BELRIDGE WATER STORAGE DISTRICT

CANAL FLOOD DAMAGE REPAIR ASSISTANCE PROJECT BIOLOGICAL EVALUATION

KERN COUNTY
OCTOBER 2023

PREPARED FOR:
Belridge Water Storage District
Kern County

PREPARED BY:
Provost & Pritchard Consulting Group
455 W. Fir Ave, Clovis, California 93612

Report Prepared for:

Belridge Water Storage District
21908 7th Standard Rd, McKittrick, CA 93251

Contact:

Mark Gilkey
559-816-0386

Report Prepared by:

Provost & Pritchard Consulting Group

Preparer: Shaylea Stark, Biologist
Project Manager: Briza Sholars, Senior Planner
QA/QC: Geoff Cline, Principal Biologist
Other personnel involved in report preparation: Ben Toews, GIS Specialist, and Jackie Lancaster, Project Administrator

Contact:

Project Manager: Briza Sholars
Telephone: 559-449-270

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ACRONYMS AND ABBREVIATIONS

BMP ..... Best Management Practices
CDFW..... California Fish and Wildlife
CEQA ..... California Environmental Quality Act
CNDDB..... California Natural Diversity Database
CNPS..... California Native Plant Society
District ..... Belridge Water Storage District
ECOS..... (USFWS) Environmental Conservation Online System
EPA ..... Environmental Protection Agency
HUC ..... Hydrologic Unit Code
IPaC ..... U.S. Fish and Wildlife Service's Information for Planning and Consultation system
MBTA..... Migratory Bird Act
NEPA..... National Environmental Policy Act
NRCS..... Natural Resources Conservation Service
Project ..... Canal Flood Damage Repair Assistance Project
Provost & Pritchard..... Provost & Pritchard Consulting Group
RWQCB..... Regional Water Quality Control Board
SWPPP ..... Storm Water Pollution Prevention Plan
SWRCB..... State Water Resources Control Board
USACE..... United States Army Corps of Engineers
USC ..... United States Code
USDA ..... United States Department of Agriculture
USFWS..... United States Fish and Wildlife Service
USGS..... United States Geological Survey

1 INTRODUCTION

The following Biological Evaluation report, prepared by Provost & Pritchard Consulting Group (Provost & Pritchard) in compliance with the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA), includes a description of the biological resources present or with potential to occur within the proposed Belridge Water Storage District's (District or District's) Canal Flood Damage Repair Assistance Project (or "project") and evaluates potential project-related impacts to those resources.

1.1 PROJECT DESCRIPTION

The 21 project sites (or "sites") are located within the San Joaquin Valley, south of the census-designated place of Lost Hills, north of the unincorporated community of McKittrick in the western portion of Kern County, California (see Figure 1 and Figure 2). The project sites include 13 construction areas, seven staging areas, and one borrow area that total approximately 20 acres total (see Figure 3). The specific location and name of each project site can be found in Table 1 and Figure 4.

The project involves emergency repairs to the concrete lining and soil embankments of the existing 415 and 500 canals (i.e., "construction areas") that were damaged during the late February 2023 floods. The seven staging areas along the canals and roads will be utilized as well as a fill material borrow area and staging area in a ruderal field near the District's office. Construction activities include scarification and re-compaction of the earthen levees and under the proposed liner by an excavator at each of the construction areas. A dump truck will be used to haul fill material from the borrow area to canal repair locations. Equipment and materials will be staged at the staging areas. Completion of the project would repair these canals that are used for agricultural irrigation.

Within seven (7) calendar days prior to the start of project activities during the nesting bird season (February 1 through September 15), a qualified biologist will complete nesting bird surveys at each project site and within up to 100 feet of each project site. Should an active nest be observed, a qualified biologist will establish a suitable avoidance buffer, which will remain in place until the birds have completed nesting activities and a qualified biologist has determined the avoidance buffer may be removed.

Within seven (7) calendar days prior to the start of project activities at the project sites, a preconstruction survey for special status species will be completed by a qualified biologist. It will include inspecting the sites for special status species, their sign, and potential burrows. Should any of these be observed, a suitable avoidance buffer will be established by a qualified biologist. Should a special status species be observed, it will be allowed to leave the project on its own. Avoidance buffers will remain in place until a qualified biologist has determined the avoidance buffer may be removed. If a special status species cannot be avoided, the project will consult with the appropriate agency (i.e., California Department of Fish and Wildlife and/or U.S. Fish and Wildlife Service).

On the first day of project activities, a qualified biologist will deliver a worker environmental awareness program (WEAP) training to all workers present. It will include details on the special status species that have the potential to occur on the sites, minimization measures to avoid impacts to these species, and the legal implications of impacts to these species. It will also include the contact information for a qualified biologist and instructions to follow, should any of the species be observed.

Throughout all project activities, the project will follow the Construction and On-Going Operational Requirements section of the U.S. Fish and Wildlife Service's (USFWS) *Standardized Recommendations For Protection Of The Endangered San Joaquin Kit Fox Prior To Or During Ground Disturbance* (2011; Appendix A).

Throughout all project activities on the 415 and 500 canals construction activities would be limited to a half hour after sunrise through a half hour before sunset to reduce potential impacts to wildlife movement corridors. Access will not be blocked outside of construction hours or during overnight hours or weekends. If construction must block both sides of a wildlife access route, an alternative route through the construction area should be identified by a qualified biologist and maintained throughout the construction schedule timeframe. Pipeline/culvert/siphon excavations and vertical pipes will be covered each night to prevent wildlife from falling in and becoming trapped or injured during migratory or dispersal movements.

Table 1: List of the Project Sites and Their Locations

Project Site Name	Latitude	Longitude
415 Construction Area 1	35.46318 N	-119.66888 W
415 Construction Area 2	35.46407 N	-119.66947 W
415 Construction Area 3	35.46586 N	-119.67013 W
415 Construction Area 4	35.46637 N	-119.67023 W
415 Construction Area 5	35.55997 N	-119.70922 W
415 Construction Area 6	35.57224 N	-119.71221 W
415 Construction Area 7	35.57785 N	- 119.71619 W
415 Construction Area 8	35.57834 N	-119.71654 W
415 Construction Area 9	35.57936 N	-119.71720 W
415 Staging Area 1	35.46794 N	-119.67063 W
415 Staging Area 2	35.55763 N	-119.70859 W
415 Staging Area 3	35.57222 N	-119.71246 W
415 Staging Area 4	35.57981 N	-119.71748 W
500 Construction Area 1	35.45464 N	-119.68809 W
500 Construction Area 2	35.46457 N	-119.69447 W
500 Construction Area 3	35.46935 N	-119.69909 W
500 Construction Area 4	35.47499 N	-119.70610 W
500 Staging Area 1	35.45506 N	-119.68918 W
500 Staging Area 2	35.46282 N	-119.69266 W
Fill Material Borrow Area and Staging Area	35.44707 N	-119.65553 W
Staging Area by Belridge Office	35.44153 N	-119.66138 W

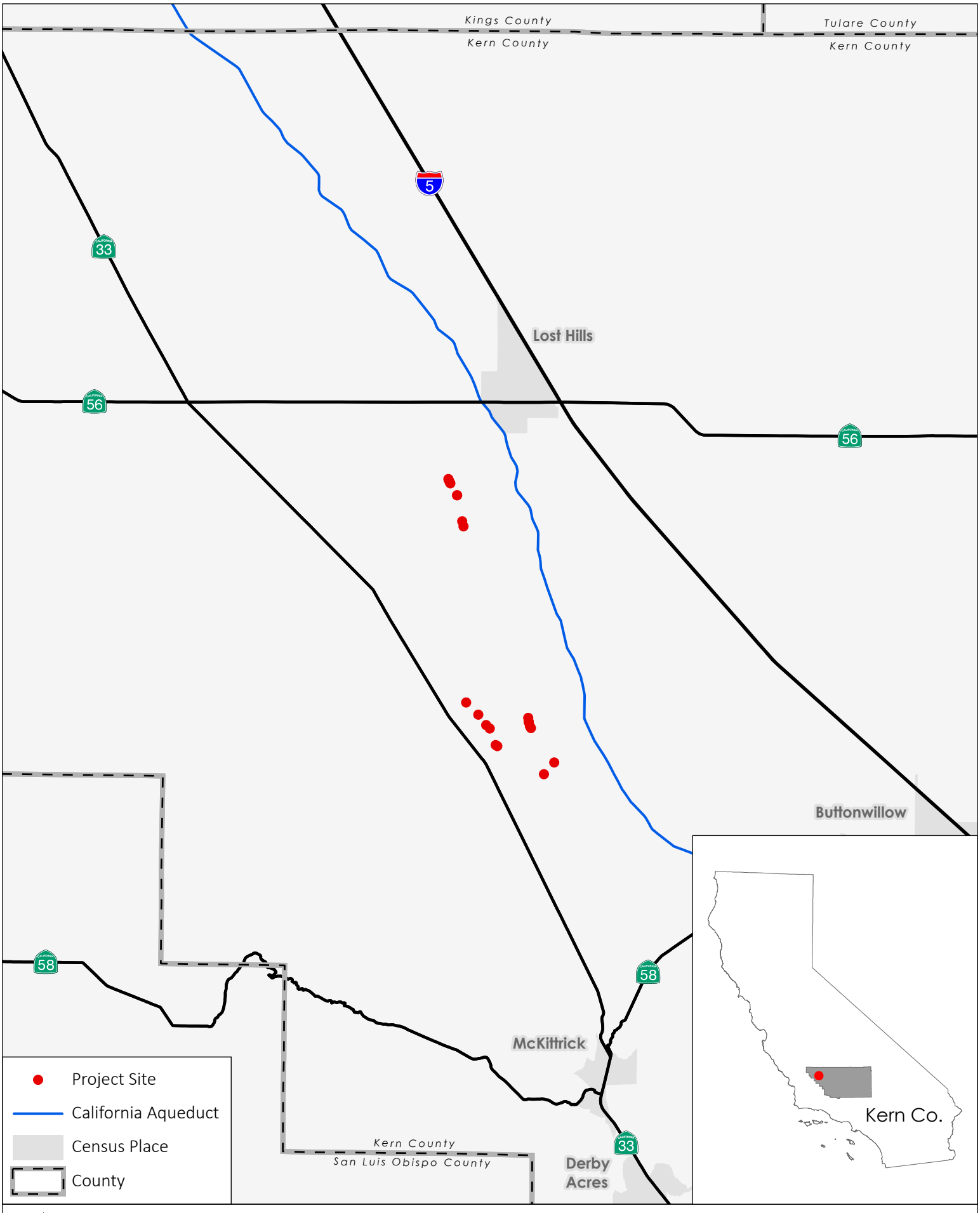
1.2 REPORT OBJECTIVES

Construction activities such as those proposed by the project could potentially change biological resources or habitats that are crucial for sensitive plant and wildlife species. In cases such as these, development may be regulated by state or federal agencies, and/or addressed by local regulatory agencies.
This report addresses issues related to the following:

- The presence of sensitive biological resources on the sites, or with the potential to occur on the sites.
- The federal, state, and local regulations regarding these resources.
- Mitigation measures that may be required to reduce the magnitude of anticipated impacts and/or comply with permit requirements of state and federal resource agencies.

Therefore, the objectives of this report are:

- Summarize all site-specific information related to existing biological resources.
- Make reasonable inferences about the biological resources that could occur on the sites based on habitat suitability and the proximity of the sites to a species' known range.



Location Map

Belridge Water Storage District

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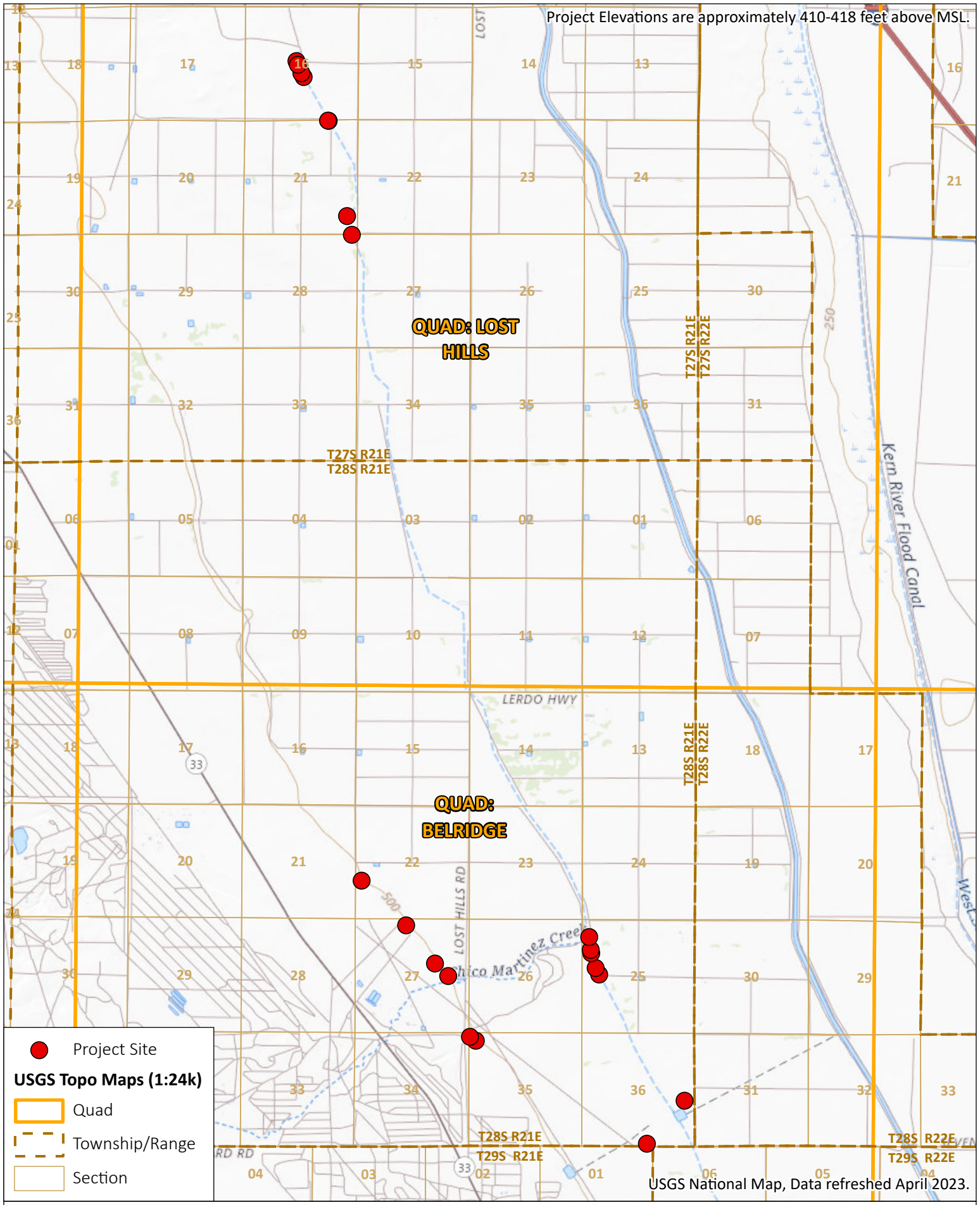
Fig. 1 Page 1-3



Topographic Map

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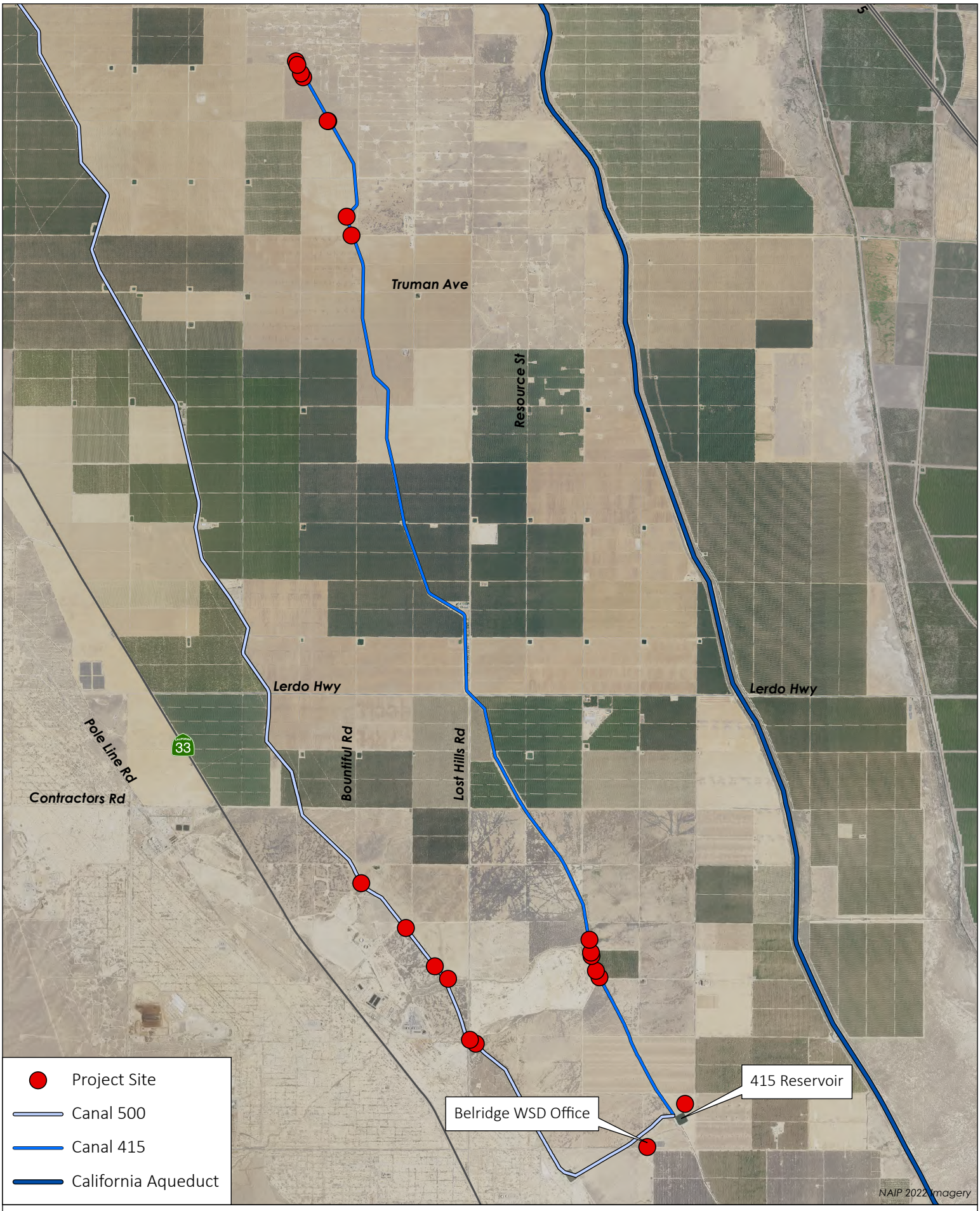

Aerial Map

Belridge Water Storage District

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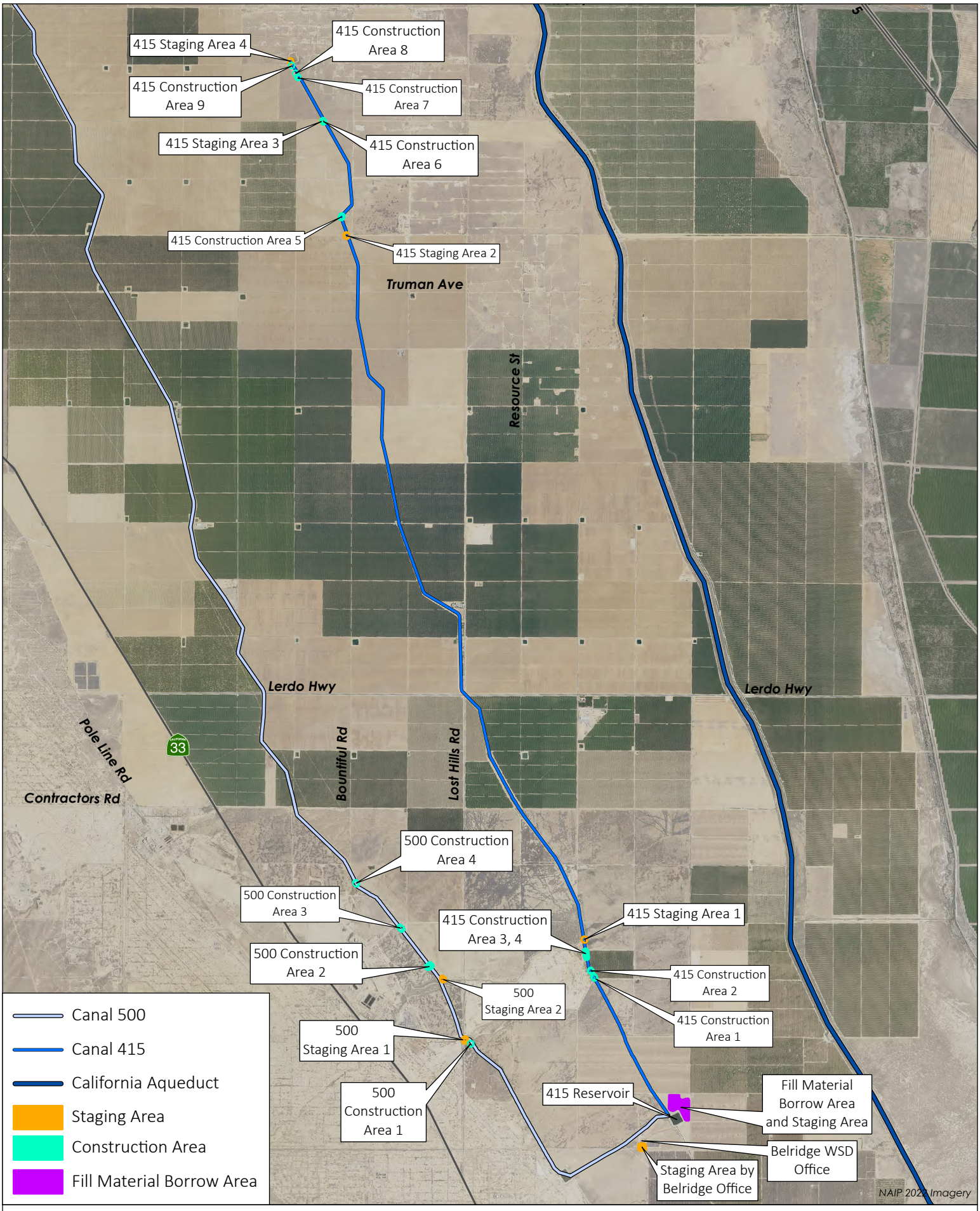
Fig. 3 Page 1-5



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Project Site Areas Map

Belridge Water Storage District

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Fig. 4 Page 1-6

- Summarize all state and federal natural resource protection laws that may be relevant to implementation of the project.
- Identify and discuss project impacts and effects to biological resources likely to occur onsite within the context of CEQA, NEPA, and/or state or federal laws.
- Identify and prescribe a set of avoidance and mitigation measures that would reduce impacts to a less-than-significant level (as identified by CEQA) or avoid and minimize effects (as identified by NEPA) and are generally consistent with recommendations of the resource agencies for affected biological resources.

1.3 STUDY METHODOLOGY

A reconnaissance-level field survey of the project sites was conducted on August 24, 2023, by Provost & Pritchard biologists, Shaylea Stark and Jairo Perez. The survey consisted of walking and driving throughout the sites while identifying and noting land uses, biological habitats and communities, and plant and animal species encountered, and assessing habitats that could be suitable for various rare or protected plant and animal species. Representative photographs of the sites were taken and are presented in Appendix B.

Ms. Stark then utilized the results of the field survey to conduct an analysis of potential project-related impacts to biological resources based on the resources known to occur or with potential to occur within the site. Sources of information used in preparation of this analysis included: the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB; see Appendix C for the species list) and California Wildlife Habitat Relationships (CWHR) database; California Native Plant Society's (CNPS) Online Inventory of Rare and Endangered Vascular Plants of California; CalFlora's online database of California native plants; Jepson Herbarium's online database (i.e., Jepson eFlora); United States Fish and Wildlife Service's (USFWS) Environmental Conservation Online System (ECOS), Information for Planning and Consultation (IPaC; see Appendix D for the species list) system, and National Wetlands Inventory (NWI); iNaturalist; NatureServe Explorer's online database; United States Department of Agriculture (USDA) Natural Resources Conservation Service's (NRCS) Web Soil Survey (see Appendix E for the Web Soil Survey Report); California Herps website; and various manuals, reports, and references related to plants and animals of the San Joaquin Valley region.

The field survey did not include focused surveys for special status species. The field survey conducted included the appropriate level of detail to assess the significance of potential impacts to sensitive biological resources resulting from implementing the project. Furthermore, the field survey was sufficient to generally describe those features of the project that could be subject to the jurisdiction of federal and/or state agencies, such as the United States Army Corps of Engineers (USACE), CDFW, Regional Water Quality Control Board (RWQCB) and the State Water Resources Control Board (SWRCB).

2 EXISTING CONDITIONS

2.1 REGIONAL SETTINGS

2.1.1 TOPOGRAPHY

Most construction areas include canal embankments that are somewhat higher than the surrounding areas, while the topography of the staging areas and fill material borrow area are relatively flat. Elevations within the project sites range from approximately 410 to 418 feet above mean sea level.

2.1.2 CLIMATE

Like most of California, the project sites experience a Mediterranean climate. Hot, dry summers are followed by cool, moist winters. In the summer, average high temperatures range between 90- and 98-degrees Fahrenheit (°F), but exceed 100 °F, and the humidity is generally low. Winter temperatures are

often below 60 °F during the day and rarely exceed 70 °F. On average, the census-designated place of Lost Hills receives approximately 8 inches of precipitation in the form of rain yearly, most of which occurs between October and April (Weather Spark), and the site would be expected to receive similar amounts of precipitation.

2.1.3 HYDROLOGY

A watershed is the topographic region that drains into a stream, river, or lake. Watersheds are made up of many smaller subwatersheds that drain into a particular stream, river, or lake. The project site lies within two watersheds, the Upper Kern River Flood Canal watershed; Hydrologic Unit Code (HUC): 1803001212, Lower Kern River Flood Canal-Kern River Channel watershed; HUC: 1803001216, and four subwatersheds including the 180300121207-Kern River Flood Canal subwatershed; HUC: 180300121207, Kern River Flood Canal-Kern River Channel subwatershed; HUC: 180300121604, 180300121602-Kern River Flood Canal subwatershed; HUC: 180300121602, and Chico Martinez Creek subwatershed; HUC: 180300121206.

The nearest surface waters to the project are the 415 and 500 canals where project activities will be occurring. The canals receive water from the California Aqueduct. The canals flow into basins or other canals and do not contain any downstream connections with jurisdictional waters (see Section 3.2.7).

2.1.4 SOILS

Three soil mapping units representing three soil types were identified within the project sites and are listed in Table 2 (see Appendix E for the Web Soil Survey Report). The soils are displayed with their core properties in the table below, according to the Major Land Resource Area of California. All three soils are primarily used for grazing, growing irrigated fields, and row crops.

Table 2: List of Soils Located on the Sites and Their Basic Properties

Soil	Soil Map Unit	Percent of Sites	Hydric Soil Category	Drainage	Permeability	Runoff
Kimberlina	Fine sandy loam, 0 to 2 percent slopes	4.3%	Predominately nonhydric	Well drained	Moderately rapid	Negligible to medium
Milham	Sandy loam, 0 to 2 percent slopes	46.8%	Nonhydric	Well drained	Moderately slow	Low to high
Panoche	Clay loam, 0 to 2 percent slopes	48.9%	Nonhydric	Well drained	Moderate	Negligible to medium

Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions such that under sufficiently wet conditions, hydrophytic vegetation can be supported. All of the soils on the project sites are considered predominately nonhydric or nonhydric.

2.2 BIOTIC HABITATS OF THE PROJECT SITES

Two biotic habitats were observed within the project sites and included canal and ruderal. These habitats and their constituent plant and animal species are described in more detail in the following sections.

2.2.1 CANAL

The canal habitat within the project sites includes the 415 and 500 canals, which were sparsely vegetated. Within the damaged locations the canal habitat vegetation observed included Russian thistle (*Salsola*

tragus), summer cypress (*Bassia scoparia*), tumbling saltbush (*Atriplex rosea*), jimsonweed (*Datura wrightii*), cattail (*Typha* sp.), false daisy (*Eclipta prostrata*), mustard (*Brassica* sp.), cattle saltbush (*Atriplex polycarpa*), and prickly lettuce (*Lactuca serriola*).

A variety of wildlife would be expected to use the canal habitat. The species and signs observed during the field survey included common raven (*Corvus corax*), red-tailed hawk (*Buteo jamaicensis*), mourning dove (*Zenaida macroura*), California quail (*Callipepla californica*), side-blotched lizard (*Uta stansburiana*), coyote (*Canis latrans*) scat, raccoon (*Procyon lotor*) tracks, small mammal burrows, cliff swallow (*Petrochelidon pyrrhonota*) nests under a bridge near 415 Construction Area 1 and 415 Staging Area 1, and unidentified fish species in both of the canals.

2.2.2 RUDERAL

The ruderal habitat within the project sites was located within the staging areas and the fill material borrow area and staging area. Vegetation within the ruderal habitat included invasive grasses, dove weed (*Croton setiger*), red brome (*Bromus rubens*), cheeseweed (*Malva parviflora*), silverleaf nightshade (*Solanum elaeagnifolium*), and winterfat (*Krascheninnikovia ceratoide*). Common raven, side-blotched lizard, and small mammal burrows with kangaroo rat (*Dipodomys* sp.) tail drag marks were also observed within this habitat.

2.3 BIOTIC HABITATS ADJACENT TO THE SITES

Four biotic habitats were observed adjacent to the project sites and included desert scrubland/ grassland, oilfields/grassland, riparian basin, and agriculture. These habitats were not surveyed to identify their constituent plant and animal species. Except for agriculture, these habitats provide higher quality habitat than the habitats of the project sites, and many other plant and animal special status species would be expected to occur in these habitats. Biotic habitats on the sites and their adjacent habitats can be found in Table 3.

Table 3: List of Biotic Habitats on the Sites and their Adjacent Habitats

Project Site Name	Biotic Habitats on the Site	Biotic Habitats Adjacent to the Site
415 Construction Area 1	Canal	Desert scrubland/grassland, Agriculture
415 Construction Area 2	Canal	Desert scrubland/grassland, Agriculture
415 Construction Area 3	Canal	Desert scrubland/grassland, Agriculture
415 Construction Area 4	Canal	Desert scrubland/grassland, Agriculture
415 Construction Area 5	Canal	Desert scrubland/grassland, Agriculture
415 Construction Area 6	Canal	Desert scrubland/grassland, Agriculture
415 Construction Area 7	Canal	Oil fields/grassland, Desert scrubland/grassland
415 Construction Area 8	Canal	Oil fields/grassland, Desert scrubland/grassland
415 Construction Area 9	Canal	Oil fields/grassland, Desert scrubland/grassland, Riparian basin

415 Staging Area 1	Ruderal	Desert scrubland/grassland
415 Staging Area 2	Ruderal	Desert scrubland/grassland, Agriculture
415 Staging Area 3	Ruderal	Desert scrubland/grassland, Agriculture
415 Staging Area 4	Ruderal	Oil fields/grassland, Desert scrubland/grassland, Riparian basin
500 Construction Area 1	Canal	Desert scrubland/grassland
500 Construction Area 2	Canal	Desert scrubland/grassland
500 Construction Area 3	Canal	Desert scrubland/grassland
500 Construction Area 4	Canal	Desert scrubland/grassland
500 Staging Area 1	Ruderal	Desert scrubland/grassland
500 Staging Area 2	Ruderal	Desert scrubland/grassland
Fill Material Borrow Area and Staging Area	Ruderal	Desert scrubland/grassland, Agriculture
Staging Area by Belridge Office	Ruderal	Desert scrubland/grassland, Agriculture

2.4 NATURAL COMMUNITIES OF SPECIAL CONCERN AND RIPARIAN HABITAT

Natural communities of special concern are those that are of limited distribution, distinguished by significant biological diversity, or home to special status species. CDFW has classified and mapped all-natural communities in California. Just as the special status plant and animal species, these natural communities of special concern can be found within the CNDDB. According to the CNDDB and field survey, no natural communities of special concern were present within the project sites. Additionally, no natural communities of special concern were observed during the biological survey.

Riparian habitat is composed of plant communities that occur along the banks, and sometimes over the banks, of most waterways and is an important habitat for numerous wildlife species. CDFW has jurisdiction over most riparian habitat in California. No natural waterways or riparian habitat was observed within or adjacent to the project sites. The only waters within the sites were the 415 and 500 canals.

2.5 DESIGNATED CRITICAL HABITAT

The USFWS often designates areas of “critical habitat” when it lists species as threatened or endangered. Critical habitat is a specific geographic area that contains features essential for the conservation of a threatened or endangered species, which may require special management and protection. According to the CNDDB and IPaC, critical habitat is absent within the project sites. Buena Vista Lake ornate shrew critical habitat is approximately 8 miles west of the sites.

2.6 WILDLIFE MOVEMENT CORRIDORS AND NATIVE WILDLIFE NURSERY SITES

Wildlife movement corridors are routes that animals regularly and predictably follow during seasonal migration, dispersal from native ranges, daily travel within home ranges, and inter-population movements. Movement corridors in California are typically associated with valleys, ridgelines, and rivers and creeks supporting riparian vegetation. The project sites are surrounded by ruderal and agricultural fields. The canal habitat within the sites may be utilized as a wildlife movement corridor.

Native wildlife nursery sites are areas where a species or group of similar species raise their young in a concentrated place, such as maternity bat roosts. No native wildlife nursery sites were found within the project sites.

2.7 SPECIAL STATUS PLANTS AND ANIMALS

California contains several rare plant and animal species. In this context, "rare" is defined as a species known to have low populations or limited distributions. As the human population grows, urban expansion encroaches on the already-limited suitable habitat for rare species. This results in rare and sensitive species becoming increasingly more vulnerable to extirpation. State and federal regulations have provided the CDFW and USFWS with a mechanism for conserving and protecting the diversity of plant and animal species native to California. Numerous native plants and animals have been formally designated as "threatened" or "endangered" under state and federal endangered species legislation. Other formal designations include "candidate" for listing or "species of special concern" by CDFW. The CNPS has its list of native plants considered rare, threatened, or endangered. Collectively these animals and plants are referred to as "special status species."

A query of the CNDDB for occurrences of special status plant and animal species was conducted for the *Antelope Plain* and *Belridge* 7.5-minute U.S. Geological Survey (USGS) quadrangles that contain the project sites, and for the ten surrounding USGS quadrangles: *Blackwells Corner*, Carneros Rocks, *Lokern*, *Lost Hills*, Lost Hills NE, *Lost Hills NW*, *McKittrick Summit*, *Reward*, *Semitropic*, and *West Elk Hills*. A query of the IPaC was also completed for the project sites. These species, and their potential to occur within the project sites, are listed in Table 4 and Table 5 on the following pages. Other special status species that did not show up in the CNDDB query, but have the potential to occur in the vicinity, are also included in Table 5. Species lists obtained from CNDDB and IPaC are available in Appendix C and Appendix D, respectively. All relevant sources of information, as discussed in the *Study Methodology* section of this report, as well as field observations, were used to determine if any special status species have the potential to occur within the sites.

Table 4: List of Special Status Plants with Potential to Occur Onsite and/or in the Vicinity

Species	Status*	Habitat	Occurrence within the Project Sites
Alkali-sink goldfields (*Lasthenia chrysantha*)	CNPS 1B	Found in vernal pool and wet saline flat habitats in the San Joaquin Valley region at elevations below 700 feet. Blooms February – April.	**Absent.** Vernal pool and wet saline flat habitats were absent within the sites and surrounding areas.
California alkali grass (*Puccinellia simplex*)	CNPS 1B	Found in the San Joaquin Valley and other parts of California in saline flats and mineral springs within valley grassland and wetland-riparian communities at elevations below 3,000 feet. Blooms March – May.	**Unlikely.** Suitable habitat was absent within the sites and surrounding areas. The nearest recorded observation of this species within the vicinity was approximately 5 miles northeast of the sites in 1942.
California jewelflower (*Caulanthus californicus*)	FE, CE, CNPS 1B	Found in the San Joaquin Valley and western Transverse Ranges in sandy soils. Occurs on flats and slopes, generally in non-alkaline grassland at elevations between 200 and 6,100 feet. Blooms February – April.	**Unlikely.** Suitable habitat was absent within the sites and surrounding areas. The nearest recorded observation of this species within the vicinity was approximately 1.5 miles south of the sites in 1986, but it is listed as extirpated.

Species	Status*	Habitat	Occurrence within the Project Sites
Carrizo Plain crownscale (*Atriplex flavida*)	CNPS 1B	Found in alkaline soils in chenopod scrub, valley and foothill grassland, and vernal pools at elevations of approximately 1,900 to 2,600 feet. Blooms March – July.	**Absent.** The sites were outside of the elevational range of this species.
Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*)	CNPS 1B	Found on alkaline and saline soils in vernal pools and playas in grassland at elevations below 4,500 feet. Blooms April – May.	**Unlikely.** Suitable habitats and soils were absent within the sites and surrounding areas. The nearest recorded observation of this species within the vicinity was approximately 4 miles east of the sites in 2010.
Earlimart orache (*Atriplex cordulata* var. *erecticaulis*)	CNPS 1B	Found in the San Joaquin Valley in saline and alkaline soils, typically within valley grasslands at elevations below 400 feet. Blooms August – September.	**Unlikely.** Suitable habitat was absent within the sites and surrounding areas. The nearest recorded observation of this species within the vicinity was approximately 11.5 miles east of the sites in 1997.
Heartscale (*Atriplex cordulata* var. *cordulata*)	CNPS 1B	Found in the Central Valley in saline and alkaline soils within shadscale scrub, valley grassland, and wetland-riparian communities at elevations below 250 feet. Blooms June – July.	**Absent.** The sites are outside of the elevational range of this species.
Horn's milk-vetch (*Astralagus hornii* var. *hornii*)	CNPS 1B	This facultative species is most frequently found in the San Joaquin Valley and foothills of the Sierra Nevada in the alkali soils of lake margins, meadows, seeps, and playas at elevations between 200 and 1,000 feet. Blooms May – September.	**Unlikely.** Suitable habitat was absent within the sites and surrounding areas. The nearest recorded observation of this species within the vicinity was approximately 6.5 miles northeast of the sites in 1953.
Kern Mallow (*Eremalche parryi* ssp. *kernensis*)	FE, CNPS 1B	Occurs in the San Joaquin Valley and the Southern Inner Coast Ranges in eroded hillsides and alkali flats; often on dry, open, sandy to clay soils and within alkali scrub communities at elevations between 200 and 4,300 feet. Blooms March – May.	**Unlikely.** Suitable habitat was absent within the sites and surrounding areas. The nearest recorded observation of this species within the vicinity was approximately 2 miles east of the sites in 2004.
King's gold (*Tropidocarpum californicum*)	CNPS 1B	Endemic to the southern portion of the San Joaquin Valley, this species grows in chenopod scrub habitat at elevations between 200 and 600 feet. Blooms in March.	**Unlikely.** Suitable habitat was absent within the sites which are frequently disturbed due to irrigation and agricultural activities. The nearest recorded observation of this species within the vicinity was approximately 10 miles northeast of the sites in 2018.

Species	Status*	Habitat	Occurrence within the Project Sites
Lemmon's jewelflower (*Caulanthus lemmonii*)	CNPS 1B	Grows in the California Coast Ranges and Mojave Desert woodlands and grasslands at elevations between 250 and 3,700 feet. Often associated with pinyon pines and junipers. Blooms March – May.	**Unlikely.** Suitable habitat was absent within the sites and surrounding areas. The nearest recorded observation of this species within the vicinity was approximately 12.5 miles southwest of the sites in 2017.
Lesser saltscale (*Atriplex minuscula*)	CNPS 1B	Found in the San Joaquin Valley in sandy, alkaline soils in alkali scrub, valley and foothill grassland, and alkali sink communities at elevations below 750 feet. Blooms April – October.	**Unlikely.** Suitable habitat was absent within the sites which are frequently disturbed due to irrigation and agricultural activities. The nearest recorded observation of this species within the vicinity was approximately 8.5 miles northeast of the sites in 1989.
Lost Hills crownscale (*Atriplex coronata* var. *vallicola*)	CNPS 1B	Found in the San Joaquin Valley in dried ponds and vernal pools with alkaline soils in alkali scrub, and valley and foothill grasslands at elevations below 2,900 feet. Blooms April – September.	**Unlikely.** Suitable habitat was absent within the sites and surrounding areas. The nearest recorded observation of this species within the vicinity was approximately 3.5 miles east of the sites in 2009.
Munz's tidy-tips (*Layia munzii*)	CNPS 1B	Found in the San Joaquin Valley in alkaline clay soils; often along hillsides in alkali scrub and sometimes valley and foothill grassland at elevations between 100 and 2,700 feet. Blooms March – April.	**Unlikely.** Suitable habitat was absent within the sites which are frequently disturbed due to irrigation and agricultural activities. The nearest recorded observation of this species within the vicinity was approximately 3.5 miles northeast of the sites in 1988.
Oil neststraw (*Stylocline citroleum*)	CNPS 1B	Occurs in valley and foothill areas of central and southern California in oil-producing areas. Grows in clay soils at elevations between 150 and 1,000 feet. Blooms March – April.	**Unlikely.** Suitable habitat was absent within the sites which are frequently disturbed due to irrigation and agricultural activities. The nearest recorded observation of this species within the vicinity was approximately 9.5 miles southeast of the sites in 2001.
Recurved larkspur (*Delphinium recurvatum*)	CNPS 1B	Occurs in poorly drained, fine, alkaline soils in grassland and alkali scrub communities at elevations between 100 and 2,600 feet. Blooms March – June.	**Unlikely.** Suitable habitat was absent within the sites which are frequently disturbed due to irrigation and agricultural activities. The nearest recorded observation of this species within the vicinity was approximately 2.5 miles east of the sites in 2011.

Species	Status*	Habitat	Occurrence within the Project Sites
San Joaquin woollythreads (*Monolopia congdonii*)	FE, CNPS 1B	Occurs in the San Joaquin Valley in sandy soils on alkaline or loamy plains in valley and foothill grassland and alkali scrub communities at elevations between 150 and 2,800 feet. Blooms February – May.	**Unlikely.** Suitable habitat was absent within the sites and surrounding areas. The nearest recorded observation of this species within the vicinity was approximately 4 miles east of the sites in 2015.
Showy golden madia (*Madia radiata*)	CNPS 1B	Found primarily in grasslands and shrublands growing in adobe clay at elevations between 50 and 4,000 feet. Blooms March – May.	**Unlikely.** Suitable habitat was absent within the sites and surrounding areas. The nearest recorded observation of this species within the vicinity was approximately 5.5 miles southeast of the sites in 2008.
Slough thistle (*Cirsium crassicaule*)	CNPS 1B	Found in the San Joaquin Valley in freshwater sloughs, marshes, and riverbanks at elevations below 300 feet. Blooms March – June.	**Unlikely.** Suitable aquatic habitat was absent within the sites and surrounding areas. The nearest recorded observation of this species within the vicinity was approximately 6 miles east of the sites in 1954.
Tejon poppy (*Eschscholzia lemmonii* ssp. *kernensis*)	CNPS 1B	Occurs in the grasslands of the southern portion of the San Joaquin Valley and the foothills of the Transverse Ranges at elevations between 650 and 3,300 feet. Blooms March – April.	**Absent.** The sites are outside of the elevational range of this species.
Temblor buckwheat (*Eriogonum temblorense*)	CNPS 1B	Occurs in valley and foothill grasslands in the inner coastal range of central California. Grows in barren clay or sandstone substrates at elevations between 750 and 3,000 feet. Blooms May – September.	**Absent.** The sites were outside of the elevational range of this species.

Table 5: List of Special Status Animals with Potential to Occur Onsite and/or in the Vicinity

Species	Status*	Habitat	Occurrence within the Project Sites
American badger (*Taxidea taxus*)	CSSC	Occurs most abundantly in drier open stages of shrub, forest, and herbaceous habitats with friable soils to burrow, but can be found within numerous habitats throughout California, including the margins of agricultural lands. Needs sufficient prey base of burrowing rodents.	**Possible.** This species could den within the canal banks of the sites as there was higher quality habitat for this species adjacent to these areas. They could also den within the fill material borrow area. American badgers could also use the canals as a wildlife movement corridor. The nearest recorded observation of this species within the vicinity was approximately 9 miles southeast of the sites in 1999.

Species	Status*	Habitat	Occurrence within the Project Sites
Blunt-nosed leopard lizard (*Gambelia sila*)	FE, CE, CFP	Occurs in the San Joaquin Valley region in expansive, arid areas with scattered vegetation. Today they inhabit non-native grassland and alkali sink scrub communities of the Valley floor marked by poorly drained, alkaline, and saline soils. In the foothills of the southern San Joaquin Valley and Carrizo Plain, they occur in the chenopod community, which is associated with non-alkaline, sandy soils. They can be found at elevations ranging from 98 to 2,600 feet above sea level. They are absent from areas of steep slopes and dense vegetation, and areas subject to seasonal flooding. Known to bask on kangaroo rat mounds and often seeks shelter at the base of shrubs, in small mammal burrows, or in rock piles. Adults may excavate shallow burrows but rely on deeper pre-existing rodent burrows for hibernation and reproduction.	**Possible.** There was higher quality suitable habitat for this species adjacent to some of the sites and this species could occasionally occur on the sites. The nearest recorded observation of this species within the vicinity was approximately 2.5 miles east of the sites in 2000.
Buena Vista Lake ornate shrew (*Sorex ornatus relictus*)	FE, CSSC	Prefers moist soils, inhabiting marshes, swamps, and riparian shrublands. Uses stumps, logs, and leaf litter for cover.	**Absent.** The sites and surrounding areas lack suitable vegetation and cover for this species.
Burrowing owl (*Athene cunicularia*)	CSSC	Resides in open, dry grasslands, deserts, scrublands, and other areas with low growing vegetation. Nests and roosts underground in existing burrows created by mammals, most often ground squirrels, and human-made structures.	**Possible.** This species could burrow within the canal banks of the sites as there was higher quality habitat for this species adjacent to some of the sites. They could also burrow within the fill material borrow area. The nearest recorded observation of this species within the vicinity was approximately 2 miles east of the sites in 1996.
California condor (*Gymnogyps californianus*)	FE, CE, CFP	Typically nests in cavities in canyon or cliff faces but has also been recorded nesting in giant sequoias in Tulare County. Requires vast expanse of open savannah, grassland, and/or foothill chaparral in mountain ranges of moderate altitude. Forages for carrion up to 100 miles from their roost/nest sites.	**Unlikely.** Suitable nesting and foraging habitats were absent within the sites and surrounding areas. This species could fly over the sites but would not be expected to nest or forage within the sites. The CNDDB query resulted in no observations of this species within the regional vicinity of the project.

Species	Status*	Habitat	Occurrence within the Project Sites
California glossy snake (*Arizona elegans occidentalis*)	CSSC	Inhabits arid scrub, rocky washes, grasslands, and chaparral. Prefers open areas with loose soil for easy burrowing.	**Unlikely.** Suitable habitat and loose soils were absent within the sites. The nearest recorded observation of this species within the vicinity was approximately 9 miles south of the sites in 2015.
Coast horned lizard (*Phrynosoma blainvillii*)	CSSC	Found in grasslands, coniferous forests, woodlands, and chaparral, primarily in open areas with patches of loose, sandy soil and low-lying vegetation in valleys, foothills, and semi-arid mountains. Frequently found near ant hills and along dirt roads in lowlands along sandy washes with scattered shrubs.	**Unlikely.** The sites and surrounding areas are regularly maintained for irrigation and agricultural purposes and lack suitable habitats. The nearest recorded observation of this species within the vicinity was approximately 8 miles southwest of the sites in 2008.
Crotch bumble bee (*Bombus crotchii*)	CCE	Occurs throughout coastal California, as well as east to the Sierra Nevada-Cascade crest, and south into Mexico. Food plant genera include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia*, and *Eriogonum*.	**Unlikely.** The sites and surrounding areas are regularly maintained for irrigation and agricultural purposes and plants this species forages on were absent. The nearest recorded observation of this species within the vicinity was approximately 9.5 miles southwest of the sites in 1996.
Giant gartersnake (*Thamnophis gigas*)	FT, CT	Occurs in marshes, sloughs, drainage canals, irrigation ditches, rice fields, and adjacent uplands. Prefers locations with emergent vegetation for cover and open areas for basking. This species uses small mammal burrows adjacent to aquatic habitats for hibernation in the winter and to escape from excessive heat in the summer.	**Unlikely.** The canals near the construction areas contained minimal to no emergent vegetation. The CNDDB query resulted in no observations of this species within the regional vicinity of the project.
Giant kangaroo rat (*Dipodomys ingens*)	FE, CE	Inhabits annual grassland communities with few or no shrubs and well-drained, sandy-loam soils on gentle slopes.	**Possible.** This species could den within the canal banks of the sites as there was suitable higher quality habitat for this species adjacent to some of the canal bank sites. They could also burrow in the fill material borrow area. Sites along the canals contained appropriately sized burrows and the fill material borrow and staging area contained burrows with kangaroo rat tail drag marks outside of the burrows. The nearest recorded observation of this species within

Species	Status*	Habitat	Occurrence within the Project Sites
			the vicinity was approximately 2 miles south of the sites in 2016.
Le Conte's thrasher (*Toxostoma lecontei*)	CSSC	Primarily resides in desert habitats in the Mojave and Sonoran deserts, including open desert wash, desert scrub, alkali desert scrub, and desert succulent scrub. Nests 2-8 feet above the ground in dense, spiny shrub or densely branched cacti.	**Possible.** There was suitable nesting and foraging habitat for this species adjacent to the sites. This species may forage over the sites but would not be expected to nest within the sites. The nearest recorded observation of this species within the vicinity was approximately 0.5 mile west of the sites in 1948.
Loggerhead shrike (*Lanius ludovicianus*)	CSSC	Frequents open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low herbaceous cover. In the Central Valley, nests in riparian areas, desert scrub, and agricultural hedgerows.	**Possible.** At 415 Construction Area 9 and 415 Staging Area 4 a basin with riparian/emergent wetland is directly adjacent to the site and provides potential nesting habitat for this species. This species would not be expected to nest within the sites. The nearest recorded observation of this species within the vicinity was approximately 10.5 miles south of the sites in 1999.
Monarch butterfly (*Danaus plexippus*)	FC	Roosts in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Larval host plants consist of milkweeds (*Asclepias* sp.). Winter roost sites extend along the Pacific coast from northern Mendocino to Baja California, Mexico.	**Unlikely.** Foraging and roosting habitat was absent within the sites. The sites did not contain milkweeds or groves of trees. The CNDDB query resulted in no observations of this species within the regional vicinity of the project.
Mountain plover - nesting (*Charadrius montanus*)	CSSC	Breeds on open plains at moderate elevations outside of California. Winters in short-grass plains and fields, plowed or fallow fields, and sandy deserts within California. Prefers flat, bare ground with burrowing rodents.	**Unlikely.** This species would not nest within the site and surrounding area. This species could forage over the soil borrow field, but it would be expected to fly away during project activities. The nearest recorded observation of this species within the vicinity was approximately 18.5 miles northeast of the site in 1974 within the Kern National Wildlife Refuge.
Nelson's antelope squirrel (*Ammospermophilus nelsoni*)	CT	Found in the western San Joaquin Valley on dry, sparsely vegetated loamy soils. Relies heavily on existing small mammal burrows.	**Unlikely.** The field survey was conducted during the day when this species would have been active. No signs of this species were observed during the field survey. The nearest recorded observation of this species within the vicinity was approximately

Species	Status*	Habitat	Occurrence within the Project Sites
			0.5-mile northeast of the sites in 1980.
Northern California legless lizard (*Anniella pulchra*)	CSSC	Found primarily underground, burrowing in loose, sandy soil. Forages in loose soil and leaf litter during the day. Occasionally observed on the surface at dusk and night.	**Unlikely.** The sites and surrounding areas are frequently disturbed due to irrigation and agricultural activities and lack required leaf litter. The nearest recorded observation of this species within the vicinity was approximately 10.5 miles southwest of the sites in 2015.
Pallid bat (*Antrozous pallidus*)	CSSC	Found in grasslands, chaparral, and woodlands, where it feeds on ground- and vegetation-dwelling arthropods, and occasionally takes insects in flight. Prefers to roost in rock crevices, but may also use tree cavities, caves, bridges, and other man-made structures.	**Unlikely.** Suitable roosting habitat was absent within the sites and surrounding areas. This species could forage in or fly over the sites but would not be expected to roost within the sites or surrounding areas. The nearest recorded observation of this species within the vicinity was approximately 8.5 miles west of the sites in 1948.
San Joaquin coachwhip (*Masticophis flagellum ruddocki*)	CSSC	Found in open dry habitats with little or no tree cover in valley grassland and saltbush scrub communities in the San Joaquin Valley. Relies on mammal burrows for refuge and oviposition sites.	**Possible.** There was higher quality suitable habitat for this species adjacent to some of the sites and this species could occasionally occur on some of the sites. The nearest recorded observation of this species within the vicinity was approximately 3 miles north of the sites in 2002.
San Joaquin kit fox (*Vulpes macrotis mutica*)	FE, CT	Opportunistically forages in a variety of habitats. Dens in burrows within alkali sink, valley grassland, and woodland habitats in valleys and adjacent foothills and in human-made structures in cities, rangeland, and agricultural areas.	**Possible.** This species could den within the canal banks, or the agricultural habitat or use the canals as a wildlife movement corridor. The nearest recorded observation of this species within the vicinity was approximately 1.5 miles northeast of the site in 1981.
Short-nosed kangaroo rat (*Dipodomys nitratoides brevinasus*)	CSSC	Inhabit grasslands with scattered shrubs and desert-shrub associations on powdery soils. They inhabit highly saline soils around Soda Lake on the Carrizo Plain, and less saline soils elsewhere. In the Panoche Valley, San Benito County, this species is found on gently sloping and rolling, low hilltops that have some shrubs. Over most of their range, they are generally more numerous in	**Possible.** This species could burrow within the canal banks as there was higher quality suitable habitat for this species adjacent to some of the sites. This species may also burrow within the fill material borrow area. The fill material borrow area contained burrows with kangaroo rat tail drag marks outside of the burrows. The nearest recorded observation of this species within

Species	Status*	Habitat	Occurrence within the Project Sites
		lighter, powdery soils such as the sandy bottoms and banks of arroyos and other sandy areas.	the vicinity was approximately 2 miles east of the sites in 2004.
Swainson's hawk (*Buteo swainsoni*)	CT	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa fields, or livestock pastures suitable for supporting rodent populations.	**Unlikely.** Suitable nesting habitat was absent within the sites and surrounding areas. This species could forage in the fill material borrow area and staging area or fly over the sites but would not be expected to nest within the sites or surrounding areas. The nearest recorded observation of this species within the vicinity was approximately 7.5 miles southeast of the site in 2017.
Temblor legless lizard (*Anniella alexanderae*)	CSSC	Inhabits areas with moist, warm, loose soils and sparse vegetation. All sightings of this species have occurred between California State Highway 33 and the Temblor Range southwest of the San Joaquin Valley. Found in leaf litter under trees and bushes in sunny areas. Occasionally found in suburban gardens.	**Unlikely.** The sites and surrounding areas are frequently disturbed due to irrigation and agricultural activities and lack required leaf litter. The nearest recorded observation of this species within the vicinity was approximately 6 miles southeast of the sites in 2023.
Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*)	FE, CE	Saltbush scrub and sink scrub communities in the Tulare Lake Basin of the southern San Joaquin Valley. Needs soft friable soils.	**Possible.** This species could burrow within the canal banks as there was higher quality suitable habitat for this species adjacent to some of the sites. This species may also burrow within the fill material borrow area. The fill material borrow area contained burrows with kangaroo rat tail drag marks outside of the burrows. The nearest recorded observation of this species within the vicinity was approximately 2 miles southeast of the sites on the east side of the California Aqueduct in 2003.
Tricolored blackbird (*Agelaius tricolor*)	CT, CSSC	Nests colonially near fresh water in dense cattails or tules, or in thickets of riparian shrubs. Forages in grassland and cropland. Large colonies are often found foraging in dairy farm feed fields.	**Possible.** At 415 Construction Area 9 and 415 Staging Area 4 a basin with riparian/emergent wetland is directly adjacent to the site and provides potential nesting habitat for this species. This species would not be expected to nest within the sites but could forage on the sites. The nearest recorded observation of this species within the vicinity was

Species	Status*	Habitat	Occurrence within the Project Sites
			approximately 5.5 miles west of the sites in 1997.
Tulare grasshopper mouse (*Onychomys torridus tularensis*)	CSSC	Typically inhabit arid shrubland communities in hot, arid grassland and shrubland associations. Diet consists almost exclusively of arthropods.	**Possible.** This species could burrow within the canal banks as there was higher quality suitable habitat for this species adjacent to some of the sites. They could also burrow in the fill material borrow area, which has marginal, but suitable habitat for this species. The nearest recorded observation of this species within the vicinity was approximately 2.5 miles southeast of the site in 2003.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Occupies vernal and seasonal pools, with clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	**Unlikely.** Vernal, seasonal, and basalt depression pools were absent within the sites and surrounding areas. The CNDDB query resulted in no observations of this species within the regional vicinity of the project.
Western mastiff bat (*Eumops perotis californicus*)	CSSC	Found in open, arid to semi-arid habitats, including dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, and agricultural areas, where it feeds on insects in flight. Roosts most commonly in crevices in cliff faces but may also use high buildings and tunnels.	**Unlikely.** Suitable roosting habitat was absent within the sites and surrounding areas. This species could forage in or fly over the sites but would not be expected to roost within the sites or surrounding areas. The nearest recorded observation of this species within the vicinity was approximately 1 mile east of the site in 1953.
Western pond turtle (*Emys marmorata*)	CSSC	An aquatic turtle of ponds, marshes, slow-moving rivers, streams, and irrigation ditches with riparian vegetation. Requires adequate basking sites and sandy banks or grassy open fields to deposit eggs.	**Unlikely.** The concrete lined 415 and 500 canals did not contain adequate amounts of riparian vegetation for this species. The basin near 415 Construction Area 9 and 415 Staging Area 4 contained aquatic vegetation but would not support a long-term population of turtles. Basking and nesting habitat were absent within the sites and surrounding areas. The nearest recorded observation of this species within the vicinity was approximately 3.5 miles east of the sites in 1988.
Western snowy plover (*Charadrius alexandrinus nivosus*)	FT, CSSC	Typically found on sandy beaches, salt pond levees, and shores of large alkali lakes.	**Unlikely.** The sites and surrounding areas are regularly maintained for irrigation and agricultural purposes and are unsuitable for this species. The

Species	Status*	Habitat	Occurrence within the Project Sites
			nearest recorded observation of this species within the vicinity was approximately 8.5 miles east of the sites in 1978.
Western spadefoot (*Spea hammondii*)	CSSC	The majority of the time this species is terrestrial and occurs in small mammal burrows and soil cracks, sometimes in the bottom of dried pools. Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Vernal or seasonal pools, that hold water for a minimum of three weeks, are necessary for breeding.	**Unlikely.** The sites and surrounding areas are regularly maintained for irrigation and agricultural purposes and are unsuitable for this species. The canals onsite contain fish and flow too quickly for this species to breed. The nearest recorded observation of this species within the vicinity was approximately 2 miles east of the sites in 1998.

***EXPLANATION OF OCCURRENCE DESIGNATIONS AND STATUS CODES**

Present:	Species observed on the sites at time of field surveys or during recent past.
Likely:	Species not observed on the sites, but it may reasonably be expected to occur there on a regular basis.
Possible:	Species not observed on the sites, but it could occur there from time to time.
Unlikely:	Species not observed on the sites, and would not be expected to occur there except, perhaps, as a transient.
Absent:	Species not observed on the sites and precluded from occurring there due to absence of suitable habitat.

STATUS CODES

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
FC	Federal Candidate	CFP	California Fully Protected
		CSSC	California Species of Special Concern

CNPS LISTING

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

3 IMPACTS AND MITIGATION

3.1 SIGNIFICANCE CRITERIA

3.1.1 CEQA

General plans, area plans, and specific projects are subject to the provisions of CEQA. The purpose of CEQA is to assess the impacts of proposed projects on the environment prior to project implementation. Impacts to biological resources are just one type of environmental impact assessed under CEQA and vary from project to project in terms of scope and magnitude. Projects requiring removal of vegetation may result in the mortality or displacement of animals associated with this vegetation. Animals adapted to humans, roads, buildings, and pets may replace those species formerly occurring on a site. Plants and animals that are rare may be destroyed or displaced. Sensitive habitats such as wetlands and riparian woodlands may be altered or destroyed. Such impacts may be considered either "significant" or "less than significant" under CEQA. According to *CEQA Statute and Guidelines* (AEP 2023), "significant effect on the environment" means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic interest. Specific project impacts to biological resources may be considered "significant" if they would:

- 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 CDFW or USFWS;
- 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 CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (CWA) (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; or
- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state HCP.

Furthermore, CEQA Guidelines Section 15065(a) states that a project may trigger the requirement to make a "mandatory finding of significance" if the project has the potential to:

> "Substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare or threatened species, or eliminate important examples of the major periods of California history or prehistory."

3.1.2 NEPA

Federal projects are subject to the provisions of NEPA. The purpose of NEPA is to assess the effects of a proposed action on the human environment, assess the significance of those effects, and recommend measures

that if implemented would mitigate those effects. As used in NEPA, a determination that certain effects on the human environment are "significant" requires considerations of both context and intensity (40 Code of Federal Regulations (CFR) 1508.27).

For the purposes of assessing effects of an action on biological resources, the relevant context is often local. The analysis may, however, require a comparison of the action area's biological resources with the biological resources of an entire region. Project activities must have a federal nexus and discuss federally listed species, and/or designated critical habitat that may be affected in the action area.

Federal agencies are required to determine whether their actions may affect listed or proposed species and designated critical habitat. The primary role of this document is to provide agencies conclusion and the rationale to support those conclusions regarding the effects of any proposed actions of the project on protected resources. Document content and recommended elements are identified in 50 CFR 402.12(f).

Under section 7 of the Endangered Species Act, federal agencies must consult with NOAA Fisheries or the USFWS, depending on the species, through an informal or formal consultation when any action the agency carries out, funds, or authorizes may affect either a species listed as threatened or endangered under the Act, or any critical habitat designated for it.

Once resources are assessed an Endangered Species Act Section 7 finding needs to be made regarding proposed or listed species and/or designated critical habitat that may be present in the project area. This report will provide the necessary information for the lead federal agency to make a determination on affects. This finding may result in one of the following determinations:

- *"*No effect*"* - means there will be no impacts, positive or negative, to listed or proposed resources. Generally, this means no listed resources will be exposed to action and its environmental consequences. Concurrence from the Service is not required.
- *"*May affect, but not likely to adversely affect" means that all effects are beneficial, insignificant, or discountable. Beneficial effects have contemporaneous positive effects without any adverse effects to the species or habitat. Insignificant effects relate to the size of the impact and include those effects that are undetectable, not measurable, or cannot be evaluated. Discountable effects are those extremely unlikely to occur. These determinations require written concurrence from the Service.
- *"*May affect, likely to adversely affect" means that listed resources are likely to be exposed to the action or its environmental consequences and will respond in a negative manner to the exposure.

3.2 RELEVANT GOALS, POLICIES, AND LAWS

3.2.1 KERN COUNTY GENERAL PLAN

The Kern County General Plan Policy Document contain the following goals and policies related to the project:

3.2.1.1.1 THREATENED AND ENDANGERED SPECIES

Policy 27: Threatened or endangered plant and wildlife species should be protected in accordance with State and federal laws.

Policy 28: The County should work closely with State and federal agencies to assure that discretionary projects avoid or minimize impacts to fish, wildlife, and botanical resources.

Policy 29: The County will seek cooperative efforts with local, State, and federal agencies to protect listed threatened and endangered plant and wildlife species through the use of conservation plans and other methods promoting management and conservation of habitat lands.

Policy 30: The County will promote public awareness of endangered species laws to help educate property owners and the development community of local, State, and federal programs concerning endangered species conservation issues.

Policy 31: Under the provisions of the California Environmental Quality Act (CEQA), the County, as lead agency, will solicit comments from the California Department of Fish and Game and the U.S. Fish and Wildlife Service when an environmental document (Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report) is prepared.

Policy 32: Riparian areas will be managed in accordance with United States Army Corps of Engineers, and the California Department of Fish and Game rules and regulations to enhance the drainage, flood control, biological, recreational, and other beneficial uses while acknowledging existing land use patterns.

3.2.1.1.2 SURFACE WATER AND GROUNDWATER

Policy 35: Ensure that adequate water storage, treatment, and transmission facilities are constructed concurrently with planned growth.

Policy 43: Drainage shall conform to the Kern County Development Standards and the Grading Ordinance.

Policy 44: Discretionary projects shall analyze watershed impacts and mitigate for construction-related and urban pollutants, as well as alterations of flow patterns and introduction of impervious surfaces as required by the California Environmental Quality Act (CEQA), to prevent the degradation of the watershed to the extent practical.

3.2.2 THREATENED AND ENDANGERED SPECIES

Permits may be required from CDFW and/or USFWS if activities associated with a project have the potential to result in the "take" of a species listed as threatened or endangered under the California Endangered Species Act (CESA) and/or Endangered Species Act (ESA), respectively. Take is defined by CESA as, "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill" (California Fish and Game Code, Section 86). Take is more broadly defined by the ESA to include "harm" (16 USC, Section 1532(19), 50 CFR, Section 17.3). CDFW and USFWS are responsible agencies under CEQA and NEPA. Both agencies review CEQA and NEPA documents in order to determine the adequacy of the treatment of endangered species issues and to make project-specific recommendations for their conservation.

3.2.3 DESIGNATED CRITICAL HABITAT

When species are listed as threatened or endangered, the USFWS often designates areas of "critical habitat" as defined by section 3(5)(A) of the ESA. Critical habitat is a term defined in the ESA as a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical habitat is a tool that supports the continued conservation of imperiled species by guiding cooperation with the federal government. Designations only affect federal agency actions or federally funded or permitted activities. Critical habitat does not prevent activities that occur within the designated area. Only activities that involve a federal permit, license, or funding and are likely to destroy or adversely modify critical habitat will be affected.

3.2.4 MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA: 16 USC 703-712) prohibits killing, possessing, or trading in any bird species covered in one of four international conventions to which the United States is a party, except in accordance with regulations prescribed by the Secretary of the Interior. The name of the act is misleading, as it covers almost all bird's native to the United States, even those that are non-migratory. The MBTA encompasses whole birds, parts of birds, and bird nests and eggs. Additionally, California Fish and Game Code makes it unlawful to take or possess any non-game birds covered by the MBTA (Section 3513), as well as any other native non-game birds (Section 3800).

3.2.5 BIRDS OF PREY

Birds of prey are protected in California under provisions of California Fish and Game Code (Section 3503.5), which states that it is unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks and eagles) or Strigiformes (owls), as well as their nests and eggs. The bald eagle and golden eagle are afforded additional protection under the Bald and Golden Eagle Protection Act (16 USC 668), which makes it unlawful to kill birds or their eggs, or take feathers or nests, without a permit issued by the U.S. Secretary of the Interior.

3.2.6 NESTING BIRDS

In California, protection is afforded to the nests and eggs of all birds. California Fish and Game Code (Section 3503) states that it is "unlawful to take, possess, or needlessly destroy the nest or eggs of any bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Breeding-season disturbance that causes nest abandonment and/or loss of reproductive effort is considered a form of "take" by the CDFW.

3.2.7 WETLANDS AND OTHER "JURISDICTIONAL WATERS"

The definition of "waters of the United States" (WOTUS) often changes from one presidential administration to the next. The current definition, established under the Biden Administration that became effective on March 20, 2023 (i.e., "new rule"), has adopted much of the same WOTUS designations as the pre-2015 rules, but has incorporated the most recent science and court case rulings. Traditional navigable waters, territorial seas, and interstate waters remain covered under the new rule. Natural drainage channels and adjacent wetlands may be considered "waters of the United States" or "jurisdictional waters" subject to the jurisdiction of the USACE if there is a "relatively permanent" surface water connection, or "significant nexus" to WOTUS. The extent of jurisdiction has been defined in the Code of Federal Regulations but is also subject to interpretation by the federal courts. Jurisdictional waters generally include the following categories:

1) *Waters which are:*
    a. *Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;*
    b. *The territorial seas; or*
    c. *Interstate waters, including interstate wetlands;*
2) *Impoundments of waters otherwise defined as WOTUS under this definition, other than impoundments of waters identified under item (5) of this section;*
3) *Tributaries of waters identified in items (1) or (2) of this section:*
    a. *That are relatively permanent, standing or continuously flowing bodies of water; or*
    b. *That either alone or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of waters identified in item (1) of this section;*
4) *Wetlands adjacent to the following waters:*
    a. *Waters identified in item (1) of this section; or*

b. *Relatively permanent, standing or continuously flowing bodies of water identified in items (2) or (3)(i) of this section and with a continuous surface connection to those waters; or*
c. *Waters identified in items (2) or (3) of this section when the wetlands either alone or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of waters identified in item (1) of this section;*

5) *Intrastate lakes and ponds, streams, or wetlands not identified in items (1) through (4) of this section:*
   a. *That are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in items (1) or (3)(i) of this section; or*
   b. *That either alone or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of waters identified in item (1) of this section.*

Prior exclusions have been consolidated under the new rule, which excludes from jurisdiction any feature that satisfies the following terms:

- *Waste treatment systems, including treatment ponds or lagoons;*
- *Prior converted cropland;*
- *Ditches excavated wholly in and draining only dry land and do not carry a relatively permanent flow of water;*
- *Artificially irrigated areas that would revert to dry land if irrigation ceased;*
- *Artificial lakes or ponds created by excavating or diking dry land for the use of stock watering, irrigation, settling basins or rice growing;*
- *Artificial reflecting or swimming pools;*
- *Waterfilled depressions created in dry land; and*
- *Swales and erosional features (ex. gullies and small washes) characterized by low volume, infrequent, or short duration flow.*

The new rule has incorporated the best available science, relevant supreme court cases, public comment, technical expertise, and experience gained from more than 45 years of implementing the pre-2015 "waters of the United States" framework to inform jurisdictional limits. One significant court case involves the U.S. Supreme Court in its *2001 Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers (SWANCC)* decision. It was determined that channels and wetlands isolated from other jurisdictional waters cannot be considered jurisdictional on the basis of their use, hypothetical or observed, by migratory birds.

Similarly, in its 2006 consolidated *Carabell/Rapanos* decision, the United States Supreme Court ruled that a significant nexus between a wetland and other navigable waters must exist for the wetland itself to be considered jurisdictional waters. The Supreme Court heard *Sackett v. United States Environmental Protection Agency (EPA)* in May 2023, to determine governing standards of a significant nexus between waters of the United States and adjacent wetlands. The court decided that adjacent wetlands would be protected under the CWA only if it maintained a continuous surface water connection with a federal water body. This decision has limited protection for networks of wetlands connected to navigable waters through subsurface flow. The final decision is anticipated to be published in October 2023.

The USACE regulates the filling or grading of waters of the United States. under the authority of Section 404 of the CWA. The extent of jurisdiction within drainage channels is defined by "ordinary high-water marks" on opposing channel banks. All activities that involve the discharge of dredge or fill material into Waters of the United States are subject to the permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agrees to provide mitigation that results in no net loss of wetland functions or values. No permit can be issued until the RWQCB issues a Section 401 Water Quality

Certification (or waiver of such certification) verifying that the proposed activity will meet state water quality standards.

Under the Porter-Cologne Water Quality Control Act of 1969, the SWRCB has regulatory authority to protect the water quality of all surface water and groundwater in the State of California ("Waters of the State"). Nine RWQCBs oversee water quality at the local and regional level. The RWQCB for a given region regulates discharges of fill or pollutants into Waters of the State through the issuance of various permits and orders. Discharges into Waters of the State that are also Waters of the United States require a Section 401 Water Quality Certification from the RWQCB as a prerequisite to obtaining certain federal permits, such as a Section 404 Clean Water Act permit. Discharges into all Waters of the State, even those that are not also Waters of the United States, require Waste Discharge Requirements (WDRs), or waivers of WDRs, from the RWQCB. The RWQCB also administers the Construction Storm Water Program and the federal National Pollution Discharge Elimination System (NPDES) program. Projects that disturb one acre or more of soil must obtain a Construction General Permit under the Construction Storm Water Program. A prerequisite for this permit is the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Projects that discharge wastewater, storm water, or other pollutants into a Water of the United States may require a NPDES permit.

CDFW has jurisdiction over the bed and bank of natural drainages and lakes according to provisions of Section 1601 and 1602 of the California Fish and Game Code. Activities that may substantially modify such waters through the diversion or obstruction of their natural flow, change or use of any material from their bed or bank, or the deposition of debris require a notification of a Lake or Streambed Alteration. If CDFW determines that the activity may adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will be prepared. Such an agreement typically stipulates that certain measures will be implemented to protect the habitat values of the lake or drainage in question.

3.3 SECTION 7 DETERMINATIONS

In addition to the effects analysis performed in Table 4 and Table 5 of this document, Table 6 summarizes project effect determinations for federally-listed species found on the CNDDB list generated on August 23, 2023, and the USFWS IPaC list generated on September 13, 2023 (see Appendix C and Appendix D, respectively), in accordance with Section 7 of the Endangered Species Act.

Table 6: Section 7 Determinations

Species	Determination	Rationale for Determination
Blunt-nosed leopard lizard (*Gambelia sila*)	May affect but not likely to adversely affect	**Habitat absent.** Habitat absent within the sites but there was habitat for this species adjacent to the sites.
Buena Vista Lake ornate shrew (*Sorex ornatus relictus*)	No effect	**Habitat absent.** Habitats required by this species are absent from the project sites and surrounding areas.
California condor *(Gymnogyps californianus)*	No effect	**Habitat absent.** Habitats required by this species for nesting and foraging are absent from the project sites and surrounding areas.
California jewelflower (*Caulanthus californicus*)	No effect	**Habitat absent.** Habitats required by this species are absent from the project sites and surrounding areas.

Species	Determination	Rationale for Determination
Giant gartersnake *(Thamnophis gigas)*	No effect	**Habitat absent.** The canals within and near the project sites contained minimal to no aquatic vegetation.
Giant kangaroo rat (*Dipodomys ingens*)	May affect but not likely to adversely affect	**Habitat present.** The site contained appropriately sized burrows with kangaroo rat tail drag marks outside of the burrows.
Kern mallow (*Eremalche parryi* ssp. *kernensis*)	No effect	**Habitat absent.** Habitats required by this species are absent from the project sites and surrounding areas.
Monarch butterfly (*Danaus plexippus*)	No effect	**Habitat absent**. Foraging and roosting habitat was absent within the sites and surrounding areas.
San Joaquin kit fox (*Vulpes macrotis mutica*)	May affect but not likely to adversely affect	**Habitat present.** This species could den within the canal banks or ruderal field within the project sites.
San Joaquin woollythreads (*Monolopia congdonii*)	No effect	**Habitat absent.** Habitats required by this species are absent from the project sites and surrounding areas.
Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*)	May affect but not likely to adversely affect	**Habitat present.** The site contained appropriately sized burrows with kangaroo rat tail drag marks outside of the burrows.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	No effect	**Habitat absent**. Vernal pool habitat was absent within the project sites and surrounding areas.
Western snowy plover (*Charadrius alexandrinus nivosus*)	No effect	**Habitat absent.** Habitats required by this species are absent from the project sites and surrounding areas.

3.4 LESS THAN SIGNIFICANT PROJECT-RELATED IMPACTS

3.4.1 PROJECT-RELATED IMPACTS TO SPECIAL STATUS PLANT SPECIES ABSENT FROM, OR UNLIKELY TO OCCUR ON, THE PROJECT SITE

Of the 21 regionally occurring special status plant species, all 21 are considered absent from or unlikely to occur within the sites due to past or ongoing disturbance and/or the absence of suitable habitat. These species include: alkali-sink goldfields, California alkali grass, California jewelflower, Carrizo Plain crownscale, Coulter's goldfields, Earlimart orache, heartscale, Horn's milk-vetch, Kern Mallow, King's gold, Lemmon's jewelflower, lesser saltscale, Lost Hills crownscale, Munz's tidy-tips, oil neststraw, recurved larkspur, San Joaquin woollythreads, showy golden madia, slough thistle, Tejon poppy, Temblor buckwheat.

Since it is unlikely that these species would occur onsite, implementation of the project should have no impact on these 21 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

3.4.2 PROJECT-RELATED IMPACTS TO SPECIAL STATUS ANIMAL SPECIES POSSIBLY OCCURRING ON THE PROJECT SITE

Of the 30 regionally occurring special status animal species, 12 could possibly occur on the site because of the proximity of historical occurrences in the vicinity of the site and the presence of suitable habitat within or adjacent to the site. These species include American badger, blunt-nosed leopard lizard, burrowing owl, giant kangaroo rat, Le Conte's thrasher, loggerhead shrike, San Joaquin coachwhip, San Joaquin kit fox, short-nosed kangaroo rat, Tipton kangaroo rat, tricolored blackbird, and Tulare grasshopper mouse.

As described in the Project Description (Section 1.1), the project will complete preconstruction surveys for these species within seven (7) days prior to the start of project activities. If a special status species, their sign, or potential burrow is observed, an avoidance buffer will be established by a qualified biologist. In the rare event any of these species are observed on the site, they will be allowed to leave the site on their own. Avoidance buffers will remain in place for the project duration, or until a qualified biologist has determined it can be removed. If a special status species or potential burrow cannot be avoided, the CDFW and/or USFWS will be consulted. In addition, the project will deliver a WEAP training to all workers on the first day of project activities and follow the Construction and On-Going Operational Requirements section of the U.S. Fish and Wildlife Service's *Standardized Recommendations For Protection Of The Endangered San Joaquin Kit Fox Prior To Or During Ground Disturbance* (2011) during all phases of project implementation. Because the project will implement the above activities and impacts to these species are unlikely as a result of completing these activities, mitigation measures are not warranted.

3.4.3 PROJECT-RELATED IMPACTS TO SPECIAL STATUS ANIMAL SPECIES ABSENT FROM, OR UNLIKELY TO OCCUR ON, THE PROJECT SITE

Of the 30 regionally occurring special status animal species, 18 are considered absent from or unlikely to occur within the sites due to past or ongoing disturbance and/or the absence of suitable habitat. These species include: Buena Vista Lake ornate shrew, California condor, California glossy snake, coast horned lizard, Crotch bumble bee, giant gartersnake, monarch butterfly, mountain plover, Nelson's antelope squirrel, northern California legless lizard, pallid bat, Swainson's hawk, Temblor legless lizard, vernal pool fairy shrimp, western mastiff bat, western pond turtle, western snowy plover, western spadefoot.

Since it is unlikely that these species would occur onsite, implementation of the project should have no impact on these 18 special status species through construction mortality, disturbance, or loss of habitat. Mitigation measures are not warranted.

3.4.4 PROJECT-RELATED IMPACTS TO MIGRATORY NESTING BIRDS

Migratory birds could nest on the ground, or in burrows, shrubs, trees, or structures on or adjacent to the project sites. The nesting season is generally described as February 1 through September 15.

As described in the Project Description (Section 1.1), if the project starts activities within the nesting season, a qualified biologist will complete a nesting bird survey throughout the project site and up to 100 feet outside of the site within seven (7) days prior to the start of project activities. If an active nest is observed an avoidance buffer will be established by a qualified biologist, which will remain in place until the birds have completed nesting activities and a qualified biologist has determined the avoidance buffer may be removed.

Because the project will implement the above activities and impacts to migratory nesting birds are unlikely as a result of completing these activities, mitigation measures are not warranted.

3.4.5 PROJECT-RELATED IMPACTS TO RIPARIAN HABITAT AND NATURAL COMMUNITIES OF SPECIAL CONCERN

Riparian habitat is absent from the project sites. Adjacent to 415 Construction Area 9 and 415 Staging Area 4 the basin contained riparian vegetation, but this basin would not be impacted during project activities. There are no CNDDB-designated "natural communities of special concern" recorded within the sites or surrounding lands. Mitigation measures are not warranted.

3.4.6 PROJECT-RELATED IMPACTS TO REGULATED WATERS, WETLANDS, AND WATER QUALITY

Typical wetlands, vernal pools, and other waters were not observed onsite at the time of the biological survey. The nearest water source are the 415 and 500 canals where work will be occurring. These canals are concrete lined and lack riparian vegetation and would not be considered a Waters of the United States or state, therefore a 401 and 404 permit would not need to be obtained. There are no designated wild and scenic rivers within the project sites; therefore, the project would not result in direct impacts to wild and scenic rivers.

If the individual project sites involve ground disturbance under an acre, the project will need to develop an Under One-Acre Pollution Prevention Plan (UPPP or SWPPP). The development of a UPPP or SWPPP would ensure construction activities do not adversely affect water quality.

3.4.7 PROJECT-RELATED IMPACTS TO WILDLIFE MOVEMENT CORRIDORS AND NATIVE WILDLIFE NURSERY SITES

The project sites do contain features such as the 415 and 500 canals that would be likely to function as wildlife movement corridors.

As described in the Project Description (Section 1.1), because the project will implement the above activities and impacts to wildlife movement corridors are unlikely as a result of completing these activities, mitigation measures are not warranted.

The project sites lack suitable features that could be used as native wildlife nursery sites. It is unlikely native species would utilize any features of the project sites as a wildlife nursery site. Therefore, the project would have no impact on wildlife movement corridors or native wildlife nursery sites, and no mitigation measures are warranted.

3.4.8 PROJECT-RELATED IMPACTS TO CRITICAL HABITAT

Designated critical habitat is absent from the project sites and surrounding lands. Therefore, there would be no impact to critical habitat, and mitigation measure are not warranted.

3.4.9 LOCAL POLICIES OR HABITAT CONSERVATION PLANS

The project appears to be consistent with the goals and policies of the Kern County General Plan. There are no known HCPs or NCCPs in the project vicinity. Mitigation measures are not warranted.

3.4.10 COASTAL ZONE AND COASTAL BARRIERS RESOURCES ACT

The project would not be located within the coastal zone. The project would not impact or be located within or near the Coastal Barrier Resources System or its adjacent wetlands, marshes, estuaries, inlets, and near-shore waters. Mitigation measures are not warranted.

3.4.11 PROJECT-RELATED IMPACT TO ESSENTIAL FISH HABITAT

Essential Fish Habitat (EFH) and Habitat Areas of Particular Concern (HAPC) are absent from the project sites and surrounding lands, and consultation with the National Marine Fisheries (NMFS) Service would not be required. Query results of the NMFS EHF Mapper can be found in Appendix F at the end of this document. Mitigation measures are not warranted.

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APPENDIX A: SJKF PROTOCOL

U.S. FISH AND WILDLIFE SERVICE STANDARDIZED RECOMMENDATIONS FOR PROTECTION OF THE ENDANGERED SAN JOAQUIN KIT FOX PRIOR TO OR DURING GROUND DISTURBANCE

Prepared by the Sacramento Fish and Wildlife Office
January 2011

INTRODUCTION

The following document includes many of the San Joaquin kit fox (*Vulpes macrotis mutica*) protection measures typically recommended by the U. S. Fish and Wildlife Service (Service), prior to and during ground disturbance activities. **However, incorporating relevant sections of these guidelines into the proposed project is not the only action required under the Endangered Species Act of 1973, as amended (Act) and does not preclude the need for section 7 consultation or a section 10 incidental take permit for the proposed project.** Project applicants should contact the Service in Sacramento to determine the full range of requirements that apply to your project; the address and telephone number are given at the end of this document. Implementation of the measures presented in this document may be necessary to avoid violating the provisions of the Act, including the prohibition against "take" (defined as killing, harming, or harassing a listed species, including actions that damage or destroy its habitat). These protection measures may also be required under the terms of a biological opinion pursuant to section 7 of the Act resulting in incidental take authorization (authorization), or an incidental take permit (permit) pursuant to section 10 of the Act. The specific measures implemented to protect kit fox for any given project shall be determined by the Service based upon the applicant's consultation with the Service.

The purpose of this document is to make information on kit fox protection strategies readily available and to help standardize the methods and definitions currently employed to achieve kit fox protection. The measures outlined in this document are subject to modification or revision at the discretion of the Service.

IS A PERMIT NECESSARY?

Certain acts need a permit from the Service which includes destruction of any known (occupied or unoccupied) or natal/pupping kit fox dens. Determination of the presence or absence of kit foxes and /or their dens should be made during the environmental review process. All surveys and monitoring described in this document must be conducted by a qualified biologist and these activities do not require a permit. A qualified biologist (biologist) means any person who has completed at least four years of university training in wildlife biology or a related science and/or has demonstrated field experience in the identification and life history of the San Joaquin kit fox. In addition, the biologist(s) must be able to identify coyote, red fox,

gray fox, and kit fox tracks, and to have seen a kit fox in the wild, at a zoo, or as a museum mount. Resumes of biologists should be submitted to the Service for review and approval prior to an6y survey or monitoring work occurring.

SMALL PROJECTS

Small projects are considered to be those projects with small foot prints, of approximately one acre or less, such as an individual in-fill oil well, communication tower, or bridge repairs. These projects must stand alone and not be part of, or in any way connected to larger projects (i.e., bridge repair or improvement to serve a future urban development). The Service recommends that on these small projects, the biologist survey the proposed project boundary and a 200-foot area outside of the project footprint to identify habitat features and utilize this information as guidance to situate the project to minimize or avoid impacts. If habitat features cannot be completely avoided, then surveys should be conducted and the Service should be contacted for technical assistance to determine the extent of possible take.

Preconstruction/preactivity surveys shall be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities or any project activity likely to impact the San Joaquin kit fox. Kit foxes change dens four or five times during the summer months, and change natal dens one or two times per month (Morrell 1972). Surveys should identify kit fox habitat features on the project site and evaluate use by kit fox and, if possible, assess the potential impacts to the kit fox by the proposed activity. The status of all dens should be determined and mapped (see Survey Protocol). Written results of preconstruction/preactivity surveys must be received by the Service within five days after survey completion and prior to the start of ground disturbance and/or construction activities.

If a natal/pupping den is discovered within the project area or within 200-feet of the project boundary, the Service shall be immediately notified and under no circumstances should the den be disturbed or destroyed without prior authorization. If the preconstruction/preactivity survey reveals an active natal pupping or new information, the project applicant should contact the Service immediately to obtain the necessary take authorization/permit.

If the take authorization/permit has already been issued, then the biologist may proceed with den destruction within the project boundary, except natal/pupping den which may not be destroyed while occupied. A take authorization/permit is required to destroy these dens even after they are vacated. Protective exclusion zones can be placed around all known and potential dens which occur outside the project footprint (conversely, the project boundary can be demarcated, see den destruction section).

OTHER PROJECTS

It is likely that all other projects occurring within kit fox habitat will require a take authorization/permit from the Service. This determination would be made by the Service during the early evaluation process (see Survey Protocol). These other projects would include, but are not limited to: Linear projects; projects with large footprints such as urban development; and projects which in themselves may be small but have far reaching impacts (i.e., water storage or conveyance facilities that promote urban growth or agriculture, etc.).

The take authorization/permit issued by the Service may incorporate some or all of the protection measures presented in this document. The take authorization/permit may include measures specific to the needs of the project and those requirements supersede any requirements found in this document.

EXCLUSION ZONES

In order to avoid impacts, construction activities must avoid their dens. The configuration of exclusion zones around the kit fox dens should have a radius measured outward from the entrance or cluster of entrances due to the length of dens underground. The following distances are **minimums**, and if they cannot be followed the Service must be contacted. Adult and pup kit foxes are known to sometimes rest and play near the den entrance in the afternoon, but most above-ground activities begin near sunset and continue sporadically throughout the night. Den definitions are attached as Exhibit A.

Potential den**	50 feet
Atypical den**	50 feet
Known den*	100 feet
Natal/pupping den (occupied and unoccupied)	Service must be contacted

*Known den: To ensure protection, the exclusion zone should be demarcated by fencing that encircles each den at the appropriate distance and does not prevent access to the den by kit foxes. Acceptable fencing includes untreated wood particle-board, silt fencing, orange construction fencing or other fencing as approved by the Service as long as it has openings for kit fox ingress/egress and keeps humans and equipment out. Exclusion zone fencing should be maintained until all construction related or operational disturbances have been terminated. At that time, all fencing shall be removed to avoid attracting subsequent attention to the dens.

**Potential and Atypical dens: Placement of 4-5 flagged stakes 50 feet from the den entrance(s) will suffice to identify the den location; fencing will not be required, but the exclusion zone must be observed.

Only essential vehicle operation on existing roads and foot traffic should be permitted. Otherwise, all construction, vehicle operation, material storage, or any other type of surface-disturbing activity should be prohibited or greatly restricted within the exclusion zones.

DESTRUCTION OF DENS

Limited destruction of kit fox dens may be allowed, if avoidance is not a reasonable alternative, provided the following procedures are observed. The value to kit foxes of potential, known, and natal/pupping dens differ and therefore, each den type needs a different level of protection. **Destruction of any known or natal/pupping kit fox den requires take authorization/permit from the Service**.

Destruction of the den should be accomplished by careful excavation until it is certain that no kit foxes are inside. The den should be fully excavated, filled with dirt and compacted to ensure that kit foxes cannot reenter or use the den during the construction period. If at any point during excavation, a kit fox is discovered inside the den, the excavation activity shall cease immediately and monitoring of the den as described above should be resumed. Destruction of the den may be completed when in the judgment of the biologist, the animal has escaped, without further disturbance, from the partially destroyed den.

Natal/pupping dens: Natal or pupping dens which are occupied will not be destroyed until the pups and adults have vacated and then only after consultation with the Service. Therefore, project activities at some den sites may have to be postponed.

Known Dens: Known dens occurring within the footprint of the activity must be monitored for three days with tracking medium or an infra-red beam camera to determine the current use. If no kit fox activity is observed during this period, the den should be destroyed immediately to preclude subsequent use.

If kit fox activity is observed at the den during this period, the den should be monitored for at least five consecutive days from the time of the observation to allow any resident animal to move to another den during its normal activity. Use of the den can be discouraged during this period by partially plugging its entrances(s) with soil in such a manner that any resident animal can escape easily. Only when the den is determined to be unoccupied may the den be excavated under the direction of the biologist. If the animal is still present after five or more consecutive days of plugging and monitoring, the den may have to be excavated when, in the judgment of a biologist, it is temporarily vacant, for example during the animal's normal foraging activities.

The Service encourages hand excavation, but realizes that soil conditions may necessitate the use of excavating equipment. However, extreme caution must be exercised.

Potential Dens: If a take authorization/permit has been obtained from the Service, den destruction may proceed without monitoring, unless other restrictions were issued with the take authorization/permit. If no take authorization/permit has been issued, then potential dens should be monitored as if they were known dens. If any den was considered to be a potential den, but is later determined during monitoring or destruction to be currently, or previously used by kit fox (e.g., if kit fox sign is found inside), then all construction activities shall cease and the Service shall be notified immediately.

CONSTRUCTION AND ON-GOING OPERATIONAL REQUIREMENTS

Habitat subject to permanent and temporary construction disturbances and other types of ongoing project-related disturbance activities should be minimized by adhering to the following activities. Project designs should limit or cluster permanent project features to the smallest area possible while still permitting achievement of project goals. To minimize temporary disturbances, all project-related vehicle traffic should be restricted to established roads, construction areas, and other designated areas. These areas should also be included in preconstruction surveys and, to the extent possible, should be established in locations disturbed by previous activities to prevent further impacts.

1. Project-related vehicles should observe a daytime speed limit of 20-mph throughout the site in all project areas, except on county roads and State and Federal highways; this is particularly important at night when kit foxes are most active. Night-time construction should be minimized to the extent possible. However if it does occur, then the speed limit should be reduced to 10-mph. Off-road traffic outside of designated project areas should be prohibited.

2. To prevent inadvertent entrapment of kit foxes or other animals during the construction phase of a project, all excavated, steep-walled holes or trenches more than 2-feet deep should be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks shall be installed. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the Service and the California Department of Fish and Game (CDFG) shall be contacted as noted under measure 13 referenced below.

3. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored at a construction site for one or more overnight periods should be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is

discovered inside a pipe, that section of pipe should not be moved until the Service has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped.

4. All food-related trash items such as wrappers, cans, bottles, and food scraps should be disposed of in securely closed containers and removed at least once a week from a construction or project site.

5. No firearms shall be allowed on the project site.

6. No pets, such as dogs or cats, should be permitted on the project site to prevent harassment, mortality of kit foxes, or destruction of dens.

7. Use of rodenticides and herbicides in project areas should be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds should observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional project-related restrictions deemed necessary by the Service. If rodent control must be conducted, zinc phosphide should be used because of a proven lower risk to kit fox.

8. A representative shall be appointed by the project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped kit fox. The representative will be identified during the employee education program and their name and telephone number shall be provided to the Service.

9. An employee education program should be conducted for any project that has anticipated impacts to kit fox or other endangered species. The program should consist of a brief presentation by persons knowledgeable in kit fox biology and legislative protection to explain endangered species concerns to contractors, their employees, and military and/or agency personnel involved in the project. The program should include the following: A description of the San Joaquin kit fox and its habitat needs; a report of the occurrence of kit fox in the project area; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of measures being taken to reduce impacts to the species during project construction and implementation. A fact sheet conveying this information should be prepared for distribution to the previously referenced people and anyone else who may enter the project site.

10. Upon completion of the project, all areas subject to temporary ground disturbances, including storage and staging areas, temporary roads, pipeline corridors, etc. should be

re-contoured if necessary, and revegetated to promote restoration of the area to pre-project conditions. An area subject to "temporary" disturbance means any area that is disturbed during the project, but after project completion will not be subject to further disturbance and has the potential to be revegetated. Appropriate methods and plant species used to revegetate such areas should be determined on a site-specific basis in consultation with the Service, California Department of Fish and Game (CDFG), and revegetation experts.

11. In the case of trapped animals, escape ramps or structures should be installed immediately to allow the animal(s) to escape, or the Service should be contacted for guidance.

12. Any contractor, employee, or military or agency personnel who are responsible for inadvertently killing or injuring a San Joaquin kit fox shall immediately report the incident to their representative. This representative shall contact the CDFG immediately in the case of a dead, injured or entrapped kit fox. The CDFG contact for immediate assistance is State Dispatch at (916)445-0045. They will contact the local warden or Mr. Paul Hoffman, the wildlife biologist, at (530)934-9309. The Service should be contacted at the numbers below.

13. The Sacramento Fish and Wildlife Office and CDFG shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during project related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The Service contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFG contact is Mr. Paul Hoffman at 1701 Nimbus Road, Suite A, Rancho Cordova, California 95670, (530) 934-9309.

14. New sightings of kit fox shall be reported to the California Natural Diversity Database (CNDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed should also be provided to the Service at the address below.

Any project-related information required by the Service or questions concerning the above conditions or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at:

Endangered Species Division
2800 Cottage Way, Suite W2605
Sacramento, California 95825-1846
(916) 414-6620 or (916) 414-6600

EXHIBIT "A" - DEFINITIONS

"Take" - Section 9 of the Endangered Species Act of 1973, as amended (Act) prohibits the "take" of any federally listed endangered species by any person (an individual, corporation, partnership, trust, association, etc.) subject to the jurisdiction of the United States. As defined in the Act, take means " . . . to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct". Thus, not only is a listed animal protected from activities such as hunting, but also from actions that damage or destroy its habitat.

"Dens" - San Joaquin kit fox dens may be located in areas of low, moderate, or steep topography. Den characteristics are listed below, however, the specific characteristics of individual dens may vary and occupied dens may lack some or all of these features. Therefore, caution must be exercised in determining the status of any den. Typical dens may include the following: (1) one or more entrances that are approximately 5 to 8 inches in diameter; (2) dirt berms adjacent to the entrances; (3) kit fox tracks, scat, or prey remains in the vicinity of the den; (4) matted vegetation adjacent to the den entrances; and (5) manmade features such as culverts, pipes, and canal banks.

"Known den" - Any existing natural den or manmade structure that is used or has been used at any time in the past by a San Joaquin kit fox. Evidence of use may include historical records, past or current radiotelemetry or spotlighting data, kit fox sign such as tracks, scat, and/or prey remains, or other reasonable proof that a given den is being or has been used by a kit fox. The Service discourages use of the terms "active" and "inactive" when referring to any kit fox den because a great percentage of occupied dens show no evidence of use, and because kit foxes change dens often, with the result that the status of a given den may change frequently and abruptly.

"Potential Den" - Any subterranean hole within the species' range that has entrances of appropriate dimensions for which available evidence is insufficient to conclude that it is being used or has been used by a kit fox. Potential dens shall include the following: (1) any suitable subterranean hole; or (2) any den or burrow of another species (e.g., coyote, badger, red fox, or ground squirrel) that otherwise has appropriate characteristics for kit fox use.

"Natal or Pupping Den" - Any den used by kit foxes to whelp and/or rear their pups. Natal/pupping dens may be larger with more numerous entrances than dens occupied exclusively by adults. These dens typically have more kit fox tracks, scat, and prey remains in the vicinity of the den, and may have a broader apron of matted dirt and/or vegetation at one or more entrances. A natal den, defined as a den in which kit fox pups are actually whelped but not necessarily reared, is a more restrictive version of the pupping den. In practice, however, it is difficult to distinguish between the two, therefore, for purposes of this definition either term applies.

"Atypical Den" - Any manmade structure which has been or is being occupied by a San Joaquin kit fox. Atypical dens may include pipes, culverts, and diggings beneath concrete slabs and buildings.

APPENDIX B: REPRESENTATIVE PHOTOS OF THE PROJECT SITE

Photograph 1

Overview of 415 Construction Area 1.

Photograph 2

Another overview of 415 Construction Area 1.

Photograph 3

Overview of 415 Construction Area 2.

Photograph 4

Another overview of 415 Construction Area 2.

Photograph 5

Overview of 415 Construction Area 3.

Photograph 6

Another overview of 415 Construction Area 3.

Photograph 7

Overview of 415 Construction Area 4.

Photograph 8

Another overview 415 Construction Area 4.

Photograph 9

Overview of 415 Construction Area 5.

Photograph 10

Another overview of 415 Construction Area 5.

Photograph 11

Overview of 415 Construction Area 6.

Photograph 12

Another overview of 415 Construction Area 6.

Photograph 13

Overview of 415 Construction Area 7.

Photograph 14

Overview of 415 Construction Area 8.

Photograph 15

Overview of 415 Construction Area 9.

Photograph 16

Another overview of 500 Construction Area 9.

Photograph 17

Overview of 500 Construction Area 1.

Photograph 18

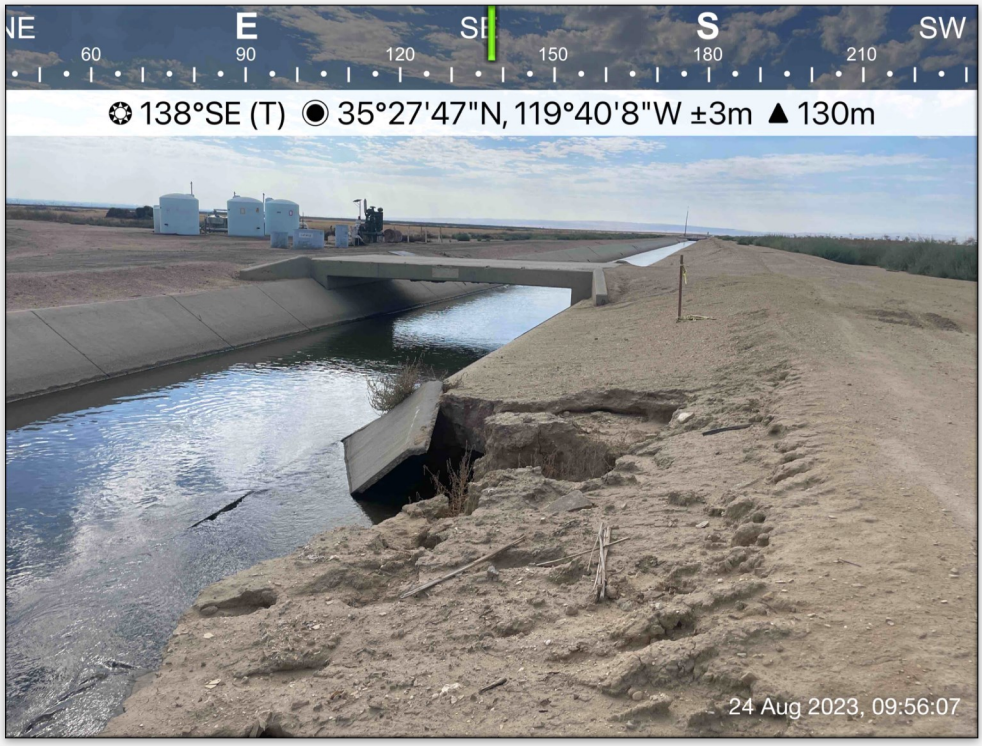
Overview of 500 Construction Area 2.

Photograph 19

Overview of 500 Construction Area 3.

Photograph 20

Overview of 500 Construction Area 4.



Photograph 21

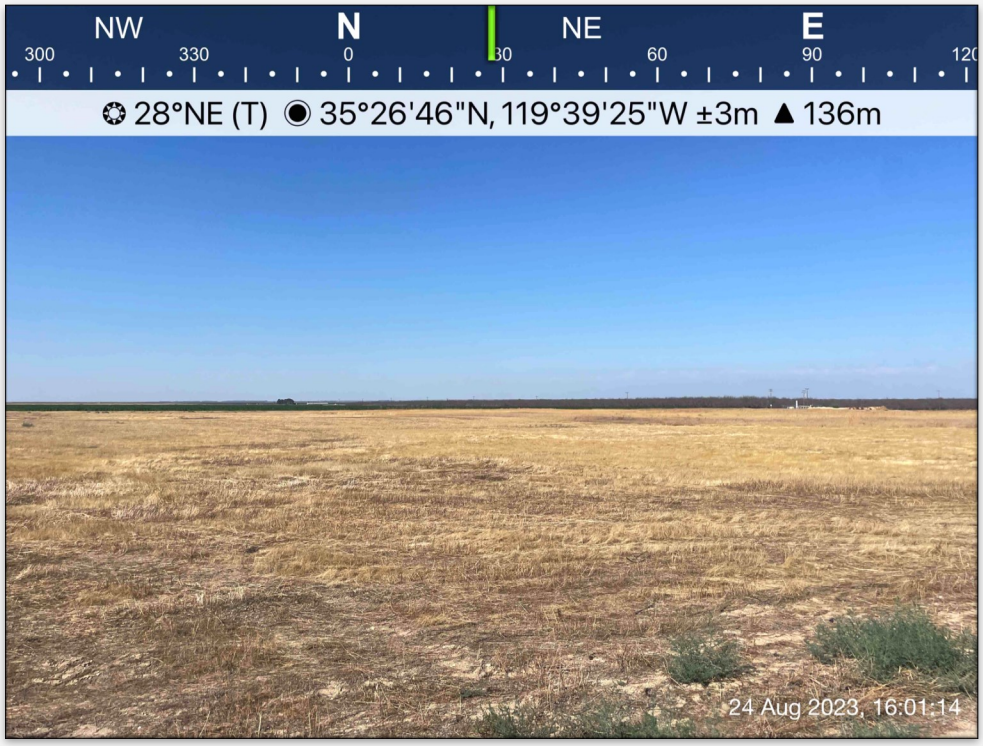
Cliff swallow mud nests can be seen under the bridge adjacent to 415 Construction Area 1.

Photograph 22

A basin with riparian vegetation suitable for nesting birds is adjacent to 415 Staging Area 4.

Photograph 23

Overview of fill material borrow area and staging area.

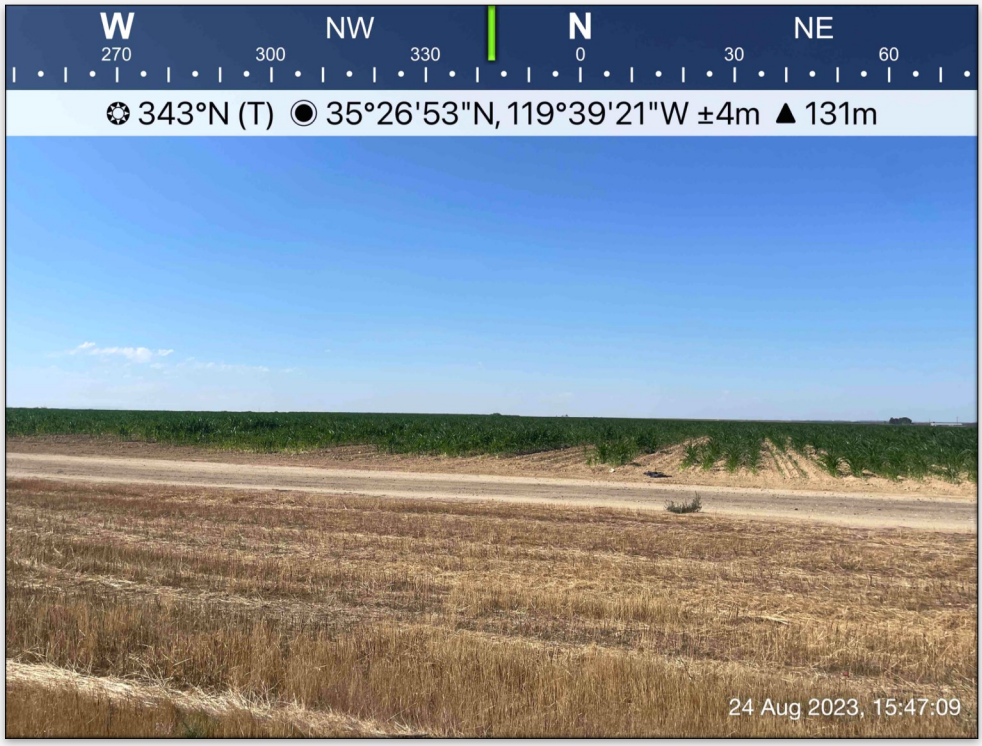


Photograph 24

Another overview of the fill material borrow area and staging area.

Photograph 25

Overview of small mammal burrows that contained kangaroo rat tail drag marks within the fill material borrow area and staging area.



Photograph 26

Surrounding land adjacent to the fill material borrow area and staging area.

APPENDIX C: CNDDB 12-QUAD SPECIES LIST

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Lost Hills (3511956) OR Lost Hills NW (3511966) OR Lost Hills NE (3511965) OR Belridge (3511946) OR Antelope Plain (3511967) OR Semitropic (3511955) OR Lokern (3511945) OR West Elk Hills (3511935) OR Reward (3511936) OR Carneros Rocks (3511947) OR Blackwells Corner (3511957) OR McKittrick Summit (3511937))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Alkali Seep *Alkali Seep*	CTT45320CA	None	None	G3	S2.1	
alkali-sink goldfields *Lasthenia chrysantha*	PDAST5L030	None	None	G2	S2	1B.1
American badger *Taxidea taxus*	AMAJF04010	None	None	G5	S3	SSC
black-crowned night heron *Nycticorax nycticorax*	ABNGA11010	None	None	G5	S4	
blunt-nosed leopard lizard *Gambelia sila*	ARACF07010	Endangered	Endangered	G1	S2	FP
Buena Vista Lake ornate shrew *Sorex ornatus relictus*	AMABA01102	Endangered	None	G5T1	S1	SSC
burrowing owl *Athene cunicularia*	ABNSB10010	None	None	G4	S2	SSC
California alkali grass *Puccinellia simplex*	PMPOA53110	None	None	G2	S2	1B.2
California glossy snake *Arizona elegans occidentalis*	ARADB01017	None	None	G5T2	S2	SSC
California jewelflower *Caulanthus californicus*	PDBRA31010	Endangered	Endangered	G1	S1	1B.1
Carrizo Plain crownscale *Atriplex flavida*	PDCHE04360	None	None	G3	S3	1B.3
coast horned lizard *Phrynosoma blainvillii*	ARACF12100	None	None	G4	S4	SSC
Coulter's goldfields *Lasthenia glabrata ssp. coulteri*	PDAST5L0A1	None	None	G4T2	S2	1B.1
Crotch bumble bee *Bombus crotchii*	IIHYM24480	None	Candidate Endangered	G2	S2	
Earlimart orache *Atriplex cordulata var. erecticaulis*	PDCHE042V0	None	None	G3T1	S1	1B.2
giant kangaroo rat *Dipodomys ingens*	AMAFD03080	Endangered	Endangered	G1G2	S2	
heartscale *Atriplex cordulata var. cordulata*	PDCHE040B0	None	None	G3T2	S2	1B.2
hoary bat *Lasiurus cinereus*	AMACC05032	None	None	G3G4	S4	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Hoover's eriastrum *Eriastrum hooveri*	PDPLM03070	Delisted	None	G3	S3	4.2
Horn's milk-vetch *Astragalus hornii var. hornii*	PDFAB0F421	None	None	GUT1	S1	1B.1
Kern mallow *Eremalche parryi ssp. kernensis*	PDMAL0C031	Endangered	None	G3G4T3	S3	1B.2
Kings gold *Tropidocarpum californicum*	PDBRA33010	None	None	G1	S1	1B.1
Le Conte's thrasher *Toxostoma lecontei*	ABPBK06100	None	None	G4	S3	SSC
Lemmon's jewelflower *Caulanthus lemmonii*	PDBRA0M0E0	None	None	G3	S3	1B.2
lesser saltscale *Atriplex minuscula*	PDCHE042M0	None	None	G2	S2	1B.1
loggerhead shrike *Lanius ludovicianus*	ABPBR01030	None	None	G4	S4	SSC
Lost Hills crownscale *Atriplex coronata var. vallicola*	PDCHE04371	None	None	G4T3	S3	1B.2
mountain plover *Charadrius montanus*	ABNNB03100	None	None	G3	S2	SSC
Munz's tidy-tips *Layia munzii*	PDAST5N0B0	None	None	G2	S2	1B.2
Nelson's (=San Joaquin) antelope squirrel *Ammospermophilus nelsoni*	AMAFB04040	None	Threatened	G2G3	S3	
Northern California legless lizard *Anniella pulchra*	ARACC01020	None	None	G3	S2S3	SSC
oil neststraw *Stylocline citroleum*	PDAST8Y070	None	None	G3	S3	1B.1
oval-leaved snapdragon *Antirrhinum ovatum*	PDSCR2K010	None	None	G3	S3	4.2
pale-yellow layia *Layia heterotricha*	PDAST5N070	None	None	G2	S2	1B.1
pallid bat *Antrozous pallidus*	AMACC10010	None	None	G4	S3	SSC
prairie falcon *Falco mexicanus*	ABNKD06090	None	None	G5	S4	WL
recurved larkspur *Delphinium recurvatum*	PDRAN0B1J0	None	None	G2?	S2?	1B.2
San Joaquin coachwhip *Masticophis flagellum ruddocki*	ARADB21021	None	None	G5T2T3	S3	SSC
San Joaquin kit fox *Vulpes macrotis mutica*	AMAJA03041	Endangered	Threatened	G4T2	S3	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
San Joaquin pocket mouse *Perognathus inornatus*	AMAFD01060	None	None	G2G3	S2S3	
San Joaquin woollythreads *Monolopia congdonii*	PDASTA8010	Endangered	None	G2	S2	1B.2
short-nosed kangaroo rat *Dipodomys nitratoides brevinasus*	AMAFD03153	None	None	G3T1T2	S1S2	SSC
showy golden madia *Madia radiata*	PDAST650E0	None	None	G3	S3	1B.1
slough thistle *Cirsium crassicaule*	PDAST2E0U0	None	None	G1	S1	1B.1
snowy egret *Egretta thula*	ABNGA06030	None	None	G5	S4	
Swainson's hawk *Buteo swainsoni*	ABNKC19070	None	Threatened	G5	S4	
Tejon poppy *Eschscholzia lemmonii ssp. kernensis*	PDPAP0A071	None	None	G5T2	S2	1B.1
Temblor buckwheat *Eriogonum temblorense*	PDPGN085P0	None	None	G2	S2	1B.2
Temblor legless lizard *Anniella alexanderae*	ARACC01030	None	Candidate Endangered	G1	S1	SSC
Tipton kangaroo rat *Dipodomys nitratoides nitratoides*	AMAFD03152	Endangered	Endangered	G3T1T2	S2	
tricolored blackbird *Agelaius tricolor*	ABPBXB0020	None	Threatened	G1G2	S2	SSC
Tulare grasshopper mouse *Onychomys torridus tularensis*	AMAFF06021	None	None	G5T1T2	S1S2	SSC
Valley Saltbush Scrub *Valley Saltbush Scrub*	CTT36220CA	None	None	G2	S2.1	
Valley Sink Scrub *Valley Sink Scrub*	CTT36210CA	None	None	G1	S1.1	
western mastiff bat *Eumops perotis californicus*	AMACD02011	None	None	G4G5T4	S3S4	SSC
western pond turtle *Emys marmorata*	ARAAD02030	None	None	G3G4	S3	SSC
western snowy plover *Charadrius nivosus nivosus*	ABNNB03031	Threatened	None	G3T3	S3	SSC
western spadefoot *Spea hammondii*	AAABF02020	None	None	G2G3	S3S4	SSC
white-faced ibis *Plegadis chihi*	ABNGE02020	None	None	G5	S3S4	WL
Zavortink's protodufourea bee *Protodufourea zavortinki*	IIHYM77020	None	None	G1	S1	

Record Count: 60

APPENDIX D: IPAC SPECIES LIST

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To: October 16, 2023
Project Code: 2023-0128748
Project Name: Belridge Water Storage District Canal Flood Damage Repair Assistance

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

To Whom It May Concern:

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

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

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

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

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

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

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

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

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

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

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

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

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

PROJECT SUMMARY

Project Code: 2023-0128748
Project Name: Belridge Water Storage District Canal Flood Damage Repair Assistance
Project Type: Damage/Destruction
Project Description: The project involves fixing damage along the 415 and 500 canal that occurred during the winter storms.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@35.4469911,-119.65567369402399,14z

Counties: Kern County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 11 threatened, endangered, or candidate species on this species list.

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

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

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

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

MAMMALS

NAME	STATUS
Buena Vista Lake Ornate Shrew *Sorex ornatus relictus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1610	Endangered
Giant Kangaroo Rat *Dipodomys ingens* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6051	Endangered
San Joaquin Kit Fox *Vulpes macrotis mutica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered
Tipton Kangaroo Rat *Dipodomys nitratoides nitratoides* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7247	Endangered

BIRDS

NAME	STATUS
California Condor *Gymnogyps californianus* Population: U.S.A. only, except where listed as an experimental population There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8193	Endangered

REPTILES

NAME	STATUS
Blunt-nosed Leopard Lizard *Gambelia silus*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/625

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Candidate

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9743

CRUSTACEANS

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi*	Threatened

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/498

FLOWERING PLANTS

NAME	STATUS
California Jewelflower *Caulanthus californicus*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/4599

Kern Mallow *Eremalche kernensis*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/1731

San Joaquin Wooly-threads *Monolopia (=Lembertia) congdonii*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/3746

CRITICAL HABITATS

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

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

IPAC USER CONTACT INFORMATION

Agency: Provost & Pritchard Consulting
Name: Shaylea Stark
Address: 455 W Fir Ave
City: Clovis
State: CA
Zip: 93612
Email sstark@ppeng.com
Phone: 5594492700

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Emergency Management Agency

APPENDIX E: NRCS WEB SOIL SURVEY REPORT

United States Department of Agriculture

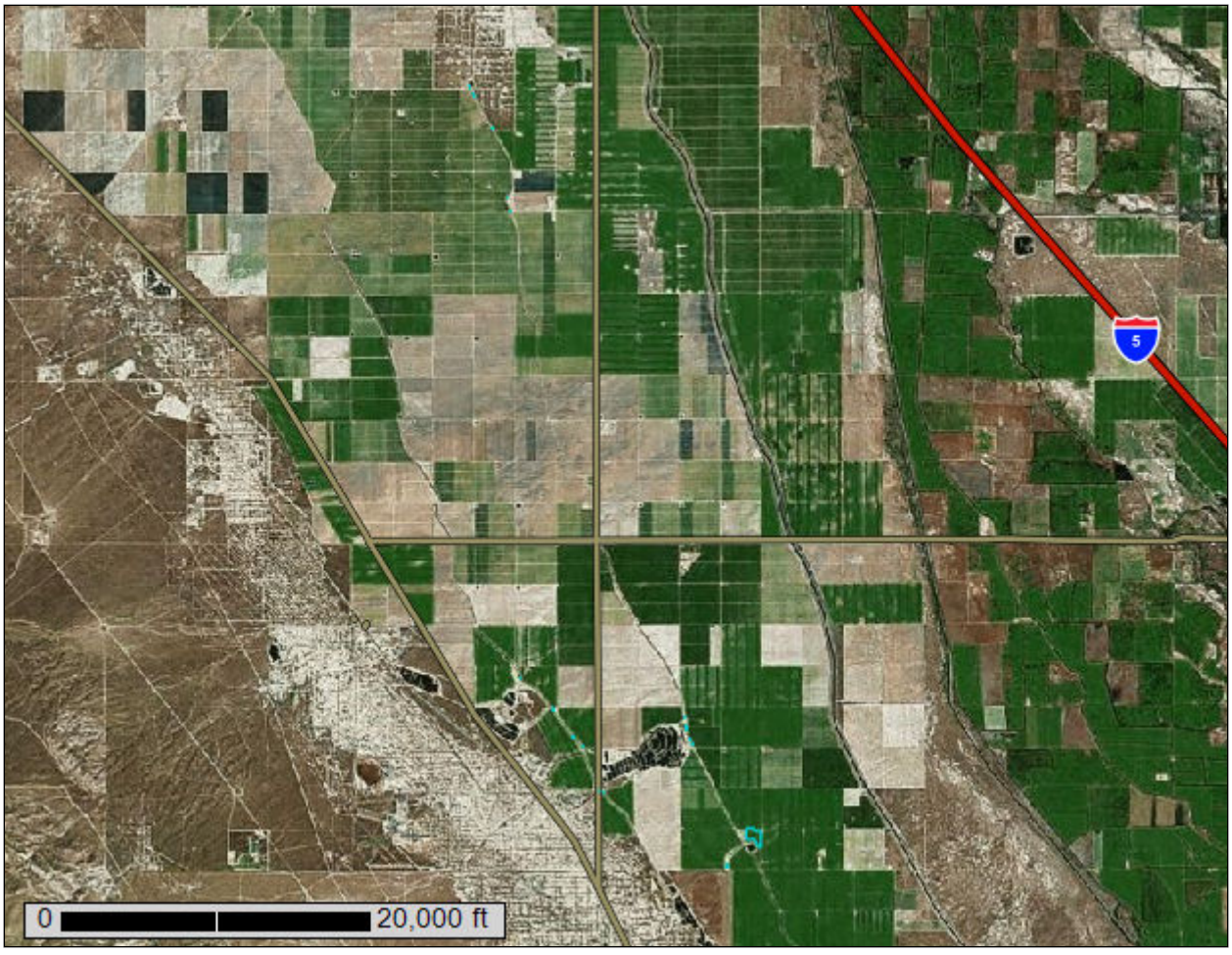
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Kern County, California, Northwestern Part

Belridge Water Storage District Canal Flood Damage Repair Assistance



October 16, 2023

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

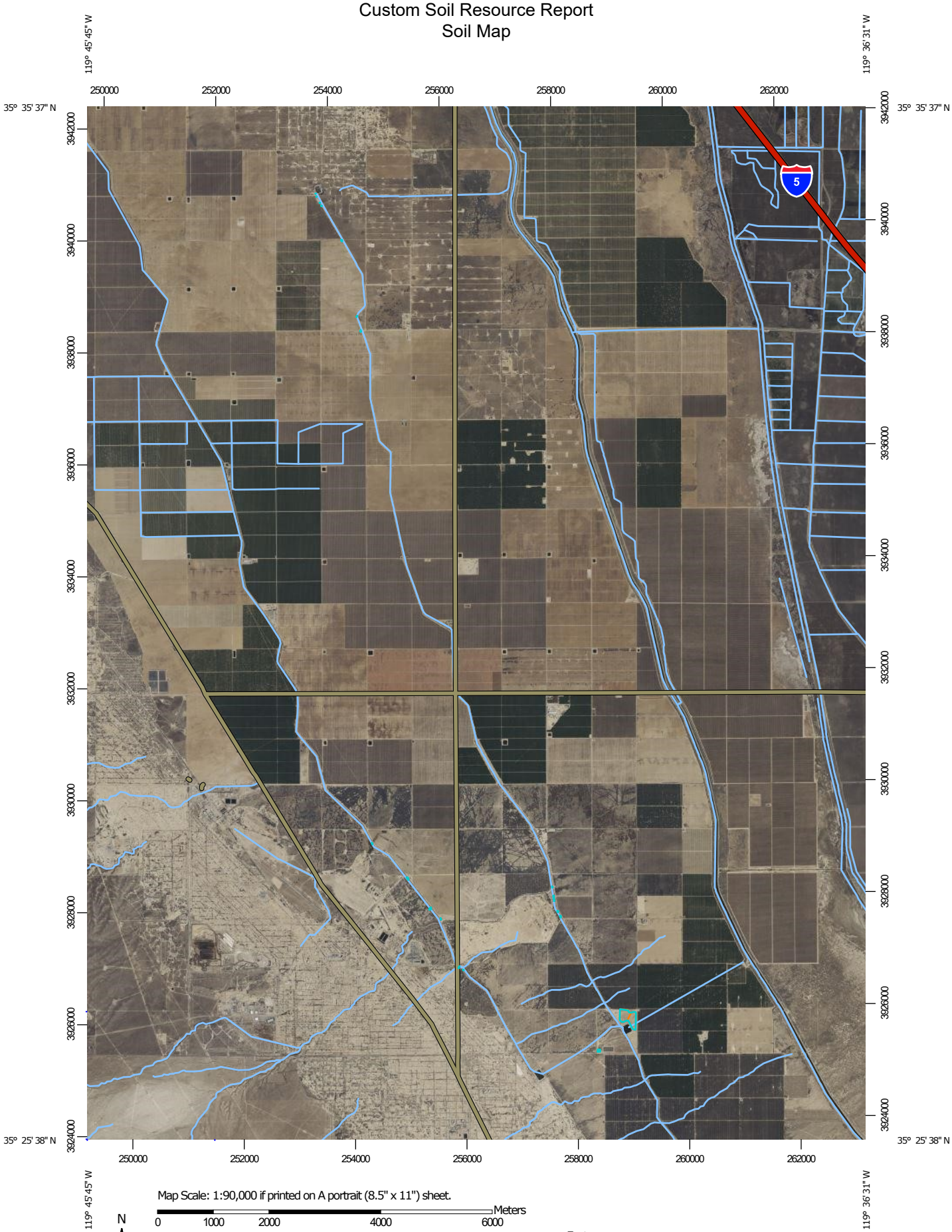
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Kern County, California, Northwestern Part
Survey Area Data: Version 16, Aug 31, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 12, 2022—Mar 22, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
174	Kimberlina fine sandy loam, 0 to 2 percent slopes MLRA 17	0.8	4.3%
196	Milham sandy loam, 0 to 2 percent slopes MLRA 17	9.0	46.8%
211	Panoche clay loam, 0 to 2 percent slopes	9.4	48.9%
Totals for Area of Interest		**19.3**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Kern County, California, Northwestern Part

174—Kimberlina fine sandy loam, 0 to 2 percent slopes MLRA 17

Map Unit Setting

National map unit symbol: 2ss96
Elevation: 120 to 1,160 feet
Mean annual precipitation: 4 to 8 inches
Mean annual air temperature: 63 to 64 degrees F
Frost-free period: 240 to 300 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Kimberlina and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kimberlina

Setting

Landform: Alluvial fans
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous and sedimentary rock

Typical profile

Ap - 0 to 9 inches: fine sandy loam
C - 9 to 45 inches: fine sandy loam
2C - 45 to 71 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: RareNone
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Nonsaline to slightly saline (0.3 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: A
Ecological site: R017XY906CA - Non-Alkali San Joaquin Valley Desert
Hydric soil rating: No

Minor Components

Wasco

Percent of map unit: 7 percent
Landform: Alluvial fans
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Milham

Percent of map unit: 6 percent
Landform: Alluvial fans
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Unnamed

Percent of map unit: 2 percent
Landform: Flood plains
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

196—Milham sandy loam, 0 to 2 percent slopes MLRA 17

Map Unit Setting

National map unit symbol: 2ss91
Elevation: 200 to 1,200 feet
Mean annual precipitation: 5 to 8 inches
Mean annual air temperature: 63 to 65 degrees F
Frost-free period: 250 to 300 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Milham and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Milham

Setting

Landform: Terraces, fan remnants, plains, alluvial fans
Landform position (three-dimensional): Tread, rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous and sedimentary rock

Typical profile

Ap - 0 to 4 inches: sandy loam
Bk - 4 to 10 inches: sandy loam
Btk1 - 10 to 22 inches: loam
Btk2 - 22 to 49 inches: clay loam
2Ck - 49 to 60 inches: sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Gypsum, maximum content: 1 percent
Maximum salinity: Nonsaline to moderately saline (0.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 25.0
Available water supply, 0 to 60 inches: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 7c
Hydrologic Soil Group: C
Ecological site: R017XG043CA - Loamy 6-8" P.Z.
Hydric soil rating: No

Minor Components

Panoche

Percent of map unit: 5 percent
Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Kimberlina

Percent of map unit: 5 percent
Landform: Alluvial fans
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Garces

Percent of map unit: 5 percent
Landform: Rims on basin floors
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

211—Panoche clay loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2ycb1
Elevation: 270 to 890 feet
Mean annual precipitation: 6 to 9 inches
Mean annual air temperature: 62 to 65 degrees F
Frost-free period: 305 to 326 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Panoche, clay loam, and similar soils: 87 percent
Minor components: 13 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Panoche, Clay Loam

Setting

Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from calcareous sedimentary rock

Typical profile

Ap - 0 to 7 inches: clay loam
Bw - 7 to 16 inches: loam
Bk1 - 16 to 27 inches: loam
Bk2 - 27 to 43 inches: loam
Bk3 - 43 to 57 inches: loam
Bk4 - 57 to 72 inches: sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.01 to 0.14 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Very rareNone
Frequency of ponding: None
Calcium carbonate, maximum content: 4 percent
Gypsum, maximum content: 2 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 8.0
Available water supply, 0 to 60 inches: High (about 9.4 inches)

Interpretive groups

Land capability classification (irrigated): 1

Land capability classification (nonirrigated): 7c
Hydrologic Soil Group: C
Ecological site: R017XY905CA - Dry Alluvial Fans and Terraces
Hydric soil rating: No

Minor Components

Calflax
Percent of map unit: 4 percent
Landform: Fan skirts
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Cerini
Percent of map unit: 3 percent
Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Ciervo
Percent of map unit: 2 percent
Landform: Fan skirts
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Posochanet
Percent of map unit: 2 percent
Landform: Fan skirts
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Wasco
Percent of map unit: 1 percent
Landform: Alluvial fans
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Kimberlina
Percent of map unit: 1 percent
Landform: Alluvial fans
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

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APPENDIX F: NMFS EFH MAPPER

EFH Mapper Report

EFH Data Notice

Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional fishery management councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

West Coast Regional Office

Query Results

Degrees, Minutes, Seconds: Latitude = 35º 35' 12" N, Longitude = 120º 17' 22" W
Decimal Degrees: Latitude = 35.587, Longitude = -119.710

The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

EFH

No additional Essential Fish Habitats (EFH) were identified at the report location.

Pacific Salmon EFH

No Pacific Salmon Essential Fish Habitat (EFH) were identified at the report location.

Atlantic Salmon

No Atlantic Salmon were identified at the report location.

HAPCs

No Habitat Areas of Particular Concern (HAPC) were identified at the report location.

EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data. ****For links to all EFH text descriptions see the complete data inventory: open data inventory -->**
Pacific Coastal Pelagic Species, Jack Mackerel, Pacific (Chub) Mackerel, Pacific Sardine, Northern Anchovy - Central Subpopulation, Northern Anchovy - Northern Subpopulation, **Pacific Highly Migratory Species**, Bigeye Thresher Shark - North Pacific, Bluefin Tuna - Pacific, Dolphinfish (Dorado or Mahimahi) - Pacific,

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data. **For links to all EFH text descriptions see the complete data inventory: open data inventory -->
Pelagic Thresher Shark - North Pacific, Swordfish - North Pacific