

RECLAMATION

Managing Water in the West

Final Environmental Assessment

Renewal of Authorization for Department of Water Resources to Store Excess Soil on Reclamation Property

EA-11-007



**U.S. Department of the Interior
Bureau of Reclamation
Mid Pacific Region
South-Central California Area Office
Fresno, California**

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Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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Section 1 Introduction

The Bureau of Reclamation (Reclamation) provided the public with an opportunity to comment on the draft Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI) between May 6, 2013 and June 5, 2013. No comments were received during the comment period. Changes from the draft EA that are not minor editorial changes are indicated by vertical lines in the left margin of this document.

1.1 Background

Over time, silt and debris settles at various locations along the rivers and canals in the area of the Sacramento-San Joaquin River Delta (Delta). When this material buildup becomes excessive, it can affect flood control efforts, levee stability, Delta channel navigation function, recreational opportunities and water quality/quantity for downstream users. The Department of Water Resources (DWR) addresses these problems by removing sediment and soil on an as-needed basis. After removal from the waterway, soils are stored and dried until a beneficial reuse is found.

In the past, Reclamation has allowed DWR to store this excess soil from dredging or excavation on Reclamation property. Due to restrictions by the Central Valley Regional Water Quality Control Board, DWR can only place spoils from dredging in locations that have been approved by the Regional Board through their General Order Waste Discharge Requirements (DWR and Reclamation 2005). In August 2000, DWR obtained General Order No. 5-00-183 under California Water Code Section 13263. This allowed DWR to place dredged material on Reclamation's land at the west end of Fabian Tract, a 34.4 acre parcel of land located in San Joaquin County, California, at the intersection of the Delta Mendota Canal and Grant Line Canal southeast of the Clifton Court Forebay (see Figures 1-1 and 1-2). The Fabian Tract property is also known as Parcel APN 189-050-18, or Settlement Pond #1.

Following issuance of the General Order in 2000, settling ponds were constructed at the Fabian Tract site to receive the dredged material. From August to November 2000, approximately 70,000 cubic yards (cy) of material were removed from around Hammer Island and the Rivers End Marina/Livermore Yacht club, and delivered to the ponds for management. DWR had two additional projects, in 2004 and 2005, which were much smaller in size and consisted of localized dredging of sediment that had blocked farmers' irrigation siphons. The 2004 project involved removal of approximately 31,000 cy from the west end of Union Island in Old River, northeast of Coney Island. The 2005 project involved removal of approximately 7,000 cy to the south of the 2004 area on Old River, south and southeast of Coney Island. Since the dredging method used in the later projects did not produce free liquids, the majority of the berms put in place in 2000 were removed.

DWR would like to be prepared for anticipated future soil storage and disposal needs. These future needs could involve anywhere from a few hundred to tens of thousands of cy. In order to be prepared for these anticipated future needs, DWR is requesting renewal of the existing land use authorization with Reclamation to allow storage of excess soil on Parcel No. 189-050-18.

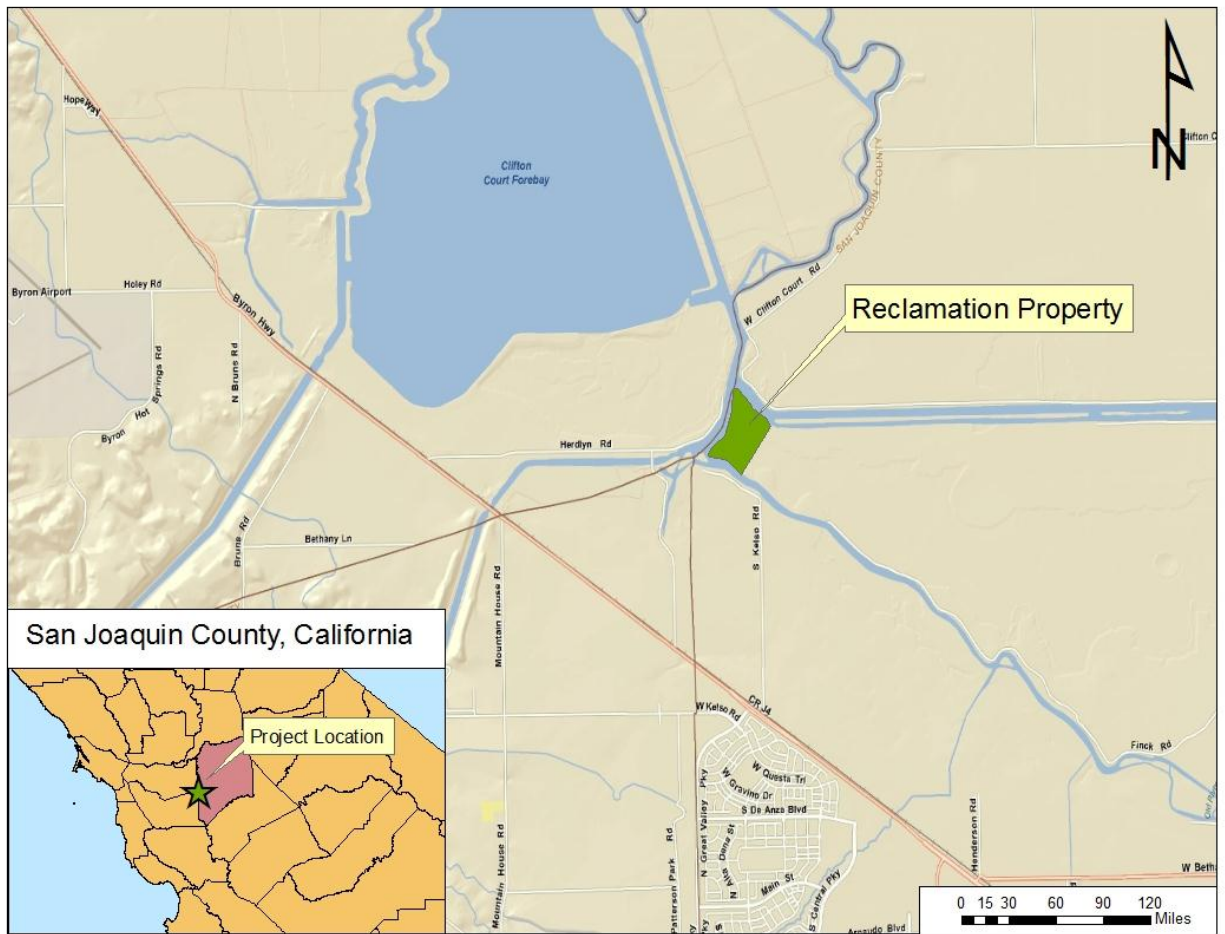


Figure 1-1 Project Location

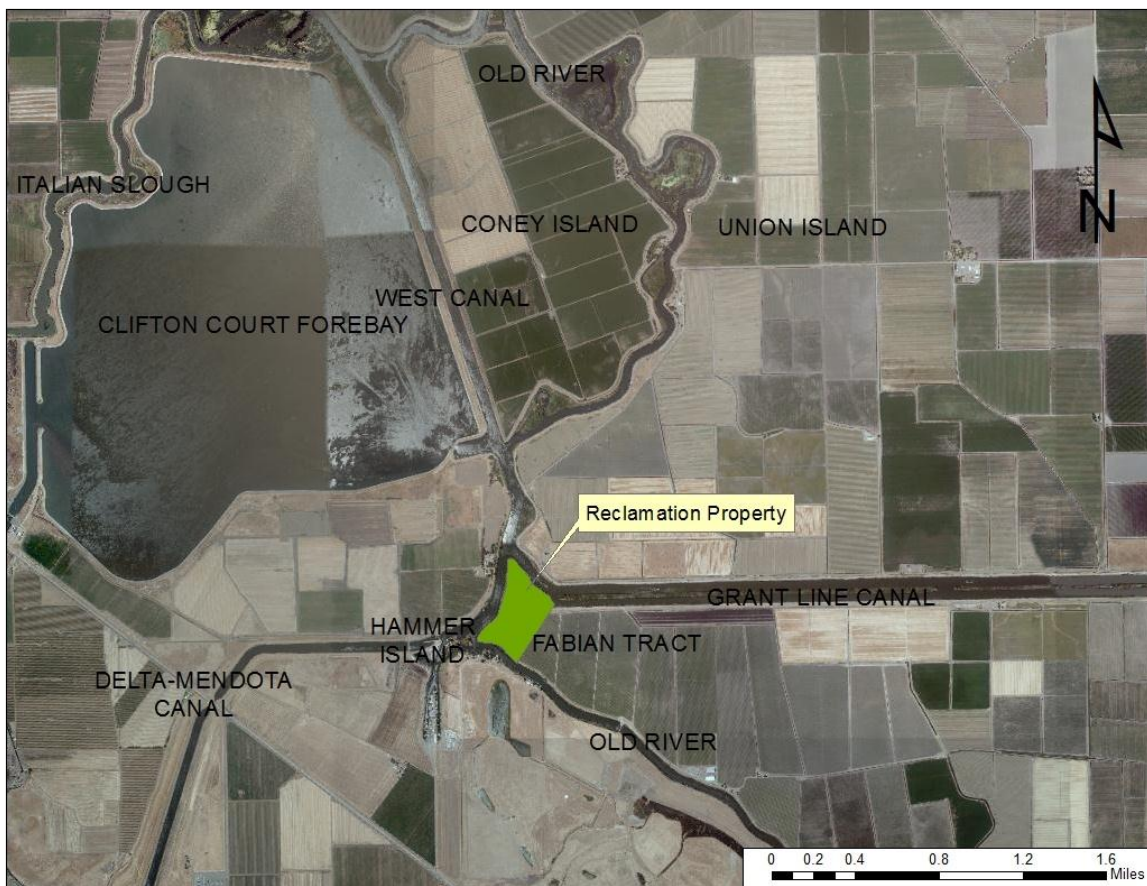


Figure 1-2 Project Location and Surrounding Waterways

1.2 Purpose and Need

When DWR has projects in the South Delta area, they sometimes need a location to store excess soil until it can be beneficially reused. The previous land use authorization issued by Reclamation (Number 00-LC-20-7443) for this purpose has expired, and DWR would like to renew the authorization for another five years. The purpose of this action is to allow DWR access to Reclamation property for material storage.

1.3 Scope

This EA addresses the potential direct, indirect and cumulative impacts of allowing access to Reclamation's Fabian Tract property (shown in Figures 1-1 and 1-2) for storage of excess soil or sediments from DWR projects. The duration of the proposed authorization renewal is five years.

This EA does not include evaluation of the environmental impacts of DWR's projects, such as the Temporary Barriers Project, or other DWR actions in the area's waterways, as those are analyzed elsewhere (DWR 2000, DWR and Reclamation 2005, NMFS 2012, DWR 2013). Although those actions could produce excess soil that DWR would need to store, they are not

caused by Reclamation's authorization and would proceed even if Reclamation declined to allow soil to be placed on the Fabian Tract property.

1.4 Resources Requiring Further Analysis

This EA will analyze the affected environment of the Proposed Action and No Action Alternative in order to determine the potential direct, indirect, and cumulative effects to the following resources:

- Water Resources
- Land Use
- Biological Resources
- Cultural Resources
- Air Quality
- Global Climate

Section 2 Alternatives Considered

This EA considers two possible actions: the No Action Alternative and the Proposed Action. The No Action Alternative reflects future conditions without the Proposed Action and serves as a basis of comparison for determining potential effects to the human environment.

2.1 No Action Alternative

If Reclamation were to not renew the authorization to place excess soil on Reclamation land, DWR would need to enter into an agreement with other property owners to store the material. This could be difficult, time-consuming and expensive, depending on the availability of suitable land.

2.2 Proposed Action

Reclamation proposes to issue a five-year land use authorization to DWR for storage of excess soil on Reclamation property. Although future soil storage needs are still uncertain, DWR wants to be prepared so that problems can be dealt with in a timely manner.

In order to prepare the site, a bulldozer and grader would be used to build haul roads and pre-excavate cells where soil would be placed. Trucks would then deliver the material to the storage location by way of the temporary haul roads and/or Fink Road. DWR would continue the previous approach of filling from the north end of the site to the south, starting near where spoils from earlier dredging activities were placed. The soil would be neatly spread out or stockpiled to ensure a maintained appearance and discourage unauthorized dumping. Figure 2-1 shows the site layout during a previous project.

Once in place, the soil would be allowed to dry. When it meets applicable requirements, it would either be used in place for beneficial purposes or would be removed and transported by truck to other upland sites for reuse.

Equipment to be used would include a grader, bulldozer, dump trucks, track excavator and water truck. Equipment would be stored and operated on Reclamation property while a project is underway. DWR would be responsible for maintaining the site and complying with all permit requirements.



Figure 2-1 Previous Site Improvements

2.2.1 Permitting

The Proposed Action would involve placement of fill in a mapped floodplain. It is also possible that regulated wetlands are present. The following regulatory programs are expected to apply:

- State and local floodplain management requirements govern placement of fill in areas prone to flooding. Prior to placement of fill, DWR shall ensure that beneficial functions of floodplains would not be diminished, and no new backwater or flooding conditions would result from the Proposed Action.
- Placement of fill in wetlands is regulated under Section 404 of the Clean Water Act. Although the area appears to now be drained and in use for agriculture, wetlands are known to have been present on the property in the past. DWR would be responsible for assessing the site for the presence of wetlands and securing appropriate approvals prior to any regulated placement of fill.

2.2.2 Environmental Commitments

DWR shall implement the following environmental protection measures to reduce environmental consequences associated with the Proposed Action (Table 2-1). Environmental consequences for resource areas assume the measures specified would be fully implemented.

Table 2-1 Environmental Protection Measures and Commitments

Resource	Protection Measure
Biological Resources Valley elderberry longhorn beetle	A 100 foot buffer from the shrubs' dripline shall be established around each eligible elderberry shrub (stems >1" diameter) located near treatment sites. The elderberry shrubs and buffers shall be clearly flagged and marked as an Environmentally Sensitive Area. No equipment (i.e. excavators, tractors, and wheel loaders) shall be used within the buffer area from the dripline of each elderberry shrub.
Biological Resources San Joaquin kit fox	Preconstruction surveys and implementation of avoidance and minimization measures prior to and during construction activities for San Joaquin kit fox per the 2011 U.S. Fish and Wildlife Service Standard (USFWS) Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance (USFWS 2011) shall be followed. See Appendix D.
Biological Resources Migratory Bird Treaty Act	<p>If construction would commence during the breeding season of February 1 through August 31, a qualified biologist or ornithologist shall conduct pre-construction surveys for ground and tree-nesting raptors (including Swainson's hawk and burrowing owls) at the Proposed Action area, in accordance with accepted survey protocols.</p> <ul style="list-style-type: none"> • If raptors are identified onsite or in the vicinity of the Project site during the preconstruction surveys, then an appropriate construction buffer area shall be determined by the biologist/ornithologist, and the buffer area shall be demarcated and avoided during construction. If it is not practicable to avoid said buffer areas during construction, then California Department of Fish and Wildlife (CDFW) shall be consulted for appropriate action prior to disturbance within the buffer areas. • If no raptors are identified during the pre-construction surveys, then construction may commence without further mitigation for nesting raptors.

Resource	Protection Measure
Biological Resources Burrowing Owl	<p>If construction would commence during the non-breeding season of September 1 through January 31, a qualified biologist or ornithologist shall conduct pre-construction surveys for burrowing owls at the Project site, in accordance with accepted survey protocols.</p> <ul style="list-style-type: none"> • If burrowing owls are not detected onsite or in the vicinity of the site, then construction may commence without additional mitigation for burrowing owls. • If burrowing owls are detected during the preconstruction surveys the Reclamation biologist shall be notified and the project halted. If identified, impacts to burrowing owls and their burrows should be avoided or minimized per CDFW recommendations (CDFG, 2012). If burrowing owls and their burrows cannot be avoided then the Reclamation biologist shall consult with the CDFW on appropriate mitigation measures.
Floodplains	DWR shall comply with applicable state and local requirements for work in floodplains.
Wetlands	DWR shall assess the site for the presence of wetlands before placing fill. Fill in wetlands will not be allowed without an authorizing permit.
Air Quality	Contractors would be required to use best management practices to limit the extent to which grading, excavation and material stockpiling could impact air quality.

Section 3 Affected Environment and Environmental Consequences

This section identifies the potentially affected environment and the environmental consequences involved with the Proposed Action and the No Action Alternative, in addition to environmental trends and conditions that currently exist.

3.1 Water Resources

3.1.1 Affected Environment

The largest open water body near the project area is the Clifton Court Forebay, to the northwest. The Fabian Tract itself is bordered by the Old River, a tributary to the San Joaquin River, to the south and west. To the northeast lie two canals, the Grant Line Canal and Fabian-Bell Canal, which run parallel east and west. Islands of varying sizes are found throughout the area's river system.

According to USFWS National Wetland Inventory (NWI) maps, the entire land parcel is classified as palustrine emergent wetland (USFWS 1991). However, NWI maps are dated and often do not reflect current conditions. More recent site photographs show the site as cleared and relatively dry. It would be the responsibility of DWR to assess the regulatory status of the work area prior to placement of any fill.

3.1.2 Environmental Consequences

No Action

DWR will have a need for soil storage regardless of whether Reclamation allows it to be stored at the Fabian Tract site. However, if DWR's soil is not placed on Reclamation's property there would be no impacts to water resources from storage of material there.

Proposed Action

The primary difference in impacts between the Proposed Action and the No Action alternative would be due to construction of haul roads and storage cells at the Fabian Tract site rather than at another location.

Site work would include creation of storage cells for excess soil, and temporary haul roads to transport the material. Wetlands are known to have been present on the Fabian Tract property in the past, and although the land and drainage patterns have been heavily modified, some wetland areas may remain. It would be DWR's responsibility to assess the site for jurisdictional features and comply with applicable regulations.

3.2 Land Use

3.2.1 Affected Environment

There are two main soil types in the South Delta Region. The first type is mineral soils, derived from weathered rock deposited from upstream rivers. The second soil type is peat, or organic matter from wetland and mineral-rich alluvial soils deposited by the rivers. Peat soils cover most of the central part of the Delta and provide good soil for agricultural practices. The levee systems in the Delta are predominantly peat soils, which historically have created instability problems (Healey et al. 2008). The project site consists primarily of lands which have been used for agricultural purposes (California Department of Conservation 2008), although they are not currently farmed.

The Fabian Tract is in Federal Emergency Management Agency (FEMA) flood hazard zone AE, meaning that it is at a high risk for flooding (FEMA 2009). The banks of the river have been reinforced over the years and are approximately 10 feet above the surrounding landscape, forming a levee around the property. In the past, adjacent property owners cleared vegetation from the area, but placement of spoil piles has made mowing difficult and it is now unmanaged.

3.2.2 Environmental Consequences

No Action

If no action were taken, the property in question would continue to be unused. DWR would be forced to find another disposal site for excess soil. Although no alternative disposal sites have been identified, it is likely that agricultural land would be converted for the purpose.

Proposed Action

Under the Proposed Action, use of the project site would not change. It would continue to be undeveloped beyond storage of excess soil. Storage onsite would not interfere with any other uses, although changing the topography of the site could alter the flooding profile of the property. DWR would be responsible for ensuring that the project does not create new flood hazards or worsen existing flooding.

3.3 Biological Resources

3.3.1 Affected Environment

On August 25, 2011, Reclamation surveyed the Fabian Tract site (including haul roads) and access levee roads (West Grimes Road and Fink Road), by driving along existing paved and dirt roadways. More focused field surveys for sensitive species were conducted by walking along the levee road and Fabian Tract property. The following observations were made:

- Agriculture was the dominant land use bordering the Fabian Tract site and varied from irrigated pastures to row crops to orchards.
- Pockets of elderberry shrubs (*Sambucus* spp.) are located on the water-side of the levee bordering the property and along access levee roads.

- The surrounding property had been baited for rodents.
- A few small mammal burrows (<4 inches) were present on the site.
- The waterside levee banks were steep and rip-rapped with sections heavily vegetated with shrubby vegetation dominated by thickets of blackberries (*Rubus* spp.), wild rose (*Rosa californica*), giant reed (*Arundo donax*), willows (*Salix* spp.), alders (*Alnus* spp.), and buttonbush (*Cephalanthus occidentalis*).
- There were also narrow bands of large trees with understories of smaller trees including willow, alder, cottonwood (*Populus* spp.), valley oak (*Quercus lobata*), and boxelder (*Acer negundo*) along the northeast levee of the site.
- Within the project site, because of previous storing of dredged soil and subsequent removal for beneficial reuse, there is minimal vegetation overgrowth. Habitat consists of nonnative annual grasses and forbs such as wild mustard, milk thistle, ripgut brome, and Bermuda grass.

Reclamation requested an official special-status species list from the USFWS via the Sacramento Field Office's website, http://www.fws.gov/sacramento/ES_Species/Lists/es_species_lists-form.cfm on July 22, 2013 (document number: 130722033931). The list includes plants and animals that are legally protected under the federal Endangered Species Act (ESA) for the following USGS 7½ minute quadrangles (Quads): Vernalis, Midway, Altamont, Holt, Union Island, Woodward Island, Brentwood, Byron Hot Springs, and Clifton Court Forebay. Reclamation further queried the CDFW's California Natural Diversity Database (CNDDB) for records of protected species within 10 miles of the Proposed Action location (CNDDB 2013). The two lists, in addition to the type of action and other information within Reclamation's files, were combined to determine the likelihood of protected species occurrence within the study area (Table 3-1).

Table 3-1 Special-Status Species List

<u>Species</u>	<u>Status¹</u>	<u>Effects²</u>	<u>Occurrence Potential in the Study Area³</u>
AMPHIBIANS			
California red-legged frog (<i>Rana draytonii</i>)	T, X	NE	Absent. No individuals or habitat in area of effect. Critical habitat outside of Proposed Action area.
California tiger salamander, central population (<i>Ambystoma californiense</i>)	T	NE	Absent. No individuals, and vernal pools or other large seasonal ponds in area of effect.
FISH			
Central Valley spring-run Chinook salmon (<i>Oncorhynchus tshawytscha</i>)	T	NE	Absent. No natural waterways within the species' range would be affected by the Proposed Action.
Central Valley steelhead (<i>Oncorhynchus mykiss</i>)	T, X	NE	Absent. No natural waterways within the species' range would be affected by the Proposed Action.
delta smelt (<i>Hypomesus transpacificus</i>)	T, X	NE	Absent. No natural waterways within the species' range would be affected by the Proposed Action.
green sturgeon (<i>Acipenser medirostris</i>)	T, X	NE	Absent. No natural waterways within the species' range would be affected by the Proposed Action.

<u>Species</u>	<u>Status</u> ¹	<u>Effects</u> ²	<u>Occurrence Potential in the Study Area</u> ³
Sacramento River winter-run Chinook salmon (<i>Oncorhynchus tshawytscha</i>)	E	NE	Absent. No natural waterways within the species' range would be affected by the Proposed Action.
INVERTEBRATES			
Conservancy fairy shrimp (<i>Branchinecta conservatio</i>)	E	NE	Absent. No individuals or habitat in area of effect.
Longhorn fairy shrimp (<i>Branchinecta conservatio</i>)	E, X	NE	Absent. No individuals or habitat in area of effect. Critical habitat outside of Proposed Action area.
valley elderberry longhorn beetle (<i>Desmocerus californicus dimorphus</i>)	T	NLAA	Present. Reported as extant in the area and any elderberry shrubs within the Proposed Action area may provide habitat suitable for this species. Effects to the species avoided through incorporation of Environmental Protection Measures and Commitments, see Table 2-1 above.
vernal pool fairy shrimp (<i>Branchinecta lynchi</i>)	T, X	NE	Absent. No individuals or habitat in area of effect. Critical habitat outside of Proposed Action area.
vernal pool tadpole shrimp (<i>Lepidurus packardii</i>)	E	NE	Absent. No individuals or habitat in area of effect.
MAMMALS			
riparian brush rabbit (<i>Sylvilagus bachmani riparius</i>)	E	NE	Absent. Range is outside of Proposed Action area (restricted to south Delta, Caswell Memorial State Park, and the San Joaquin River National Wildlife Refuge).
San Joaquin kit fox (<i>Vulpes macrotis mutica</i>)	E	NLAA	Possible. Potential foraging and den habitat absent. Also occurrence in Proposed Action area is unlikely due to traffic, human activity. Effects to the species avoided through incorporation of Environmental Protection Measures and Commitments, see Table 2-1 above.
PLANTS			
large-flowered fiddleneck (<i>Amsinckia grandiflora</i>)	E, X	NE	Absent. No individuals or suitable habitat (native grasslands) in area of effect. Critical habitat outside of Proposed Action area.
Contra Costa goldfields (<i>Lasthenia conjugens</i>)	E, X	NE	Absent. No individuals or suitable habitat (vernal pools, swales, or moist flats in grassland matrix) in area of effect. Critical habitat outside of Proposed Action area.
palmate-bracted bird's-beak (<i>Cordylanthus palmatus</i>)	E	NE	Absent. No individuals or suitable habitat in area of effect. Alkali sink habitat not present within the Proposed Action area.
REPTILES			
Alameda whipsnake (<i>Masticophis lateralis euryxanthus</i>)	T, X	NE	Absent. No individuals or suitable habitat (chaparral) in area of effect. Critical habitat outside of Proposed Action area.
giant garter snake (<i>Thamnophis gigas</i>)	T	NE	Absent. No individuals or suitable habitat in area of effect.

<u>Species</u>	<u>Status</u> ¹	<u>Effects</u> ²	<u>Occurrence Potential in the Study Area</u> ³
<p>1 Status= Listing of Federally-protected species E: Listed as Endangered T: Listed as Threatened X: Critical habitat designated for this species</p> <p>2 Effects = Effect determination NLAA: Not likely to adversely affect NE: No Effect</p> <p>3 Definition Of Occurrence Indicators Present: Species recorded in area and suitable habitat present Possible: Species recorded in area but habitat suboptimal Absent: Species not recorded in study area and habitat requirements not met</p> <p>4 CNDDB = California Natural Diversity Database 2013</p>			

Special-Status Wildlife

Reclamation determined that the following terrestrial species have the potential to occur in the vicinity of the Action area (based on nearby occurrence records and the presence of suitable habitat); federally endangered San Joaquin kit fox (*Vulpes macrotis mutica*; SJKF), the federally threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*; VELB), and birds protected under the federal Migratory Bird Treaty Act (MBTA); burrowing owl (*Athene cunicularia*) and Swainson's hawk (*Buteo swainsoni*).

San Joaquin kit fox. SJKF was federally listed as endangered in 1967 (USFWS 1967). The range for the SJKF includes suitable habitat dispersed throughout the San Joaquin Valley floor and into surrounding foothills (USFWS 1998). SJKF primarily inhabits grassland and scrubland communities but will also inhabit oak woodland, alkali sink scrubland, and vernal pool and alkali meadow communities. Dens are essential for the survival and reproduction of the SJKF. They use ground squirrel burrows for their dens yet SJKF are reputedly poor diggers (Jensen 1972, Morrell 1972). For a complete review, please refer to the San Joaquin kit fox (*Vulpes macrotis mutica*) 5-year review: summary and evaluation (USFWS 2010).

There are reported sightings of SJKF located approximately 2-3 miles west of Fabian Tract (with the most recent from 12 years ago; CNDDB 2013). The proposed Action area contains only marginal foraging habitat. The high clay content of most soils in this region may preclude kit fox from digging their own dens. Also, agricultural lands do not appear to be suitable habitat for long-term SJKF persistence due to practices such as soil cultivation, frequent irrigation, and use of agricultural chemicals and pesticides, and due to altered prey and predator communities (Warrick et al. 2007). However, it is possible SJKF could use the area for foraging purposes.

Valley elderberry longhorn beetle. This species is nearly always found on, or close to, its host plant, elderberry. There are four life stages in the animal's life: egg, larva, pupa, and adult. Females lay their eggs on the bark of living elderberry shrubs. When the larvae hatch, they burrow into the stems to feed and mature. The larval stage may last up to 2 years, after which the larvae enter the pupal stage and emerge into an adult. Adults are active from March to June, feeding and mating (USFWS 1999). For a complete review, please refer to the Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) 5-year review: summary and evaluation (USFWS 2006).

There are records for VELB approximately 9 miles northeast of Fabian Tract (EO Index: 34502; taken sometime in 1984; CNDDDB 2013). The proposed Action area contains marginal habitat, but any elderberry shrubs within the project area may be occupied by this species.

Burrowing owl. This small ground-dwelling owl is a yearlong-resident that exhibits high site fidelity to breeding areas and nesting burrows (Rich 1984, Lutz and Plumpton 1999, Ronan 2002). They live in ground squirrel and other mammal burrows, which they appropriate and enlarge for their own purposes (Martin 1973). Habitat for burrowing owls consists of open, well-drained soil; short, sparse vegetation; and underground burrows (Klute et al. 2003). They are typically found in short-grass grasslands, open scrub habitats, and a variety of open, human-altered environments, such as golf courses, airport runways and agricultural fields. They are active day and night and are opportunistic feeders. Their diet includes insects, amphibians, reptiles, small mammals, and grass material. The nesting season for burrowing owls occurs from February 1 - August 31 (CDFG 1995).

There are CNDDDB-recorded occurrences for burrowing owls in the vicinity of the project; with the closest report approximately 0.5 miles to the south of Fabian Tract (CNDDDB 2013). These owls will nest in small colonies along earthen canal banks and other sparsely vegetated disturbed sites. Burrows are the essential component of burrowing owl habitat and would most likely be rare in the project area due to rodent population control measures and the general operations and maintenance activities along the levee road.

Swainson's hawk. This species is a federal species of concern and protected under the federal MBTA. Swainson's hawks can be found in the grasslands and agricultural lands of California's Central Valley during spring and summer months. Their nesting season is from March 1 through September 15. They exhibit a high degree of nest site fidelity and nests are constructed in trees, including, but not limited to, Fremont cottonwood (*Populus fremontia*), willow, Valley Oak, and eucalyptus (*Eucalyptus* spp.) (Bloom 1980). Swainson's hawks have adapted to the use of some croplands, predominantly alfalfa, but also other row crops for foraging (Estep 1989). Swainson's hawks prey on small mammals, insects, and birds. Swainson's hawks are abundant in the south Delta and nest sites occur within one-half mile of the proposed project site (CNDDDB 2013).

3.3.2 Environmental Consequences

No Action

Under the No Action Alternative, there would be no impacts to biological resources since conditions would remain the same as existing conditions.

Proposed Action

Special-Status Wildlife

Effects are similar to the No Action Alternative. Most of the habitat types required by species protected by the ESA do not occur in the project area. The project area is dominated by agricultural habitat, and any remaining habitat consists of isolated fragments supporting small, highly vulnerable animal and plant populations.

Provisions for the avoidance of effects to federally-protected species under ESA have been incorporated into the Proposed Action (see specific Environmental Protection Measures and Commitments in Table 2-1). Therefore, Reclamation has determined that the proposed project is *not likely to adversely affect* SJKF and VELB. The USFWS concurred with the current project determination on November 27, 2013 (USFWS 2013).

Avoidance measures for burrowing owl and Swainson's hawk have also been incorporated into the Proposed Action (see specific Environmental Protection Measures and Commitments in Table 2-1). By following these measures, Reclamation has determined there would be *no take* of bird species protected under the MBTA. If burrowing owls are detected during the preconstruction surveys the Reclamation biologist shall be notified and the project halted. Reclamation would then consult with the CDFW on appropriate mitigation measures.

3.4 Cultural Resources

Cultural resources is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. The National Historic Preservation Act (NHPA) of 1966 is the primary Federal legislation that outlines the Federal Government's responsibility to cultural resources. Section 106 of the NHPA requires the Federal Government to take into consideration the effects of an undertaking on cultural resources listed on or eligible for inclusion in the National Register of Historic Places (National Register). Those resources that are on or eligible for inclusion in the National Register are referred to as historic properties.

The Section 106 process is outlined in the Federal regulations at 36 Code of Federal Regulations (CFR) Part 800. These regulations describe the process that the Federal agency (Reclamation) takes to identify cultural resources and the level of effect that the proposed undertaking will have on historic properties. In summary, Reclamation must first determine if the action is the type of action that has the potential to affect historic properties. If the action is the type of action to affect historic properties, Reclamation must identify the area of potential effects (APE), determine if historic properties are present within that APE, determine the effect that the undertaking will have on historic properties, and consult with the State Historic Preservation Office, to seek concurrence on Reclamation's findings. In addition, Reclamation is required through the Section 106 process to consult with Indian Tribes concerning the identification of sites of religious or cultural significance, and consult with individuals or groups who are entitled to be consulting parties or have requested to be consulting parties.

3.4.1 Affected Environment

Cultural resources are known to exist within the Delta region. Historic era resources include canals, levees, shipwrecks, bridges, roads, etc. The nature of the Delta region generally lends to archaeological sites being located on areas of naturally high ground. Much of the archaeology in the region is likely destroyed given the intense modification of the Delta for farming, water conveyance, and levee construction. Hydraulic placer mining in the late 1800s caused enormous volumes of material to be deposited in the Delta Region resulting in significant portions of the Delta being buried in relatively recent mining waste. Given the intensity of surface modification of the Delta Region and the abundance of archaeological research for the area, finding previously

unrecorded archaeological resources in the project area was determined to be only a distant possibility.

Cultural resources investigation within the project area resulted in no archaeological sites being identified. Several features of the built environment were noted in and near the project area. These include the Delta Mendota Canal, the Tracey Fish Facility, the Bill Jones Pumping Plant and other facilities associated with the Central Valley Project and the Delta transportation and agricultural history.

3.4.2 Environmental Consequences

No Action

Under the No Action Alternative, there would not be an undertaking as defined by Section 301 (7) of the National Historic Preservation Act. The permit would not be issued and DWR would not store soil on Reclamation property. The condition of cultural resources would be the same as under the existing conditions. No impacts to cultural resources are associated with this No Action Alternative.

Proposed Action

The Proposed Action alternative results in excess soil excavated by DWR being placed on Reclamation lands for storage. This action was determined to be the type of action that had the potential to cause effects to cultural resources eligible for inclusion in the National Register. Utilizing the Section 106 process as outlined in the regulations at 36 CFR §800, Reclamation identified cultural resources within the APE in 2009. Reclamation initiated consultation with the California State Historic Preservation Officer in 2009 seeking a concurrence on the finding that the Proposed Action would result in no adverse effect to historic properties.

The 2009 identification and consultation efforts included the Proposed Action but were part of a larger scale undertaking. The location of the proposed placement of soil has no identified cultural resources that will be affected by the action. As a result, implementation of the Proposed Action will result in no effect to cultural resources. Determination information may be found in Appendix A.

Cumulative Impacts

There are no cumulative impacts to cultural resources resulting from the Proposed Action as no cultural resources are located within the area of the proposed storage areas.

3.5 Air Quality

Section 176 (c) of the Clean Air Act [CAA] (42 U.S.C. 7506 (c)) requires any entity of the federal government that engages in, supports, or in any way provides financial support for, licenses or permits, or approves any activity to demonstrate that the action conforms to the applicable State Implementation Plan (SIP) required under Section 110 (a) of the Federal CAA (42 U.S.C. 7401 [a]) before the action is otherwise approved. In this context, conformity means that such federal actions must be consistent with SIP's purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards and achieving expeditious attainment of those standards. Each federal agency must determine that any action

that is proposed by the agency and that is subject to the regulations implementing the conformity requirements would, in fact conform to the applicable SIP before the action is taken.

On November 30, 1993, the Environmental Protection Agency (EPA) promulgated final general conformity regulations at 40 CFR 93 Subpart B for all federal activities except those covered under transportation conformity. The general conformity regulations apply to a proposed federal action in a non-attainment or maintenance area if the total of direct and indirect emissions of the relevant criteria pollutants and precursor pollutant caused by the Proposed Action equal or exceed certain *de minimis* amounts thus requiring the federal agency to make a determination of general conformity.

3.5.1 Affected Environment

The Proposed Action area lies within the Bay Area Air Quality Management District (BAAQMD). The BAAQMD is out of attainment for the Federal air quality standards for ozone and particulate matter smaller than 2.5 microns (PM_{2.5}). In addition the area does not meet California's State standards for ozone, PM_{2.5} and particulate matter smaller than 10 microns (PM₁₀).

Table 3-2 Bay Area Air Quality Management District Attainment Status

Pollutant	Attainment Status- California	Attainment Status- Federal
CO	Attainment	Attainment
NOx	Attainment	Attainment
Ozone	Nonattainment	Nonattainment
PM _{2.5}	Nonattainment	Nonattainment
PM ₁₀	Nonattainment	Attainment
Source: BAAQMD 2012		

In 2010 the BAAQMD adopted its 2010 Clean Air Plan (CAP), which is designed to reduce ozone, particulate matter, air toxics and greenhouse gases (BAAQMD 2010). The CAP includes control measures to reduce emissions from a variety of sources, including mobile sources such as vehicles, and stationary sources such as factories. Within the CAP, emissions from construction and farm equipment are covered by Control Measure MSM C-1. The Control Measure encourages early adoption of equipment with cleaner, more efficient engines and provides support for programs to develop cleaner equipment and fuels.

3.5.2 Environmental Consequences

No Action

If no action were taken by Reclamation, DWR would need to find another disposal/storage site. Without knowing the source location of waste soil or the alternative disposal site, it is not possible to estimate air emissions from the transportation and disposal using a different site.

Proposed Action

Under the Proposed Action, DWR would operate construction machinery and vehicles to transport excess soil to storage cells for later use. Equipment used would include a grader, bulldozer, dump trucks, track excavator and water truck. Operating this equipment would produce air emissions of criteria pollutants. However, emission quantities cannot be calculated

at this time because they depend on the hours that equipment would be operated, which cannot be known until soil locations and volumes are identified.

In addition to vehicle emissions, earthmoving operations can produce fugitive dust as loose soil becomes airborne. Construction of haul roads and the proposed storage cells could produce particulate matter emissions if not properly managed. To address this concern, contractors would be required to use best management practices to limit the extent to which grading, excavation and material stockpiling could impact air quality.

Cumulative Effects

Emissions from equipment and vehicle operation associated with the proposed action cannot be calculated with precision, but they are anticipated to be minor and discountable relative to overall trends of air emissions in the Bay Area.

3.6 Global Climate

Climate change refers to significant change in measures of climate (e.g., temperature, precipitation, or wind) lasting for decades or longer. Many environmental changes can contribute to climate change [changes in sun's intensity, changes in ocean circulation, deforestation, urbanization, burning fossil fuels, etc.] (EPA 2011a).

Gases that trap heat in the atmosphere are often called greenhouse gases (GHG). Some GHG, such as carbon dioxide (CO₂), occur naturally and are emitted to the atmosphere through natural processes and human activities. Other GHG (e.g., fluorinated gases) are created and emitted solely through human activities. The principal GHG that enter the atmosphere because of human activities are: CO₂, methane (CH₄), nitrous oxide, and fluorinated gasses (EPA 2011a).

During the past century humans have substantially added to the amount of GHG in the atmosphere by burning fossil fuels such as coal, natural gas, oil and gasoline to power our cars, factories, utilities and appliances. The added gases, primarily CO₂ and CH₄, are enhancing the natural greenhouse effect, and likely contributing to an increase in global average temperature and related climate changes. At present, there are uncertainties associated with the science of climate change (EPA 2011b).

Climate change has only recently been widely recognized as an imminent threat to the global climate, economy, and population. As a result, the national, state, and local climate change regulatory setting is complex and evolving.

In 2006, the State of California issued the California Global Warming Solutions Act of 2006, widely known as Assembly Bill 32, which requires California Air Resources Board (CARB) to develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB is further directed to set a GHG emission limit, based on 1990 levels, to be achieved by 2020.

In addition, the EPA has issued regulatory actions under the CAA as well as other statutory authorities to address climate change issues (EPA 2011c). In 2009, the EPA issued a rule (40

CFR Part 98) for mandatory reporting of GHG by large source emitters and suppliers that emit 25,000 metric tons or more of GHG [as CO₂ equivalents (CO_{2e}) per year] (EPA 2009). The rule is intended to collect accurate and timely emissions data to guide future policy decisions on climate change and has undergone and is still undergoing revisions (EPA 2011c).

3.6.1 Affected Environment

Global mean surface temperatures have increased nearly 1.8°F from 1890 to 2006 (Intergovernmental Panel on Climate Change 2007). Models indicate that average temperature changes are likely to be greater in the northern hemisphere. Northern latitudes (above 24°North) have exhibited temperature increases of nearly 2.1°F since 1900, with nearly a 1.8°F increase since 1970 alone (Intergovernmental Panel on Climate Change 2007). Without additional meteorological monitoring systems, it is difficult to determine the spatial and temporal variability and change of climatic conditions, but increasing concentrations of GHG are likely to accelerate the rate of climate change.

More than 20 million Californians rely on the State Water Project (SWP) and Central Valley Project (CVP). Increases in air temperature may lead to changes in precipitation patterns, runoff timing and volume, sea level rise, and changes in the amount of irrigation water needed due to modified evapotranspiration rates. These changes may lead to impacts to California's water resources and project operations.

While there is general consensus in their trend, the magnitudes and onset-timing of impacts are uncertain and are scenario-dependent (Anderson et al. 2008).

3.6.2 Environmental Consequences

No Action

If no action were taken by Reclamation, DWR would need to find another disposal/storage site. Without knowing the source location of waste soil or the alternative disposal site, it is not possible to estimate air emissions from the transportation and disposal using a different site.

Proposed Action

GHG emissions would be produced by the vehicles and equipment necessary to construct haul roads and containment cells and place soil for storage. However, emission quantities cannot be calculated at this time because they depend on the hours that equipment would be operated, which cannot be known until source soil locations and volumes are identified.

Climate change could be expected to affect water cycles, which would affect the amount and timing of water available to users. CVP water allocations are made dependent on hydrologic conditions and environmental requirements. Since Reclamation operations and allocations are flexible, any changes in hydrologic conditions due to global climate change would be addressed within Reclamation's operation flexibility and therefore water resource changes due to climate change would be the same with or without the Proposed Action.

Cumulative Effects

GHG emissions by their nature are global and cumulative in effect. The emissions from equipment and vehicle operation associated with the proposed action cannot be calculated with

precision, but they are anticipated to be minor and discountable relative to overall trends of GHG emissions and climate change.

3.7 Resources Eliminated from Further Analysis

Reclamation analyzed the affected environment of the Proposed Action and No Action Alternative and has determined that there is no potential for direct, indirect, or cumulative effects to the following resources:

Indian Trust Assets

Indian trust assets (ITA) are legal interests in assets that are held in trust by the United States Government for federally recognized Indian tribes or individuals. Reclamation's ITA Branch issued a determination on March 28, 2012 that there are no ITA within the Proposed Action area and therefore the Proposed Action does not have a potential to affect ITA. See Appendix B.

Indian Sacred Sites

Reclamation is required by Executive Order 13007, to the extent practicable permitted by law, and not clearly inconsistent with essential agency functions, to: (1) accommodate access to, and ceremonial use of, Indian sacred sites by Indian religious practitioners; and (2) avoid adversely affecting the physical integrity of such sacred sites. When appropriate, Reclamation shall, to the greatest extent possible, maintain the confidentiality of sacred sites.

The Proposed Action would not inhibit access to or ceremonial use of any Indian Sacred Sites, nor would the Proposed Action adversely affect the physical integrity of such sacred sites.

Environmental Justice

There would not be any disproportionately high and adverse human health or environmental effects on minority populations or low-income populations. All work would take place on land already owned by Reclamation, and storage would take place on land already in use for the purpose.

Socioeconomic Resources

There is a potential for limited beneficial effects to socioeconomic resources as local supplies or services may be used during project activities. There would be no adverse impacts to socioeconomic resources.

As there would be no adverse impacts to the resources listed above as a result of the Proposed Action or the No Action alternative, they were not considered further.

Section 4 Consultation and Coordination

4.1 Public Review Period

Reclamation provided the public with an opportunity to comment on the Draft EA and Draft Finding of No Significant Impact between May 6, 2013 and June 5, 2013. No comments were received.

4.2 Fish and Wildlife Coordination Act (16 U.S.C. § 661 et seq.)

The Fish and Wildlife Coordination Act requires that Reclamation consult with fish and wildlife agencies (federal and state) on all water development projects that could affect biological resources. The amendments enacted in 1946 require consultation with the Service and State fish and wildlife agencies “whenever the waters of any stream or other body of water are proposed or authorized to be impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled or modified for any purpose whatever, including navigation and drainage, by any department or agency of the United States, or by any public or private agency under Federal permit or license”. Consultation is to be undertaken for the purpose of “preventing the loss of and damage to wildlife resources”.

The Proposed Action does not involve any new impoundment or diversion of waters, channel deepening, or other control or modification of a stream or body of water. Consequently, Reclamation has determined that the Fish and Wildlife Coordination Act does not apply.

4.3 Endangered Species Act (16 U.S.C. § 1531 et seq.)

Section 7 of the ESA requires Federal agencies, in consultation with the Secretary of the Interior and/or Commerce, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of these species.

Reclamation submitted a concurrence request to the USFWS with its determination that the Proposed Action may affect, but is not likely to adversely affect the San Joaquin kit fox and valley elderberry longhorn beetle. The USFWS concurred with our current project determination on November 27, 2013 (see Appendix C).

No anadromous fishes or their critical habitat occur in the affected area; therefore, no consultation with the National Marine Fisheries Service is needed.

4.4 Migratory Bird Treaty Act (16 U.S.C. § 703 et seq.)

The MBTA implements various treaties and conventions between the United States and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Unless permitted by regulations, the Act provides that it is unlawful to pursue, hunt, take, capture or kill;

attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Subject to limitations in the Act, the Secretary of the Interior may adopt regulations determining the extent to which, if at all, hunting, taking, capturing, killing, possessing, selling, purchasing, shipping, transporting or exporting of any migratory bird, part, nest or egg will be allowed, having regard for temperature zones, distribution, abundance, economic value, breeding habits and migratory flight patterns.

The Proposed Action would not change the land use patterns of the cultivated or fallowed fields that have value to listed species or birds protected by the MBTA. Preconstruction surveys for migratory birds would be completed and appropriate avoidance, minimization, and protection measures would be followed in consultation with USFWS and CDFW if active nests are located in the area of disturbance. Therefore, there would be *no take* to birds protected by the MBTA.

4.5 Executive Order 11988 – Floodplain Management

Executive Order 11988 requires that all Federal agencies take action to reduce the risk of flood loss, to restore and preserve the natural and beneficial values served by floodplains, and to minimize the impact of floods on human safety, health, and welfare.

The property in question is in a known flood hazard area, and the project would involve grading and fill, which could alter the flooding profile of the property. Previous work in 2000 was authorized by the Corps of Engineers under Nationwide Permit (NWP) #35, and work in 2004-2005 was authorized under NWP #3. Standard General Conditions for these permits require the project proponent to comply with state and local floodplain management requirements. It is expected that the Proposed Action would require similar regulatory approvals.

4.6 Executive Order 11990 – Protection of Wetlands

Executive Order 11990 requires Federal agencies to follow avoidance, mitigation, and preservation procedures with public input before proposing new construction in wetlands.

Wetlands are known to have been present on the Fabian Tract property in the past, and although the land and drainage patterns have been heavily modified, some wetland areas may remain. It would be DWR's responsibility to assess the site for jurisdictional features and consult with regulatory agencies regarding any impact avoidance requirements.

Section 5 Preparers and Reviewers

Ben Lawrence, Natural Resources Specialist, SCCAO-412
 Chuck Siek, Natural Resources Specialist Supervisor, SCCAO-411
 Jennifer Lewis, Wildlife Biologist, SCCAO-422
 Adam Nickels, Archaeologist, MP-153
 Patricia Rivera, ITA, MP-400

Section 6 Acronyms and Abbreviations

APE	Area of Potential Effect
BAAQMD	Bay Area Air Quality Management District
CAA	Clean Air Act
CAP	Clean Air Plan
CARB	California Air Resources Board
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
CNDDDB	California Natural Diversity Database
CVP	Central Valley Project
Delta	Sacramento-San Joaquin River Delta
DWR	Department of Water Resources
EA	Environmental Assessment
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
GHG	Greenhouse Gases
ITA	Indian Trust Asset
MBTA	Migratory Bird Treaty Act
National Register	National Register of Historic Places
NHPA	National Historic Preservation Act
NLAA	Not Likely to Adversely Affect
NMFS	National Marine Fisheries Service
NWI	National Wetland Inventory
NWP	Nationwide Permit
PM _{2.5}	Particulate matter less than 2.5 microns in diameter
PM ₁₀	Particulate matter between 2.5 and 10 microns in diameter
Reclamation	US Bureau of Reclamation
SIP	State Implementation Plan
SJKF	San Joaquin Kit Fox
SWP	State Water Project
USFWS	US Fish and Wildlife Service
VELB	Valley Elderberry Longhorn Beetle

Section 7 References

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Appendix A Cultural Resources Determination

From: Nickels, Adam M
Sent: Wednesday, April 11, 2012 10:43 AM
To: Siek, Charles R
Cc: Halstead, Charles W; Lewis, Jennifer; Barnes, Amy J; Bruce, Brandee E; Dunay, Amy L; Fogerty, John A; Goodsell, Joanne E; Leigh, Anastasia T; Overly, Stephen A; Perry, Laureen (Laurie) M; Soule, William E; Williams, Scott A
Subject: RE: Department of Water Resources License to Construct and Utilize Settling Ponds for Dredging Material
Attachments: 07-SCAO-116.1.pdf; 07-SCAO-116.1 SHPO Response No. II.pdf

Project No. 12-SCAO-119
 (Associated Project No. 07-SCAO-116.1)

Chuck:

The proposed undertaking to allow the California Department of Water Resources (DWR) to store dredged materials within the settling ponds immediately south of the Delta-Mendota Canal intake channel near the Tracey Fish Facility and Jones Pumping plant is the type of activity that has the potential to effect historic properties assuming they are present. As a result, Reclamation has the responsibility to delineate an area of potential effects (APE), make a good faith effort to identify historic properties, assess the effects of the proposed undertaking on historic properties, and consulting with the California State Historic Preservation Officer (SHPO) seeking their concurrence on our findings.

In 2007, Reclamation investigated the proposed filling of the abandoned Delta-Mendota Alternative Channel. This proposed action, among other things, included use of the stilling ponds south of the DMC for settling water and placement of dredge materials. Reclamation conducted cultural resources identification efforts within the Settling Ponds and documented its findings in a cultural resources inventory report authored by me, dated 02/2009, titled *Class III Cultural Resources Inventory for Tracy Fish Facility, Abandoned Intake Rehabilitation and Development, Contra Costa County, CA*. The survey efforts identified no cultural resources within the stilling ponds with the exception of the stilling ponds themselves. Our efforts also included the evaluation of the Alternative Intake, the Tracy Fish Facility, and the excavation piles adjacent the DMC. Reclamation had previously determined that the DMC and the Jones Pumping Plant were eligible for inclusion in the National Register of Historic Places (National Register).

In consultation with the SHPO (attached) the SHPO agreed with our determination that the settling ponds, the DMC waste/spoils piles, and the Alternative Intake were not eligible for inclusion in the National Register. The SHPO also provided their concurrence on our finding that the proposed undertaking would not result in an adverse effect to those resources. However, the SHPO did not provide its consensus on the eligibility of the Tracey Fish Facility stating that the information provided did not adequately demonstrate the our finding that the Fish Facility was not eligible for inclusion in the National Register. The SHPO recognized that the fish facility not going to be affected by the proposed undertaking, rather it was only evaluated in association given its proximity to the Alternative Intake. All other components of the Alternative intake channel were allowed to able to move forward. Reclamation still contends that the fish facility is not a historic property and the SHPO still recognizes the property is undetermined.

We recognize that the two undertakings are technically different, however, the proposed action of the current undertaking is identical to a component of the proposed actions associated with the Alternative Intake. Because the two actions line up, the effects to historic properties would not change. Reclamation's determination is based on the idea that a small amount of time has passed since the previous identification and consultation efforts for the Alternative Intake, and the size, scale, and scope of the proposed action is within the confines of

the previous effort. The proposed actions associated with the current undertaking are consistent with the proposed actions associated with the proposed alternative intake closure. Our consultation efforts and the SHPO concurrence on the effects of the remaining components are sufficient for documenting our Section 106 good faith efforts to identify, and determine effects to historic properties.

This email memo is intended to convey the conclusion of the Section 106 process for this undertaking. Please retain a copy of this memo with the administrative record. Thank you for providing the opportunity to comment.

Sincerely,

Adam M. Nickels - Archaeologist - M.S.

Phone: 916.978.5053 - Fax: 916.978.5055 - www.usbr.gov

RECLAMATION

Mid-Pacific Regional Office MP-153 2800 Cottage Way - Sacramento, California 95825



From: Siek, Charles R

Sent: Wednesday, March 28, 2012 8:16 AM

To: BOR MPR Cultural Resources Section; Rivera, Patricia L; Williams, Mary D (Diane); Robbins, Eleanor J (Ellie); Hyatt, David E; Lewis, Jennifer

Cc: Halstead, Charles W

Subject: Department of Water Resources License to Construct and Utilize Settling Ponds for Dredging Material

Greetings all,

Mike Eng originally sent this request for determinations but we didn't have much of a PD at that time so I'm re-sending a more up to date version with the "in-progress" EA attached. The project is limited to allowing access to Reclamation property by DWR to store and dry dredge material.

- Request Date: 3/28/12 Requesting Office: SCCAO Requestor: Chuck Siek
- Project Name: Department of Water Resources License to Construct and Utilize Settling Ponds for Dredging Material
- Target Date for Completion: April 13, 2012
- Cost Authority: A20-0863-499-00-0-0
- Reclamation Point of Contact-Project Manager: Chuck Halstead Environmental Manager: Chuck Siek
- Project Description: Reclamation's action is limited to the issuance of a license to allow DWR access to Reclamation property for the storage of dredged material and to perform maintenance on existing temporary barriers. The movement of dredged material includes several operations including:
 - The installation of a temporary dock which would include minor modification to the embankment for installation;
 - The dock would provide the base for an excavator which would pick-up the dredged material for placement in dump trucks;
 - The dump trucks would move the dredged material to Reclamation's Parcel Settlement Pond #No. 1;
 - The material would be left in place to dry. Once the dredged material meets applicable requirements, it would be either used in place for beneficial use or would be removed by truck to other Delta

upland sites. The moved material may be used for ecosystem restoration projects designed by the CALFED Bay-Delta Program, to strengthen levees by building landside berms, or by filling areas of very low elevation to minimize risks associated with flooding.

- The maintenance of temporary barriers includes removal of channel bottom sediment which would be covered under existing Biological Opinions issued to the Corps (lead agency for Section 7 of the Endangered Species Act) for the Temporary Barriers project. This sediment is sand bar material that has accumulated at the site since the last removal of the barriers. DWR would conduct characterization of that material and conduct environmental clearances of the Bureau's Fabian Tract site before transporting and placing the material there.
- Reclamation's Role/Action: Issuance of a permit to access Reclamation property.
- Other Federal Agencies Involved/Cooperating Agencies and Roles: DWR Lead State Agency Army Corps of Engineers
- Level of NEPA Anticipated: EA/FONSI
- Project Location on USGS Topo Map and Legal Description, GIS Shape Files if available: Parcel # 189-050-18 (34.48 acres), Delta Mendota Canal , Unit B-0-0, located in Section 29, Township 1 South, Range 4 east, M.D.B.M. – Central Valley Project.
- Supplemental Information
 - Photographs of Project Area (attached)

Just what ya need even more work!

Chuck

**OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION**

P.O. BOX 942896
SACRAMENTO, CA 94296-0001
(916) 653-6624 Fax: (916) 653-9824
calshpo@ohp.parks.ca.gov
www.ohp.parks.ca.gov



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April 02, 2009

In Reply Refer To: BUR090305A

Michael A. Chotkowski
Acting Regional Environmental Officer
United States Department of the Interior
Bureau of Reclamation
Mid-Pacific Regional Office
2800 Cottage Way
Sacramento, CA 95825-1898

Re: Filling of the Abandoned Intake Channel near the Tracy Fish Collection Facility, Contra Costa County, California (Project No. 07-SCAO-116.1)

Dear Mr. Chotkowski:

Thank you for seeking my consultation regarding the proposed Filling of the Abandoned Intake Channel near the Tracy Fish Collection Facility (TFCF) in Contra Costa County. Pursuant to 36 CFR Part 800 (as amended 8-05-04) regulations implementing Section 106 of the National Historic Preservation Act (NHPA), the Bureau of Reclamation (BUR) is the lead federal agency for this project and is seeking my comments regarding the effects that the subject project will have on historic properties. The project will require isolating the Abandoned Intake Channel (AIC), removing standing water from the channel, filling it with local and commercial fill, and constructing several expansion facilities at the Tracy Fish Collection Facility. The BUR has determined that the Area of Potential Effects (APE) includes the proposed locations of these actions as well as staging and borrow areas and dredge material disposal sites, totaling an area of approximately 105 acres. In addition to your letter of March 3, 2009 and attachments, you have submitted the following document as evidence of your efforts to identify and evaluate historic properties in the APE:

- *Class III Cultural Resource Inventory for Tracy Fish Facility Abandoned Intake Rehabilitation and Development, Contra Costa County, California* (Adam Nickels, Division of Environmental Affairs, Cultural Resources Branch, Mid-Pacific Region, Bureau of Reclamation: February 2009).

After reviewing your letter and supporting documentation, I have the following comments:

- 1) I concur that the Area of Potential Effects has been appropriately determined pursuant to 36 CFR Parts 800.4(a)(1) and 800.16(d).
- 2) I concur that the Abandoned Intake Channel for the Tracy Fish Collection Facility and the Delta-Mendota Canal spoils piles are not eligible for the National Register of Historic Places and are not contributors to the Central Valley Project Historic District.
- 3) However, I cannot concur that the Tracy Fish Collection Facility is not individually eligible for listing in the NRHP. It appears that a strong case can be made for its

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eligibility under Criterion A for its association with the Delta Mendota Canal, as well as mid-twentieth century efforts to conserve commercially valuable fish in the Delta. It also appears eligible under Criterion C because it "was a state of the art facility at the time of its construction," and was copied at two other locations. The primary components of the facility appear to retain excellent integrity (the Primary and Secondary Louvers and the Fish Collection Tanks). The remaining components of the facility may or may not contribute to its significance. The Cultural Resource Inventory should address these individually, presenting sufficient information to justify their eligibility or non-eligibility. The non-eligible components may be considered non-contributors to the property and can be presented in table form.

- 4) In addition, the SHPO considers fish collection/mitigation facilities to be a property type that is eligible for inclusion in the CVP Multiple Property Listing. Therefore, the TFCF should also be evaluated under the CVP context with this in mind.

After reviewing your letter and supporting documentation I cannot concur at this time with your proposed finding of No Adverse Effect. I do recognize that this undertaking will not have an adverse effect to the Delta-Mendota Canal and the Bill Jones Pumping Plant, both of which the BUR has previously determined eligible for the NRHP. And, as I have now concurred on the ineligibility of the Abandoned Intake Channel and the Delta-Mendota Canal spoils piles, these are not historic properties under NRHP criteria.

However, as regards the TFCF, as noted under item 3 above, many of the current facilities and structures at the TFCF may not be contributors to its NRHP eligibility. A reappraisal with an orientation toward identifying contributing and non-contributing elements to the NRHP eligibility of the TFCF may yet enable the BUR to conclude that a determination of No Adverse Effect is appropriate. I await your decision as to how the BUR wishes to proceed with this consultation.

Thank you for seeking my comments and for considering historic properties in planning your project. If you require further information, please contact William Soule, Associate State Archeologist, at phone 916-654-4614 or email wsoule@parks.ca.gov and Mark Beason, State Historian, at phone 916-653-8902 and email mbeason@parks.ca.gov.

Sincerely,

Susan K. Stratton for

Milford Wayne Donaldson, FAIA
State Historic Preservation Officer

Appendix B Indian Trust Assets Determination

From: Rivera, Patricia L
Sent: Wednesday, March 28, 2012 8:21 AM
To: Siek, Charles R; Williams, Mary D (Diane); Robbins, Eleanor J (Ellie)
Subject: RE: Department of Water Resources License to Construct *****ELLIE THIS IS ADMIN

Charles,

I reviewed the proposed action where Reclamation will be issuing a license to allow the Department of Water Resources access to Reclamation property for the storage of dredged material and to perform maintenance on existing temporary barriers.

The proposed action does not have a potential to affect Indian Trust Assets.

Patricia

Appendix C US Fish and Wildlife Letter



United States Department of the Interior

2013 DEC 2 2 PM 1:49
FISH AND WILDLIFE SERVICE
San Francisco Bay-Delta Fish and Wildlife Office
BUREAU OF RECLAMATION
650 Capitol Mall, Suite 8-300
SACRAMENTO, CALIFORNIA 95814

In reply refer to:
08FBDT00-2013-I-0033

NOV 27 2013

Memorandum

To: David E. Hyatt, Supervisory Biologist, Bureau of Reclamation, Mid-Pacific Region/ South-Central California Area Office, Fresno, California

From: Assistant Field Supervisor, Bay-Delta Fish and Wildlife Office, Sacramento, California

Subject: Reinitiation of Informal Consultation for the Renewal of Authorization for Department of Water Resources to Store Excess Soil on Reclamation Property (Bureau of Reclamation File Number: EA-11-007)

This letter is in response to the Bureau of Reclamation's (Reclamation) September 17, 2013, letter requesting to reinitiate consultation with U.S. Fish and Wildlife Service (Service) for the issuance of a 5-year license to the California Department of Water Resources (DWR) to utilize Reclamation's property for temporary storage of materials, located in San Joaquin County, California. Reclamation's letter was received by the Service on September 30, 2013. Reclamation originally determined that this project may affect but is not likely to adversely affect the endangered San Joaquin kit fox (*Vulpes macrotis mutica*) (SJKF), the threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (VELB) and the threatened delta smelt (*Hypomesus transpacificus*) and its designated critical habitat. Reclamation has modified and changed the name of the project since the issuance of the Service's August 29, 2013, concurrence memorandum (Service File Number: 08FBDT00-2013-I-0033) and thus, the new determination is that this project may affect but is not likely to adversely affect the SJKF and VELB and requests the Service's concurrence. This response is in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*)(Act).

In reviewing this project, the Service has relied upon: (1) Reclamation's September 17, 2003, letter requesting reinitiation of informal consultation; (2) all documents and conversations (i.e., letters, electronic mails and telephone calls) previously reviewed during the initial consultation; and (3) other information available to the Service.

The previous request for concurrence included potential effects to delta smelt and its designated critical habitat from the installation of a temporary dock on Fabian Tract to transfer soil spoils from water to land. Reclamation, in coordination with the applicant (DWR), has determined after the issuance of the Service's August 29, 2013, concurrence memorandum that the project will not include the proposed temporary dock (no in-water work), thus, no potential effect to the delta smelt. Reclamation has determined that the proposed federal action would not affect other listed or proposed species or designated critical habitat.

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Classification	ENV 7.00
Project	CVP-0A
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Date Input & Initials	DEC 02 2013 BSM

Additionally, Reclamation requested in the September 6, 2013, email, that the title of the project be changed from "*Department of Water Resources (DWR) License to Construct and Utilize Settling Ponds for Dredging*" to "*Renewal of Authorization for Department of Water Resources to Store Excess Soil on Reclamation Property (EA-11-007)*". All other activities of the project description remain unchanged, therefore, the Service concurs that the project is not likely to adversely affect the VELB and the SJKF.

Therefore, unless new information reveals effects of the proposed action may affect listed species to an extent not considered or new species or critical habitat is designated that may be affected by the proposed action, no further action pursuant to the Act is necessary.

This concludes informal consultation for the *Department of Water Resources Renewal License to Store Excess Soil on Reclamation Property* project. Please address any questions or concerns regarding this response to Armin Halston, Fish and Wildlife Biologist, at Armin_Halston@fws.gov or (916) 930-5625 or Kim Squires, Section 7 Coordinator at Kim_Squires@fws.gov. Please refer to Service File Number: 08FBDT00-2013-I-0033 in any future correspondence regarding this project.

cc: Maria Rea, National Marine Fisheries Service, Sacramento, CA

Appendix D San Joaquin Kit Fox Avoidance Measures

**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 any 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 <u>and</u> 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 (CNDDDB). 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.