are considered sensitive natural communities by the CDFW, as well as 0.31-acre of coast live oak woodland, 0.38-acre of developed/disturbed areas, and 0.02-acre of RSS that is within jurisdictional areas (CDFW riparian). The RAFSS is early successional with very sparse vegetation that is scoured by heavy annual flows. The impacts to actual plants in this community by the project will be very low and would only result in the loss of a few existing shrubs. The development itself will however permanently develop small areas of this habitat so no shrubs will grow there in the future, but based on the existing level of disturbance the actual loss of shrubs is in the single digits and would be negligible. Similarly, the woodlands on the project site will be impacted in the understory and it is unlikely that any trees would be removed by the project. Minor grading in the root zone of a few trees and potentially insignificant (less than 5% of canopy) of any trees would be trimmed if necessary. The majority of the project site is already developed and currently lacks habitat, and the woodland impacts within the project site would be to shrubs and ground cover at the edge of the existing disturbance and would only be a few feet wide on each side of the existing disturbance.

Upland habitats that have the potential to support special-status species would also be impacted including 0.15-acre of chaparral, 0.12-acre of coast live oak woodlands, and 0.59-acre of RSS that are not associated with the jurisdictional areas on the project site.

Recommendations include the following habitat conservation, restoration, or enhancement requirements described in Recommended measure BIO-1 in Section 5:

- A land swap of 2.6-acres of the mitigation parcel is to compensate for the loss of MSHCP lands due to the project. This land swap replaces MSHCP conserved lands on the project site with 2.6-acres off-site that is of higher biological value.

- Permits for impacts to jurisdictional resources will include compensatory mitigation for impacts to USACE, RWQCB, and CDFW jurisdictional resources (1.0-acre on the project site). Impacts should be mitigated at a 3:1 ratio for the CDFW impacts or at a ratio that is determined during permitting with the resources agencies. Mitigation shall include either conservation, restoration, or enhancement of habitats as described in the Mitigation Measure BIO-1. Some of these resources (RAFSS and Riparian Forest) are considered sensitive natural communities by CDFW and the mitigation shall also satisfy the need to replace this habitat at a 3:1 mitigation ratio.

A total of 0.86-acres of upland habitats (coast live oak woodlands, RSS, and chaparral) would also be impacted and compensatory mitigation would include conservation, restoration, or enhancement of similar habitats at a 1:1 ratio as described in BIO-1.

Impacts to Nesting Birds and Raptors

The proposed development would require potential removal of trees, shrubs, and herbaceous plants that could provide potential nesting habitat for birds and raptors protected by the MBTA, MBPA, and the Fish and Game Code. If present at the time of vegetation removal, active nests, eggs, or young could be destroyed or otherwise disturbed to a point at which the young do not survive, which would be a violation of the MBTA, MBPA, and the Fish and Game Code. In addition, indirect impacts from noise or vibration has the potential to disturb an active bird nest that may occur in adjacent landscaping to the point of failure if the nest is within immediate proximity to project activities, and this would also be a violation of the MBTA and Fish and Game Code. To avoid impacts to active bird or raptor nests, eggs, or young, preconstruction nesting bird surveys and monitoring is required per the MBTA and Fish and Game Code as described in BIO-2 in Section 5.

Impacts to Special-Status Plants

CRPR 4 species Coulter's Matilija poppy and Cleveland monkeyflower occur on the study area and 24 Coulter's Matilija poppy would be removed by the project. CRPR 4 taxa are only of limited distribution and are not rare, threatened, or endangered at a state or federal level including under Section 15380 of CEQA. Thus, as CRPR 4 species, Coulter's Matilija poppy and Cleveland monkeyflower do not meet CEQA standards and thresholds for impact consideration and loss of the species would not be considered significant according to CEQA. Therefore, impacts to special-status plants would be considered less than significant according to CEQA.

Impacts to Special-Status Birds (Cooper's hawk, Southern California rufous-crowned sparrow, long-eared owl, and white-tailed kite)

Southern California rufous-crowned sparrow, Cooper's hawk, long-eared owl, and white-tailed kite are special-status birds with the potential to nest on the site. If present at the time of vegetation removal, active nests, eggs, or young could be destroyed or otherwise disturbed to a point at which the young do not survive, which would be a significant impact according to CEQA, and avoidance of impacts to active nests is recommended. The nesting bird and raptor surveys proposed in BIO-2 in Section 5 would result in avoidance of impacts to nesting special-status birds.

Impacts to Crotch's Bumble Bee

Scrub and chaparral occur on the study area that could serve as habitat for Crotch's bumble bee, and potential food plants occur throughout the study area. If the Crotch's bumble bee occurs on the project site, it would not likely be impacted directly by construction as it can simply fly away to adjacent habitat when faced with construction disturbance. The food plants were not common on and near the proposed work area and the loss of these plants would be negligible as it would amount to a few individual shrubs. South Environmental conducted numerous surveys of the project impact areas and hives or nesting colonies of the species were not observed during there. Therefore, the project would not impact nests, hives, or other areas necessary for the survival of the colony. Because no hives, colonies, or individual bumble bees would be impacted and the loss of host and food plants is negligible, no impacts to Crotch's bumble bee would result from the project.

Impacts to Special-Status Reptiles (California glossy snake, orange-throated whiptail, and coast horned lizard)

The California glossy snake, coast horned lizard and orange-throated whiptail have the potential to use the study area in the scrub and chaparral habitats as well as in the streambed. These species could also sun themselves in the dirt access road. The removal of vegetation and ground disturbance from road grading could potentially result in the trampling and death or injury to the

reptiles. Noise and vibrations could push the lizards from their burrows where they could be trampled. Vegetation removal and grading could also threaten the species when faced with pruning and weed whacking activity. To avoid any impact to the special-status reptiles BIO-4 in Section 5 is recommended and includes preconstruction survey and protection and relocation of special-status reptiles.

Impacts to Jurisdictional Resources

As summarized in Table 6 below and shown in Figure 6, the total permanent impacts anticipated from the project include 1.0-acre[2] of jurisdictional features. This total includes 0.3-acre (413 linear feet) of non-wetland waters of the US under the jurisdiction of the USACE and the RWQCB within the OHWM of Rice Canyon Creek. The total permanent impacts anticipated from the project include 0.3-acre (413 linear feet) of non-wetland waters of the state under the jurisdiction of the CDFW and is the same area as the Non-Wetland Waters of the US within Rice Canyon Creek. An additional 0.7-acre (1,560 linear feet) of permanent impact to the bank of Rice Canyon Creek (between the OHWM and the top-of-bank) and associated riparian habitat that is under the jurisdiction of CDFW would occur as a result of the project.

Table 6. Summary of Permanent Impacts to Jurisdictional Features

Feature	Non-Wetland Waters of the US and State (USACE/RWQCB/CDFW) (acres/linear feet of permanent impacts)	Bank and Riparian Habitat (CDFW only) (acres of permanent impacts)
Rice Canyon Creek	0.3/413	0.7/1,560
Total	0.3/413	0.7/1,560

Note: Acreage shown in table are rounded to the nearest tenth of an acre.

The impacts specifically will occur from the fill of the streambed with Arizona crossings and the grading and trimming of vegetation for the widening of the access road within the CDFW riparian areas surrounding the stream. The impacts from construction and operation of the access road through the ephemeral stream would be permanent as the road will be used and maintained into perpetuity to allow access to the reservoir facility at the end.

As described in BIO-5, permits should be sought for impacts to these features that include: 1.) CDFW Notification of Lake or Streambed Alteration via the online portal, 2.) RWQCB Discharges of Dredged or Fill Material to Waters of the State notice of intent, and 3.) a USACE application. The project likely qualifies to proceed under USACE Nationwide Permit 14 – Linear Transportation Projects and will require a Preconstruction Notification (PCN). Permit conditions should be followed to compensate

[2] This total impacts of 1.0-acres is the same area as the riparian/riverine areas described in Table 5 in Section 3.8, but has been rounded to the nearest tenth of an acre.

or mitigate for the impacts, and to avoid impacts to the remaining features during construction and operation of the development.

In addition, BMPs proposed in BIO-6 will result in avoidance of water quality issues to downstream areas from the project site.

Impacts to Protected Trees

There are no protected trees on the project site and none would be impacted by the project.

Impacts to Wildlife Movement Corridors and Habitat Linkages

The proposed project is within a habitat linkage area associated with the MSHCP, Cleveland National Forest, and within Rice Canyon. These areas support a large contiguous area of protected and undeveloped native habitats that provide wildlife movement opportunities and habitat linkages for a variety of wildlife. As described in Section 3.10, the project potential impacts to wildlife movement and habitat linkages includes lighting and noise during construction that could deter wildlife from using the area and the proposed Arizona crossings could create barriers to fish and wildlife movement if done improperly.

Recommended mitigation for these impacts presented in Section 5 includes BIO-7 for limiting work to daylight hours and avoiding using lights at night, BIO-8 for designing the Arizona crossings in a way that does not inhibit or redirect the stream flow or create any barrier to overland or aquatic movements, and BIO-6 for conducting all work within the streambed during dry months and avoiding working when rain is in the forecast.

5. Recommendations

BIO-1: Land Swap, Habitat Replacement and Conservation

- The District will ensure a land swap with the MSHCP to replace 2.56-acres of MSHCP lands on the project site with 2.60-acres of a "mitigation" parcel that will be incorporated into the conserved areas of the MSHCP. This results in no net loss of MSHCP conserved lands.
- Per the jurisdictional delineation report impacts described in Table 6, recommended replacement for the loss of 1-acre of jurisdictional areas of riparian forest, RAFSS, coast live oak woodland, disturbed areas, and RSS should include replacing habitat through conservation easements, habitat restoration, or enhancements at 3:1 or at the ratio determined during the permitting with CDFW, USACE, and RWQCB for impacts to jurisdictional areas described in Mitigation Measure BIO-5.
- Recommended replacement for the additional loss of 0.86-acres of upland habitats (coast live oak woodland, RSS, and chaparral) should include replacing habitat at no less than 1:1 for all impacts.
- If possible, replacement lands should be acquired immediately adjacent to the project site or within Rice Canyon or surrounding areas, and preserved in perpetuity as one contiguous parcel if possible. If additional acres are not available for purchase that support suitable replacement habitats, it is recommended that replacement lands be acquired that extend the Rice Canyon protected areas and enhance wildlife habitat, corridors, and diversity.
- Replacement lands should be protected in perpetuity under a conservation easement dedicated to a local land conservancy or other appropriate entity that has been approved to hold and manage mitigation lands pursuant to Assembly Bill 1094 (2012). Assembly Bill 1094 amended Government Code sections 65965-65968. Under Government Code section 65967(c), the lead agency must exercise due diligence in reviewing the qualifications of a governmental entity, special district, or nonprofit organization to effectively manage and steward land, water, or natural resources on mitigation lands it approves. An appropriate non-wasting endowment should be provided for the long-term management of mitigation lands.
- A plan should be prepared that includes measures to protect the targeted habitat values in perpetuity from direct and indirect negative impacts. Issues that should be addressed include, but are not limited to, restrictions on access, proposed land dedications, control of illegal dumping, water pollution, and increased human intrusion. A conservation easement and endowment funds should be fully acquired, established, transferred, or otherwise executed prior to issuance of a grading permit.

- If suitable lands are not identified, then conservation and credits from a nearby conservation or mitigation bank should be purchased that would conserve similar habitats to those that are lost during the project.

BIO-2: Preconstruction Nesting Bird and Raptor Survey

- If possible, ground disturbing activities and vegetation removal should be timed to occur between September 1 – January 31, which is outside the bird and raptor nesting season.

- If ground disturbing activities or vegetation removal (including tree trimming) are scheduled between February 1 – August 31, which is the bird nesting season, a preconstruction survey for nesting birds should be conducted within 72 hours prior to construction activities. The survey should be conducted by a qualified biologist with prior experience conducting nesting bird surveys for construction projects. The study area should include the affected area and suitable habitat within a 500-foot buffer, or a buffer size determined by the qualified biologist based on level of proposed disturbance and access. If no active nests are found, no additional measures are required.

- If active nests are found the biologist will map the location and document the species and nesting stage. A no-work buffer will be established around the active nest as determined by the qualified biologist and based on the species sensitivity to disturbance and the type and duration of the disturbance. No construction activities shall occur within the no-work buffer until the biologist has determined the nest is no longer active.

BIO-3: Preconstruction Surveys for Burrowing Owls

- A take avoidance survey for burrowing owls should be completed within suitable habitat on the project site no more than 14-days prior to construction activities and in accordance with the 2012 Staff Report on Burrowing Owl Mitigation). If burrowing owls are observed during the preconstruction survey, a specific mitigation methodology for the owls shall be determined in coordination with CDFW to avoid or reduce the impacts to a level that is less than significant. Mitigation could include avoidance of burrows during the nesting season and/or passive relocation of burrowing owls.

BIO-4: Special-Status Reptile Survey and Protection/Relocation

- A qualified biologist should conduct daily reptile biological monitoring during any activities involving vegetation clearing or modification of natural habitat. Positive detections of special-status reptiles (such as coast horned lizard, orange-throated whiptail, and California glossy snake) and suitable habitat at the detection location should be mapped and photographed.

- Initial removal of vegetation shall occur using hand tools only and then can be graded. Vegetation shall be cut with hand tools (i.e. chainsaw, loppers, etc.) at the soils surface, and cut vegetation shall be removed (carried out or placed on a truck). During the vegetation removal, a qualified biologist shall be onsite to recover any individual special-status wildlife that may be excavated or displaced with native vegetation. Individual lizards will be captured (if possible) and removed from the impact area and will be released into a predetermined area outside of construction and fuel modification in the immediate vicinity. The salvage program will continue until all special-status reptiles have been removed from the area. Following the initial vegetation removal and salvage program the area can be graded.

BIO-5: Permit Compliance for Impacts to Jurisdictional Features

- Permits are required for impacts to jurisdictional features and include: 1.) CDFW Notification of Lake or Streambed Alteration via the online portal, 2.) RWQCB Discharges of Dredged or Fill Material to Waters of the State notice of intent, and 3.) a USACE application. The project likely qualifies to proceed under USACE Nationwide Permit 14 – Linear Transportation Projects and will require a Preconstruction Notification (PCN). Permit conditions should be followed to compensate or mitigate for the impacts, and to avoid impacts to the remaining features during construction and operation of the development.

BIO-6: Best Management Practices

- All vehicles and any ground or vegetation disturbing equipment/tools must be cleaned and free of mud, soil, and plant material prior to entering the project site.

- No materials (e.g., construction materials and hardware, imported or native fill, gravel, riprap, excavated materials, debris, etc.) or equipment shall be staged/parked, stored, stockpiled, or disposed of in potential waters or riparian areas, or on slopes above and adjacent to these features. No equipment refueling in waters or riparian area, or on slopes above and adjacent to these features.

- Contractor shall actively implement best management practices (BMPs) to prevent erosion and the discharge of sediment and pollutants into potential waters during project activities. BMPs shall be monitored and repaired, if necessary, to ensure maximum erosion, sediment, and pollution control and removed at the time of project completion. Staged materials should be located outside potential jurisdictional features on flat areas and straw wattles, or other similar erosion or sediment control devices should be located adjacent to materials and stockpiles to capture runoff or sedimentation into the features.

- Work within waters should be scheduled to occur during the dry season when water is not present, and conditions are entirely dry. No work should occur when water is present in the

stream and no construction vehicles should cross the stream when water is present. No diverting water is to occur, and work should be timed to avoid the potential for water diversion.

- Work within the streambed should be postponed to occur after a rain event and work within the stream should be cancelled if weather forecasts predict rain at a greater than 50% chance.

- When rain is predicted to occur, soils and other stockpiles should be covered with a tarp to avoid runoff or sediment from entering the stream.

BIO-7: Daytime Work and Night Lighting

- Work on the project should occur during daylight hours, and no work at night should occur.

- Fencing or walls shall be prohibited, except where necessary for public safety or habitat protection or restoration. Fencing or walls that do not permit the free passage of wildlife shall be prohibited in any wildlife corridors.

- Exterior lighting (except navigational lights and other similar safety lighting) shall be avoided by the project.

BIO-8: Wildlife Friendly Arizona Crossings

- Arizona crossing should be designed to allow for the unrestricted flow of water and should not alter the course of flow in any way.

- The Arizona crossings should be constructed in a way that does not result in a barrier for wildlife movement of both large or small ground dwelling species.

BIO-9: On-Site Biological Monitor

- A qualified biological monitor should be onsite during all project activities that require vegetation removal or initial ground disturbing impacts to ensure that impacts to biological resources such as streambeds and native plant communities are kept to a minimum required for the project. The monitor should be available to conduct preconstruction survey described in this report such as for nesting birds or special-status reptiles prior to ground disturbance. Project activities that occur inside the developed water tank area do not require monitoring.

- The monitor should keep a log of daily activities and ensure the project compliance with the Recommendations outlined in the permits and project approvals.

- A copy of the project permits should be always kept onsite by the biological monitor and available for reference.

- The biological monitor shall deliver a Worker Environmental Awareness Training to all personnel that works on the project site. The training should include information for all of the potential protected species that could be encountered and should inform the personnel of their responsibilities to avoid impacts to protected resources.

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Appendix A

Photograph Log

Photo 1. Depicts the access road where the eastern Arizona crossing will be constructed in Rice Canyon Creek.

Photo 2. Depicts Rice Canyon Creek at the washed out section of access road on the east end of the project.

Photo 3. Depicts Rice Canyon Creek floodplain north of the access road on the east of the project site.

Photo 4. Depicts the second project crossing through Rice Canyon Creek.

Photo 5. Depicts the second project crossing of Rice Canyon Creek. Old access road is visible in the foreground.

Photo 6. Depicts the third project crossing through Rice Canyon Creek on the west end of the project site.

Appendix B

Special-Status Species Analysis

Special-Status Species

Special-status species are those plants and animals that, because of their recognized rarity or vulnerability to various causes of habitat loss or population decline, are recognized by federal, state, or other agencies as under threat from human-associated developments. Some of these species receive specific protection that is defined by federal or state endangered species legislation. Others have been designated as special-status based on adopted policies and expertise of state resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives. Special-status species include:

- Plants or wildlife listed or proposed for listing as threatened or endangered, or are candidates for possible future listing as threatened or endangered, under the federal Endangered Species Act or the California Endangered Species Act;
- Plants or wildlife that meet the definitions of rare or endangered under CEQA Guidelines Section 15380.
- Plants or wildlife covered under an adopted NCCP/HCP;
- Plants considered by the California Native Plant Society (CNPS) to be rare, threatened, or endangered (List 1A, 1B and 2 plants) in California;
- Plants listed by the CNPS as plants in which there is limited information about distribution (List 3);
- Plants listed as rare under the California Native Plant Protection Act (Fish and Game Code 1900 et seq.);
- Wildlife designated by CDFW as species of special concern;
- Wildlife "fully protected" in California (California Fish and Game Code Sections 3511, 4700, and 5050); and
- Wildlife protected by the Migratory Bird Treaty Act (MTBA).

Federally-Protected Status

All references to Federally-protected species in this BRA include the most current published status or candidate category to which each species has been assigned by USFWS. For purposes of this assessment the following acronyms are used for Federal status species, as applicable:

FE Federally-listed as Endangered
FT Federally-listed as Threatened
FPE Federally proposed for listing as Endangered
FPT Federally proposed for listing as Threatened
FPD Federally proposed for delisting
FC Federal candidate species (former C1 species)

State-Protected Status

For the purposes of this BRA, the following acronyms are used for State status species, as applicable:

SE State-listed as Endangered
ST State-listed as Threatened
SR State-listed as Rare
SCE State candidate for listing as Endangered
SCT State candidate for listing as Threatened
SFP State Fully Protected
SSC California Species of Special Concern

California Rare Plant Rank

The CNPS is a private plant conservation organization dedicated to the monitoring and protection of special-status species in California. CNPS has compiled an inventory comprised of the information focusing on geographic distribution and qualitative characterization of Rare, Threatened, or Endangered vascular plant species of California (CNPS 2018). The list serves as the candidate list for listing as Threatened and Endangered by CDFW. CNPS has developed six categories of rarity known as the California Rare Plant Rank (CRPR), of which Ranks 1A, 1B, 2A, and 2B are particularly considered sensitive:

Rank 1A Presumed extinct in California.
Rank 1B Plants Rare, Threatened, or Endangered in California and elsewhere.
Rank 2A Presumed extinct in California, but more common elsewhere.
Rank 2B Plants Rare, Threatened, or Endangered in California, but more common elsewhere.
Rank 3 Plants about which we need more information – a review list.
Rank 4 Plants of limited distribution – a watch list.

The CNPS recently added "threat ranks" which parallel the ranks used by the CNDDB. These ranks are added as a decimal code after the CNPS List (e.g., Rank 1B.1). The threat codes are as follows:

.1 Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat);
.2 Moderately threatened in California (20-80% occurrences threatened);
.3 Not very threatened in California (<20% of occurrences threatened or no current threats known).

Potential to Occur Assessment

Special-status species that **present** or are **likely** (high or medium potential) to occur within the parcel are a based on one or more of the following:

- the direct observation of the species within the parcel during any field surveys;
- a record reported in the CNDDB; and
- the parcel is within known distribution of a species and contains appropriate habitat.

Special-status species that are **unlikely** (low potential) to occur are based on one of the following:

- the parcel has the general habitat types but lacks necessary habitat elements such as suitable microhabitat or soils; or
- the parcel is outside the known elevation range or distribution of the species, and has otherwise suitable habitats;

Special-status species that have no potential to occur on the parcel are labeled as **none** due to the absence of suitable habitat.

Special-Status Animals

Scientific Name	Common Name	Taxonomic Group	Federal Listing	State Listing	Other Status	General Habitat	Microhabitat	Potential to Occur on Survey Area
Anaxyrus californicus	arroyo toad	Amphibians	Endangered	None	CDFW_SSC-Species of Special Concern | IUCN_EN-Endangered	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc.	Rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams in drier parts of range.	Low. The site has an intermittent stream and sandy banks with sycamore; however, it is disturbed and the species has been little observed in the immediate area.
Rana draytonii	California red-legged frog	Amphibians	Threatened	None	CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	None. The project site lacks habitat for the species. There is no permanent water.
Spea hammondii	western spadefoot	Amphibians	None	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_NT-Near Threatened	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands.	Vernal pools are essential for breeding and egg-laying.	None. The project site lacks habitat for the species. There are no vernal pools.
Taricha torosa	Coast Range newt	Amphibians	None	None	CDFW_SSC-Species of Special Concern	Coastal drainages from Mendocino County to San Diego County.	Lives in terrestrial habitats and will migrate over 1 km to breed in ponds, reservoirs and slow moving streams.	Low. The project site lacks habitat for the species. There are no ponds, reservoirs, or slow moving (permanent) streams in the immediate area.
Accipiter cooperii	Cooper's hawk	Birds	None	None	CDFW_WL-Watch List | IUCN_LC-Least Concern	Woodland, chiefly of open, interrupted or marginal type.	Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	**Medium**. The project site has woodland and is in a canyon bottom. The species has been observed in the immediate area.
Agelaius tricolor	tricolored blackbird	Birds	None	Threatened	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_EN-Endangered | NABCI_RWL-Red Watch List | USFWS_BCC-Birds of	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California.	Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	None. The project site lacks habitat for the species. There is no open water.

Scientific Name	Common Name	Taxonomic Group	Federal Listing	State Listing	Other Status	General Habitat	Microhabitat	Potential to Occur on Survey Area
					Conservation Concern			
Aimophila ruficeps canescens	southern California rufous-crowned sparrow	Birds	None	None	CDFW_WL-Watch List	Resident in Southern California coastal sage scrub and sparse mixed chaparral.	Frequents relatively steep, often rocky hillsides with grass and forb patches.	**Medium.** The project site has chaparral and scrub and there are steep rocky hillsides adjacent to it. The species has been little observed in the immediate area.
Aquila chrysaetos	golden eagle	Birds	None	None	BLM_S-Sensitive | CDF_S-Sensitive | CDFW_FP-Fully Protected | CDFW_WL-Watch List | IUCN_LC-Least Concern	Rolling foothills, mountain areas, sage-juniper flats, and desert.	Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	None. The project site has some larger trees in open areas; however, it lacks sage-juniper flats and desert. The species has not been observed in the immediate area.
Artemisiospiza belli belli	Bell's sage sparrow	Birds	None	None	CDFW_WL-Watch List	Nests in chaparral dominated by fairly dense stands of chamise. Found in coastal sage scrub in south of range.	Nest located on the ground beneath a shrub or in a shrub 6-18 inches above ground. Territories about 50 yds apart.	Low. The project site has chaparral and scrub; however, there is little chamise. The species has been little observed in the immediate area.
Asio otus	long-eared owl	Birds	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Riparian bottomlands grown to tall willows and cottonwoods; also, belts of live oak paralleling stream courses.	Require adjacent open land, productive of mice and the presence of old nests of crows, hawks, or magpies for breeding.	**Medium**. The project site has a riparian bottomland with live oaks along a stream, and there are likely old nests.
Athene cunicularia	burrowing owl	Birds	None	None	BLM_S-Sensitive |	Open, dry annual or perennial grasslands,	Subterranean nester, dependent upon burrowing	Absent. There were no observations of the species or

Scientific Name	Common Name	Taxonomic Group	Federal Listing	State Listing	Other Status	General Habitat	Microhabitat	Potential to Occur on Survey Area
					CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	deserts, and scrublands characterized by low-growing vegetation.	mammals, most notably, the California ground squirrel.	signs of it during the burrowing owl survey in 2022.
Campylorhynchus brunneicapillus sandiegensis	coastal cactus wren	Birds	None	None	CDFW_SSC-Species of Special Concern | USFS_S-Sensitive | USFWS_BCC-Birds of Conservation Concern	Southern California coastal sage scrub.	Wrens require tall opuntia cactus for nesting and roosting.	None. There were no Opuntia cactus on the project site.
Charadrius nivosus nivosus	western snowy plover	Birds	Threatened	None	CDFW_SSC-Species of Special Concern | NABCI_RWL-Red Watch List	Sandy beaches, salt pond levees and shores of large alkali lakes.	Needs sandy, gravelly or friable soils for nesting.	None. The project site lacks habitat for the species.
Circus hudsonius	northern harrier	Birds	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Coastal salt and freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas.	Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	None. The project site lacks habitat for the species.
Coturnicops noveboracensis	yellow rail	Birds	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | NABCI_RWL-Red Watch List | USFS_S-Sensitive | USFWS_BCC-Birds of	Summer resident in eastern Sierra Nevada in Mono County.	Freshwater marshlands.	None. The project site lacks habitat for the species.

Scientific Name	Common Name	Taxonomic Group	Federal Listing	State Listing	Other Status	General Habitat	Microhabitat	Potential to Occur on Survey Area
					Conservation Concern			
Elanus leucurus	white-tailed kite	Birds	None	None	BLM_S-Sensitive | CDFW_FP-Fully Protected | IUCN_LC-Least Concern	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland.	Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	**Medium.** The project site has rolling foothills with scattered oaks and riparian bottomland. The species has been observed in the immediate area.
Empidonax traillii extimus	southwestern willow flycatcher	Birds	Endangered	Endangered	NABCI_RWL-Red Watch List	Riparian woodlands in Southern California.		Low. The project site has riparian woodland. The species has not been observed in the immediate area.
Eremophila alpestris actia	California horned lark	Birds	None	None	CDFW_WL-Watch List | IUCN_LC-Least Concern	Coastal regions, chiefly from Sonoma County to San Diego County. Also main part of San Joaquin Valley and east to foothills.	Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	None. The project site lacks habitat for the species.
Haliaeetus leucocephalus	bald eagle	Birds	Delisted	Endangered	BLM_S-Sensitive | CDF_S-Sensitive | CDFW_FP-Fully Protected | IUCN_LC-Least Concern | USFS_S-Sensitive	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water.	Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	Low. The site has large trees with open branches; however, there are no large water sources within a mile.
Icteria virens	yellow-breasted chat	Birds	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses.	Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 ft of ground.	Low. The project site lacks habitat for the species. The site has willow but it does not form dense thickets. The species has been little observed in the immediate area.

Scientific Name	Common Name	Taxonomic Group	Federal Listing	State Listing	Other Status	General Habitat	Microhabitat	Potential to Occur on Survey Area
Lanius ludovicianus	loggerhead shrike	Birds	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub and washes.	Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	Low. The project site has broken/riparian woodland and scrub with some areas of dense bushes. The species has been little observed in the immediate area.
Pandion haliaetus	osprey	Birds	None	None	CDF_S-Sensitive | CDFW_WL-Watch List | IUCN_LC-Least Concern	Ocean shore, bays, freshwater lakes, and larger streams.	Large nests built in tree-tops within 15 miles of a good fish-producing body of water.	None. The project site lacks habitat for the species.
Plegadis chihi	white-faced ibis	Birds	None	None	CDFW_WL-Watch List | IUCN_LC-Least Concern	Shallow freshwater marsh.	Dense tule thickets for nesting, interspersed with areas of shallow water for foraging.	None. The project site lacks habitat for the species.
Polioptila californica californica	coastal California gnatcatcher	Birds	Threatened	None	CDFW_SSC-Species of Special Concern | NABCI_YWL-Yellow Watch List	Obligate, permanent resident of coastal sage scrub below 2500 ft in Southern California.	Low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	Absent. There were no observations of the species or signs of it during the coastal California gnatcatcher survey in 2022.
Vireo bellii pusillus	least Bell's vireo	Birds	Endangered	Endangered	IUCN_NT-Near Threatened | NABCI_YWL-Yellow Watch List	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft.	Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	None. The project site lacks the dense willow riparian areas this species is associated with.
Branchinecta lynchi	vernal pool fairy shrimp	Crustaceans	Threatened	None	IUCN_VU-Vulnerable	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools.	Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	None. The project site lacks habitat for the species.
Branchinecta sandiegonensis	San Diego fairy shrimp	Crustaceans	Endangered	None	IUCN_EN-Endangered	Endemic to San Diego and Orange County mesas.	Vernal pools.	None. The project site lacks habitat for the species.
Linderiella occidentalis	California linderiella	Crustaceans	None	None	IUCN_NT-Near Threatened	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions.	Water in the pools has very low alkalinity, conductivity, and total dissolved solids.	None. The project site lacks habitat for the species.
Linderiella santarosae	Santa Rosa Plateau fairy shrimp	Crustaceans	None	None		Found only in the vernal pools on Santa Rosa Plateau in Riverside County.	Southern basalt flow vernal pools.	None. The project site lacks habitat for the species.

Scientific Name	Common Name	Taxonomic Group	Federal Listing	State Listing	Other Status	General Habitat	Microhabitat	Potential to Occur on Survey Area
Streptocephalus woottoni	Riverside fairy shrimp	Crustaceans	Endangered	None	IUCN_EN-Endangered	Endemic to Western Riverside, Orange, and San Diego counties in areas of tectonic swales/earth slump basins in grassland and coastal sage scrub.	Inhabit seasonally astatic pools filled by winter/spring rains. Hatch in warm water later in the season.	None. The project site lacks habitat for the species.
Gila orcuttii	arroyo chub	Fish	None	None	AFS_VU-Vulnerable | CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	Native to streams from Malibu Creek to San Luis Rey River basin. Introduced into streams in Santa Clara, Ventura, Santa Ynez, Mojave and San Diego river basins.	Slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation and associated invertebrates.	None. The project site lacks habitat for the species.
Oncorhynchus mykiss irideus pop. 10	steelhead - southern California DPS	Fish	Endangered	Candidate Endangered	AFS_EN-Endangered	Federal listing refers to populations from Santa Maria River south to southern extent of range (San Mateo Creek in San Diego County).	Southern steelhead likely have greater physiological tolerances to warmer water and more variable conditions.	None. The project site lacks habitat for the species.
Rhinichthys osculus ssp. 8	Santa Ana speckled dace	Fish	None	None	AFS_TH-Threatened | CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	Headwaters of the Santa Ana and San Gabriel rivers. May be extirpated from the Los Angeles River system.	Requires permanent flowing streams with summer water temps of 17-20 C. Usually inhabits shallow cobble and gravel riffles.	None. The project site lacks habitat for the species.
Bombus crotchii	Crotch bumble bee	Insects	None	None		Coastal California east to the Sierra-Cascade crest and south into Mexico.	Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	**Medium**. The project site has Eriogonum, Clarkia, and Phacelia host plants.
Cicindela senilis frosti	senile tiger beetle	Insects	None	None		Inhabits marine shoreline, from Central California coast south to salt marshes of San Diego. Also found at Lake Elsinore.	Inhabits dark-colored mud in the lower zone and dried salt pans in the upper zone.	None. The project site lacks habitat for the species.
Danaus plexippus pop. 1)	monarch - California	Insects	Candidate	None	USFS_S-Sensitive	Winter roost sites extend along the coast from	Roosts located in wind-protected tree groves	None**.** The project site lacks tree groves that this species typically

Scientific Name	Common Name	Taxonomic Group	Federal Listing	State Listing	Other Status	General Habitat	Microhabitat	Potential to Occur on Survey Area
	overwintering population (					northern Mendocino to Baja California, Mexico.	(eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	uses and is over 1-mile from the coast and therefore will not support overwintering monarch; it lacks milkweed and therefore will not support breeding monarch.
Euphydryas editha quino	quino checkerspot butterfly	Insects	Endangered	None		Sunny openings within chaparral and coastal sage shrublands in parts of Riverside and San Diego counties.	Hills and mesas near the coast. Need high densities of food plants Plantago erecta, P. insularis, and Orthocarpus purpurescens.	Absent. Protocol surveys were conducted and it was determined the species is absent from the project site.
Neolarra alba	white cuckoo bee	Insects	None	None		Known only from localities in Southern California.	Cleptoparasitic in the nests of perdita bees.	Low. The species has not been observed in the immediate area of the project site.
Antrozous pallidus	pallid bat	Mammals	None	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive | WBWG_H-High Priority	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting.	Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Low. The project site has shrubland and woodland and rocky areas in the stream channel and on the adjacent hillsides. The species has not been observed in the immediate area.
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	Mammals	None	None	CDFW_SSC-Species of Special Concern	Coastal scrub, chaparral, grasslands, sagebrush, etc. in western San Diego County.	Sandy, herbaceous areas, usually in association with rocks or coarse gravel.	**None**. The project site is outside the typical range of this species.
Dipodomys merriami parvus	San Bernardino kangaroo rat	Mammals	Endangered	Candidate Endangered	CDFW_SSC-Species of Special Concern	Alluvial scrub vegetation on sandy loam substrates characteristic of alluvial fans and flood plains.	Needs early to intermediate seral stages.	Low. The project site has alluvial scrub vegetation and is in a flood plain. However, the species has not been observed in the immediate area and the floodplain lacks the typical large alluvial action that this species needs to occur.
Dipodomys stephensii	Stephens' kangaroo rat	Mammals	Threatened	Threatened	IUCN_EN-Endangered	Primarily annual and perennial grasslands, but also occurs in coastal scrub and sagebrush with sparse canopy cover.	Prefers buckwheat, chamise, brome grass and filaree. Will burrow into firm soil.	**Low**. The project site lacks the annual and perennial grasslands this species is associated with, and it is unlikely to occur based on lack of typical habitat. Areas of sparse canopy cover do occur, but the

Scientific Name	Common Name	Taxonomic Group	Federal Listing	State Listing	Other Status	General Habitat	Microhabitat	Potential to Occur on Survey Area
								preferred species are in low amount.
Eumops perotis californicus	western mastiff bat	Mammals	None	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | WBWG_H-High Priority	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc.	Roosts in crevices in cliff faces, high buildings, trees and tunnels.	Low. The project site has coastal scrub and chaparral and trees including some dead ones which bats often roost in. But the species has not been observed in the immediate area.
Lasiurus blossevillii	western red bat	Mammals	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | WBWG_H-High Priority	Roosts primarily in trees, 2-40 ft above ground, from sea level up through mixed conifer forests.	Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	Low. The project site has trees and habitat mosaic. The species has not been observed in the immediate area.
Lasiurus xanthinus	western yellow bat	Mammals	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | WBWG_H-High Priority	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats.	Roosts in trees, particularly palms. Forages over water and among trees.	None. The project site lacks habitat for the species. There are no palms or permanent water.
Lepus californicus bennettii	San Diego black-tailed jackrabbit	Mammals	None	None		Intermediate canopy stages of shrub habitats and open shrub / herbaceous and tree / herbaceous edges.	Coastal sage scrub habitats in Southern California.	**Low**. The project site has open shrub habitat and tree herbaceous edges. The species is typically found in San Diego County.
Myotis yumanensis	Yuma myotis	Mammals	None	None	BLM_S-Sensitive | IUCN_LC-Least Concern | WBWG_LM-Low-Medium Priority	Optimal habitats are open forests and woodlands with sources of water over which to feed.	Distribution is closely tied to bodies of water. Maternity colonies in caves, mines, buildings or crevices.	Low. The project site has open habitat and woodland; however, it does not have a permanent water source.
Neotoma lepida intermedia	San Diego desert woodrat	Mammals	None	None	CDFW_SSC-Species of Special Concern	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, rocky cliffs, and slopes.	Low. The project site has coastal scrub and moderate to dense canopies and rock outcrops in some areas. The species has been little observed in the immediate area.

Scientific Name	Common Name	Taxonomic Group	Federal Listing	State Listing	Other Status	General Habitat	Microhabitat	Potential to Occur on Survey Area
Nyctinomops femorosaccus	pocketed free-tailed bat	Mammals	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | WBWG_M-Medium Priority	Variety of arid areas in Southern California; pine-juniper woodlands, desert scrub, palm oasis, desert wash, desert riparian, etc.	Rocky areas with high cliffs.	None. The project site lacks habitat for the species. There are no high cliffs.
Taxidea taxus	American badger	Mammals	None	None	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Low. The project site has shrub and forest; however, it lacks friable soils. The species has not been observed in the immediate area.
Anniella stebbinsi	Southern California legless lizard	Reptiles	None	None	CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	Generally south of the Transverse Range, extending to northwestern Baja California. Occurs in sandy or loose loamy soils under sparse vegetation. Disjunct populations in the Tehachapi and Piute Mountains in Kern County.	Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	Low. The project site has sparse vegetation in areas; however, it lacks moist soil most of the year. The species has been little observed in the immediate area.
Arizona elegans occidentalis	California glossy snake	Reptiles	None	None	CDFW_SSC-Species of Special Concern	Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California.	Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.	**Medium**. The project site has scrub with loose and sandy soils. The species has been observed in the immediate area.
Aspidoscelis hyperythra	orange-throated whiptail	Reptiles	None	None	CDFW_WL-Watch List | IUCN_LC-Least Concern | USFS_S-Sensitive	Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats.	Prefers washes and other sandy areas with patches of brush and rocks. Perennial plants necessary for its major food: termites.	**High**. The project site has coastal scrub, chaparral, and hardwood habitat. It also has a wash that is sandy with brush and rocks. The species has been frequently observed in the immediate area.

Scientific Name	Common Name	Taxonomic Group	Federal Listing	State Listing	Other Status	General Habitat	Microhabitat	Potential to Occur on Survey Area
Aspidoscelis tigris stejnegeri	coastal whiptail	Reptiles	None	None	CDFW_SSC-Species of Special Concern	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland and riparian areas.	Ground may be firm soil, sandy, or rocky.	Low. The project site has areas with sparse vegetation that are open, woodland, and riparian areas. The species has been little observed in the immediate area.
Crotalus ruber	red-diamond rattlesnake	Reptiles	None	None	CDFW_SSC-Species of Special Concern | USFS_S-Sensitive	Chaparral, woodland, grassland, and desert areas from coastal San Diego County to the eastern slopes of the mountains.	Occurs in rocky areas and dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	Low. The project site lacks rodent burrows and there is limited rocky areas with dense vegetation.
Diadophis punctatus modestus	San Bernardino ringneck snake	Reptiles	None	None	USFS_S-Sensitive	Most common in open, relatively rocky areas. Often in somewhat moist microhabitats near intermittent streams.	Avoids moving through open or barren areas by restricting movements to areas of surface litter or herbaceous veg.	Low. The project site has rocky areas in the stream channel but they are not moist in the dry season. The species has been little observed in the immediate area.
Emys marmorata	western pond turtle	Reptiles	None	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable | USFS_S-Sensitive	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation.	Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	None. The project site lacks habitat for the species.
Phrynosoma blainvillii	coast horned lizard	Reptiles	None	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes.	Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	**Medium**. The project site has sandy washes with scattered low bushes and open areas for sunning. The species has been observed in the immediate area.

Scientific Name	Common Name	Taxonomic Group	Federal Listing	State Listing	Other Status	General Habitat	Microhabitat	Potential to Occur on Survey Area
Salvadora hexalepis virgultea	coast patch-nosed snake	Reptiles	None	None	CDFW_SSC-Species of Special Concern	Brushy or shrubby vegetation in coastal Southern California.	Require small mammal burrows for refuge and overwintering sites.	Low. The project site has brushy and shrubby vegetation; however, the site is not coastal. The species has been little observed in the immediate area.
Thamnophis hammondii	two-striped gartersnake	Reptiles	None	None	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFS_S-Sensitive	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 ft elevation.	Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	None. The project site lacks habitat for the species. There is no permanent fresh water.

Appendix C

Biologist Qualifications

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Mobile: 303-818-3632

Matthew South

PRINCIPAL BIOLOGIST

Matthew South founded South Environmental in 2018. He is a certified wildlife biologist and certified arborist with 17 years of professional experience providing natural resources consulting services for a wide variety of clients that include residential, commercial, government, utility, infrastructure, research, and non-profit projects. For the last 13 years, Mr. South has been an environmental consultant in southern California acting as a Wildlife Biologist and Geographic Information System (GIS) Analyst. In early 2018 he started South Environmental and has since been supporting clients in Los Angeles, San Bernardino, and Riverside Counties.

Mr. South's background in ecology has led to a passion for conservation planning and resources assessments for the purpose of preservation and management. The integration of the latest technologies such as advanced GIS systems, mobile computing, and drone sensing allows him to innovate new data collection, analysis, and collaboration tools for the environmental sciences that produce more accurate data and better-informed resource managers.

EXPERTISE

- **Conservation and Management Planning.** Mr. South's has extensive experience preparing mitigation and monitoring plans, habitat conservation plans, and technical biological resources management plans that are compliant with federal, state, and local regulations. Mr. South is the only active NRCS TSP for Fish and Wildlife Plans Certified in California.
- **Biological Resources Assessment.** Mr. South has completed dozens of biological resources assessments throughout southern California.
- **Rare Plants and Arborist Services.** Mr. South has surveyed and assessed thousands of native and landscaped trees in southern California. He is a certified arborist with 5-years of tree survey experience working closely with some of the most experienced arborists in California. In addition, he has performed hundreds of hours of rare plant surveys and habitat assessments.
- **Wetland & Jurisdictional Delineations.** Mr. South has conducted dozens of jurisdictional and wetland delineations per the guidelines and methods from the US Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), and the state Regional Water Quality Control Boards (RWQCB).
- **GIS.** Mr. South is an expert at spatial data collection and analysis using ESRI mobile and desktop software products and Trimble hardware.

EDUCATION

B.S., Wildlife Ecology, University of Wisconsin-Madison, 2004

CERTIFICATIONS

Certified Wildlife Biologist, The Wildlife Society 2014

ISA Certified Arborist (WE-12564A) 2019

Certified Technical Service Provider (TSP) for Fish and Wildlife Management Plans, USDA NRCS 2017

Authorized Desert Tortoise Biologist – Numerous BOs

Unmanned Aircraft System Pilot Certification, FAA #4177603

TRAINING

Wetland Delineation Training Course – The Wetland Institute (2014)

Southwest Willow Flycatcher Workshop, 2017

USGS Desert Tortoise Health Assessment and Tissue Collection Techniques Training, 2009

SELECT PROJECT EXPERIENCE

Southern California Edison (SCE) As-Needed Natural and Cultural Resources Services (2021-ongoing). As a subconsultant on this contract for multiple Primes (SWCA, EI, Rincon, Cardno, and ERM), South Environmental has focused its biological resources services on wetland delineations and permitting efforts for SCE throughout all its regions. From single pole delineations in roadside ditches to several hundred poles through miles of wet meadows in the Sierras, the projects vary in size and complexity as well as location. Primarily, delineations have been in the Sierras with the largest and most complex projects in Inyo and Mono Counties and several in Kern and Tulare. A few of the specific projects include

- Pickle Meadow: Aquatic Resources Delineation Report and Permitting for 300-poles located in a wet meadow behind Bridgeport Reservoir.
- Kern River: Wetland Delineation and Permitting for 15 pole replacements in Kernville.
- June Lake to Tom's Place: Wetland Delineation and Permitting for 40 poles spread through Inyo and Mono Counties.
- Cajon Wash: Jurisdictional Delineation and SBKR Assessment and Permitting for 10 pole replacements and realignment for a capital project located in SBKR Critical Habitat.
- Pipes Wash: Delineation and Permitting for 25-poles that are within Pipes Wash, a large ephemeral wash in the San Bernardino desert.

Southern California Gas (SCG) As-Needed Natural and Cultural Resources Services (2022-ongoing). As a subconsultant on this contract Mr. South has overseen the assessment numerous resources from single point locations to many miles of pipelines. More recently he has begun to conduct biological assessment in the coastal zone in Santa Barbara County as well as endangered species Biological Assessments (BAs) in support of Coastal Development Permits for SCG. Wetland delineation and permitting, biological resources assessments, and resources surveys and monitoring are services that Mr. South both provides personally and oversees a team of specialists that support the environmental impacts analysis and permitting for SCG.

California Department of Water Resources (DWR) As-Needed Environmental Compliance Services (2012-2018). As part of this contract while employed at another firm, Mr. South prepared conservation and biological resources planning documents as well as oversaw the implementation and compliance components of these documents. Most notably, Mr. South was the lead avian biologist for the billion-dollar Perris Dam Remediation Project where he prepared Avian Protection and Avoidance Plan, Feral Hog Management Plan, negotiated environmental mitigation and compensation with both the USFWS and CDFW biologists, conducted protocol surveys for endangered species such as least Bell's vireo, and oversaw the compliance monitoring efforts for the entire 5-years of project construction.

Los Angeles County Flood Control District and Department of Public Works As-Needed Environmental Compliance Services (2014-2018). As part of this contract while employed at another firm, Mr. South conducted dozens of biological resources assessments, focused surveys for special-status species, and monitored compliance for a wide variety of water infrastructure project. Notably, Mr. South was the lead biologist for the Eaton Dam Maintenance Projects and for a variety of vegetation management programs within sensitive waterways.

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Scott Altmann

SENIOR BOTANIST & ECOLOGIST

Scott Altmann is a Senior Botanist and Ecologist with 23 years of professional experience. He has a high degree of expertise in plant identification using dichotomous keys and has extensive experience identifying rare and at-risk plants in remote field locations using regional plant guides. Much of his experience was gained in Chile where he worked as a freelance and contract research botanist, ecologist, and conservation biologist for over 13 years in collaboration with local universities, government agencies, and botanical gardens. More recently, Mr. Altmann has worked as a botanist to promote conservation of rare and at-risk species for the US Forest Service. For the past year he has worked for South Environmental working closely with large clients such as Southern California Edison (SCE) and private developers on Biological Resources Assessments, impacts analysis, and regulatory permitting.

Mr. Altmann is currently a senior biologist and ecologist with South Environmental with responsibilities including assessing project regulatory settings, developing an impacts assessment and mitigation approach for projects, and then prepares resources assessment reports, impacts analysis, mitigation and monitoring plans, and permitting documents for major utility projects and for large and small developers. Assessments performed are for protected trees, special-status plants and animals, sensitive natural communities, wetlands and jurisdictional delineations, and sensitive habitats.

Mr. Altmann is an expert at assessing projects according to local and regional, state, and federal laws, including experience in Los Angeles City and County, Ventura County, Orange County, San Bernardino, Riverside, Mono, Inyo, and Santa Barbara. He is familiar with the California Coastal Act and has a variety of experiences working in the coastal zone and with various Local Coastal Programs (LCPs). His experience assessing the regulatory setting for projects allow him to assess potential impacts within a variety of situations and land use types, and he can better assist clients with resources that span multiple jurisdictions and that have a variety of different biological resources that could be impacted.

Mr. Altmann has several publications in peer-reviewed scientific journals and has edited hundreds of technical documents and journal articles. He is a Journal Referee for several prominent scientific journals including Journal of Ecology, Plant Ecology, Annals of Botany, and New Zealand Journal of Botany.

EDUCATION

-MSc, Environmental Sciences and Policy, The Johns Hopkins University

-BA, International Studies, University of Colorado, Boulder

SKILLS

-ESRI ArcGIS Desktop

-Trimble GPS

-Plant identification using dichotomous keys and regional literature

-Application of prominent plant data collection techniques

-Collection, analysis, and presentation of field data

-Statistical modeling and descriptive summaries

TRAINING

-Identification of plant communities with taxonomic keys, Malheur National Forest, 2019

-Ecological restoration of riparian ecosystems, Malheur National Forest, 2019

-Multiple Indicator Monitoring (MIM) of Stream Channels and Streamside Vegetation, Ochoco National Forest, Prineville, OR, 2019

-Identification of common range grasses, Flagstaff, AZ, 2019

SELECT PROJECT EXPERIENCE

SCE On-Call Biologist – Throughout California (2021-present). Conducts wetland delineations, rare plant surveys, and prepares reports and permitting documents for SCE deteriorated poles and for larger scale projects as needed. Work has been completed in several counties throughout California including Santa Barbara, Ventura, Los Angeles, Riverside, San Bernardino, Mono, Kern, Tulare, and Inyo.

Biological Resources Assessments for dozens of clients (2021-present). Scott is the lead biologist and main author for dozens of Biological Resources Assessment for projects that follow strict reporting guidelines such as the City of Los Angeles, the Western Riverside County MSHCP, and the City of Malibu Local Coastal Program.

Rice Canyon Access Road Project – East Valley Municipal Water District (2021-present). Scott is the lead biologist on this project overseeing the BRA, rare plant surveys, burrowing owl surveys, and the mitigation parcel assessments.

USFS Biological Science Technician – John Day, OR (2019). Surveyed streams as part of the Multiple Indicator Monitoring (MIM) of Stream Channels and Streamside Vegetation protocol for evaluation of critical habitat of two federally listed fish species:

- Performed as principal identifier of plants including trees, shrubs, forbs, grasses, sedges, and rushes
- Used taxonomic keys and regional botanical literature to identify plants
- Measured stubble height of graminoid species
- Assessed height, age, and animal browse of overstory woody species
- Assessed streambank stability and alteration (animal use) and stream width and gravel size
- Organized, reviewed, and summarized data at the local scale using the MIM analysis module
- Analyzed statistically and summarized data at the landscape scale for use in an end-of-year agency report
- Organized fieldwork logistics including site visits and equipment preparation

USFS Biological Science Technician – Williams, AZ (2017). Surveyed rare, at-risk, and endemic vascular plant species on lands designated for ecological restoration.

- Hiked 8 to 10 miles a day in diverse environments under variable climatic conditions

- Identified plant species in the field and lab using botanical keys and regional flora literature
- Used topographic maps to locate primitive roads and survey areas
- Used hand-held, electronic devices to traverse survey areas and record plant and habitat data
- Developed digital maps delineating plant populations in ArcGIS
- Ensured proper maintenance of field equipment and transport vehicles
- Presented talks to co-workers and school students on the local flora, ecology, and forest safety
- Redacted extensively a key Arizona rare and endemic vascular plant guidebook for plant nomenclature and morphology

Ecology and Botany Researcher – Rancagua, Chile (2003-2017). Developed or collaborated on ecological and botanical initiatives in central Chile with support from organizations including the Mayor University, University of La Serena, National Forestry Agency (CONF), National Agency for the Environment (CONMAN), Agriculture and Livestock Agency (SAG), Center for Investigation of Patagonian Ecosystems (CIEP), and National Botanical Garden. Major research is listed Publication; additional research projects:

- Ecology of the choroy (*Enicognathus leptorhynchus*) and cachaña parrot (*Enicoganthus ferrugineus*)
- Survey of the plant biodiversity including rare and at-risk species and promotion of sustainable development of the Tanume Experimental Forestry Reserve
- Survey of the plant community and assessment of anthropogenic threats of the National Reserve Río Los Cipreses
- Survey of the frequency and abundance of orchid (Orchidaceae) spp. in commercial pine plantations
- Taxonomic work on an orchid (Orchidaceae) of the genus *Chloraea*

- Disseminated information on opportunities to legally develop and protect wilderness areas
- Realized 37 lectures on biodiversity and wilderness protection at primary and secondary schools and community social organizations

USGS Research Assistant, Laurel, MD (2002-2003)

Participated in plant and wildlife habitat research projects including data collection, analysis, and management and report production:

- Effect of deer browsing on the growth of woody species of a forested wetland of Maryland
- Vegetation regeneration as part of an urban wetland restoration project in Washington, D.C.
- Habitat, migration patterns, and diet of two Northern Hemisphere avifauna species: black duck (*Melanitta nigra*) and scoter duck (*Melanitta perspicillata*)
- Effect of extended managed flooding of a North Carolina floodplain on the diversity and abundance of wildlife, vegetation, and macroinvertebrates
- Survey of the wildlife utilization of seasonally-saturated forested wetlands of Maryland
- Effect of different fertilizer types on the growth of seasonal grasses native to Maryland
- Population abundance and habitat of the endangered Delmarva fox squirrel (*Sciurus niger cinereus*) of the Delmarva Peninsula, Maryland

PUBLICATIONS

- Global patterns of herbivory in gap and understory environments, and their implications for woody plant carbon storage. December 2017. https://onlinelibrary.wiley.com/doi/abs/10.1111/oik.04686
- Insect abundance and damage on the deciduous *Nothofagus macrocarpa* increase with altitude at a site in the Mediterranean climate zone of Chile. February 2015. https://onlinelibrary.wiley.com/doi/abs/10.1111/aen.12142
- Crown condition, water availability, insect damage and landscape features: are they important to the Chilean tree *Nothofagus glauca* in the context of climate change? August 2013. http://www.publish.csiro.au/bt/bt13015
- Insect folivore damage in Nothofagus Blume trees of central Chile and its association with bottom-up plant community attributes. 2011. http://www.scielo.org.ar/scielo.php?script=sci_abstract&pid=S1667-782X2011000200001
- Reconocimiento del efecto de Cinara cupressi (Hemiptera: Aphididae) en el estado sanitario de Austrocedrus chilensis mediante imágenes multiespectrales. September 2009. https://scielo.conicyt.cl/scielo.php?pid=S0717-92002009000300005&script=sci_abstract&tlng=e

- Use of satellite-derived hyperspectral indices to identify stress symptoms on an *Austrocedrus chilensis* forest invaded by *Cinara cupressi*. January 2009. https://www.tandfonline.com/doi/abs/10.1080/09670870902725809
- Clasificación y caracterización de las comunidades de vegetación del Fundo Santa Elena, Comuna de Nancagua, Región de O'Higgins, Chile. Year 9 (2). 2006. http://www.chlorischilensis.com