

**Draft Environmental Assessment / Initial Study and Mitigated  
Negative Declaration**

# **Central California Irrigation District and Del Puerto Water District Orestimba Creek Groundwater Recharge Project**



**U.S. Department of the Interior  
Bureau of Reclamation  
Mid Pacific Region  
Sacramento, California**



**Central California Irrigation District  
Los Banos, California**



**Del Puerto Water District  
Patterson, California**

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## **Mission Statements**

The mission of the Department of the Interior is to protect and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated 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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# List of Acronyms and Abbreviations

afy	acre feet per year
Air Basin	San Joaquin Valley Air Basin
APE	area of potential effects
BMP	best management practices
CCID	Central California Irrigation District
CEQA	California Environmental Quality Act
CFR	Code of Federal regulations
CNDDB	California Natural Diversity Data Base
CO <sub>2</sub>	carbon dioxide
CRHR	California Register of Historical Resources
CVP	Central Valley Project
DPWD	Del Puerto Water District
District	Central California Irrigation District
DMC	Delta Mendota Canal
EA	Environmental Assessment
EPA	Environmental Protection Agency
ESA	Endangered Species Act
GHG	greenhouse gases
Gpm	gallons per minute
IS	Initial Study
ITA	Indian Trust Assets
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NO <sub>x</sub>	nitrogen oxides
PM <sub>10</sub>	particulate matter less than 10 microns in diameter
PM <sub>2.5</sub>	particulate matter less than 2.5 microns in diameter
Reclamation	U.S. Bureau of Reclamation
SJVAPCD	San Joaquin Valley Air Pollution Control District
SHPO	State Historic Preservation Officer
State	State of California
SWPPP	storm water pollution prevention plan
USFWS	U.S. Fish and Wildlife Service

# Section 1 Introduction

This Environmental Assessment (EA) / Initial Study (IS) was jointly prepared by the Bureau of Reclamation (Reclamation) as the lead Federal agency and Central California Irrigation District (CCID) as lead State agency and Del Puerto Water District (DPWD) as a responsible agency to satisfy the requirements of both the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA). Throughout this document, Proposed Action and Proposed Project are used interchangeably and both terms reflect the project as described below.

## 1.1 Background/ Project Overview

The Orestimba Creek Groundwater Recharge Project (Proposed Project) is located in western Stanislaus County, approximately 3 miles west of the community of Newman (Figure 1). The project area is located north of Orestimba Road, and ½ mile west of Eastin Road, and within the boundary of DPWD.

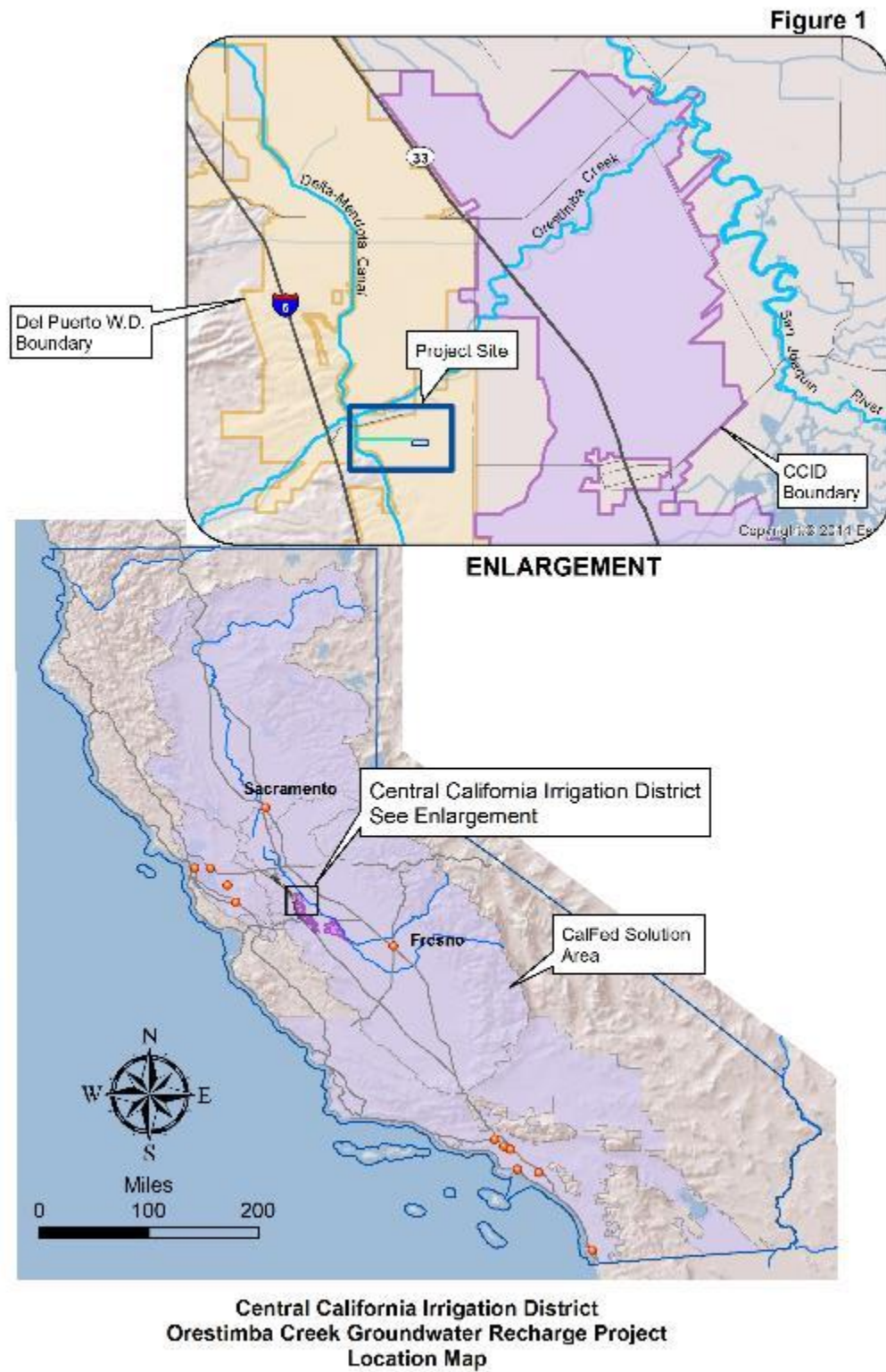
The Proposed Project is the construction of a 20 acre groundwater recharge facility near Orestimba Creek that would allow the recharge of 500 acre feet per year (afy) of surface water to the local groundwater basin. Existing connections to the Delta-Mendota Canal (DMC) would deliver up to 500 afy to the groundwater recharge facility. A production well would be constructed to recover the banked water during dry periods. The recharge water source would vary from year to year but could include excess winter flows from CCID.

Reclamation would provide \$600,000 in grant funds through the Bay-Delta Restoration Program: CALFED Water Use Efficiency Grant to CCID for the development of a groundwater recharge facility. The CALFED Water Use Efficiency Grant Program was established to accelerate the implementation of cost-effective actions that provide state-wide benefits of water conservation. CCID and DPWD (Project Proponents) would provide the remaining funding for the project and complete the construction of the groundwater recharge facility.

## 1.2 Need for Project/ Project Objectives

Surface water supplies in the San Joaquin Valley are subject to severe restrictions caused by recurring dry conditions and regulatory pumping restrictions. During these dry periods, growers within CCID and DPWD rely on groundwater or other sources of supply to meet their irrigation needs. Excessive groundwater pumping strains aquifers that are already in a state of overdraft, dropping the water level in some wells by more than 100 feet and causing other wells to go dry.

When California's climate cycles into wetter periods, surface water supplies become available to growers again and the reliance on groundwater is reduced. However, excess flows caused by storm events or rapid snow melt, are often discharged to the ocean and lost.



**Figure 1. Project Vicinity Map**

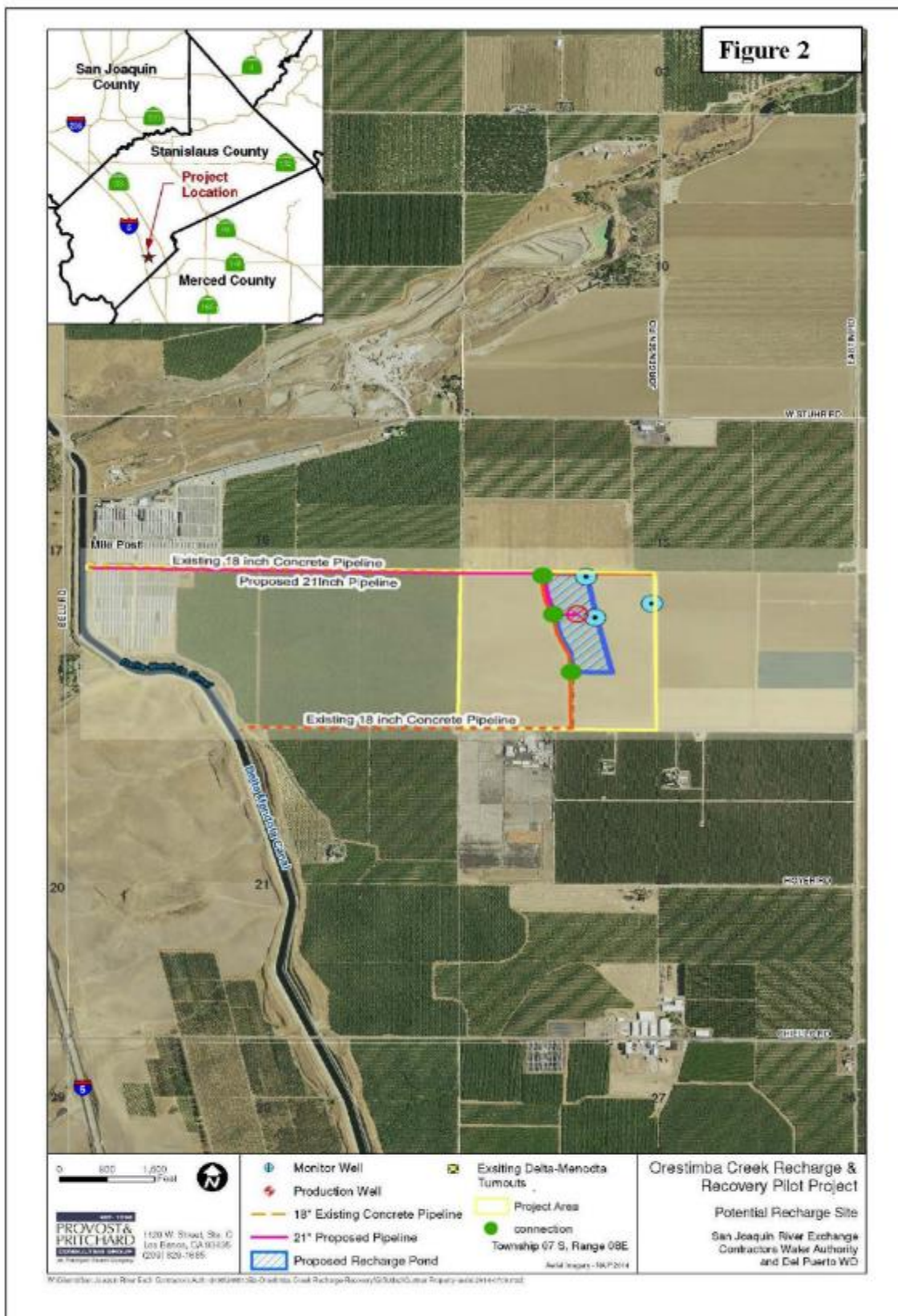
The Proposed Project would help to provide a long-term solution by banking excess water during wet periods into the regional aquifer. The Proposed Project would divert excess water and store it in the proposed recharge ponds, accelerating the rate of groundwater recharge for the local aquifer. A production well would pump the banked water into the DMC during dry periods. Monitoring or observation wells would be installed at key locations to monitor the rate of groundwater recharge. This data would also be used to determine the volume of water allowed to be extracted so that the rate of recharge would always exceed the rate of extraction.

### **1.3 Purpose of the EA/IS**

This EA/IS was prepared to describe the existing environmental and cultural resources in the project area; analyze the potential impacts from the construction and operation of the Proposed Project; and propose measures to avoid, minimize, or mitigate any adverse effects to less than significant. An Environmental Checklist has been included in Section 3.

Operation of the project would include conveyance of up to 500 afy of high quality water from the DMC to recharge the local aquifer and the extraction of water from the production well. Well extraction will be managed so that the volume pumped from the well would always be less than the volume recharged. Figure 2 shows the project area with preliminary layout and pipeline alignments.





**Figure 2. Project Area and Features**



## **Section 2 Alternatives and Proposed Action**

This EA/IS considers two alternatives: 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. For purposes of analysis, the No Action Alternative is the same as existing conditions.

### **2.1 No Action Alternative**

Under the No Action Alternative, Reclamation would not provide the grant funds and CCID and DPWD would not construct the Proposed Project. The Proposed Project objectives listed in Section 1.2 would not be realized. Recharge benefits from the Proposed Project would not be available for future extraction and groundwater overdraft conditions during dry periods would continue.

### **2.2 Proposed Action**

Reclamation would provide \$600,000 in grant funding to CCID for the development of a groundwater recharge facility. The Project Proponents would construct a double-bay groundwater recharge pond, production well, conveyance pipeline, and monitoring or observation wells. The Proposed Project would allow the delivery of excess flows into the pond for recharge and extraction of groundwater as an irrigation water supply during dry periods. The project features include:

- **Recharge Pond** – A recharge pond would be constructed to hold and recharge the diverted flows. The total pond area would be approximately 20 acres and would be divided into two bays, with individual inlet facilities to deliver into each bay.
- **Recharge Water Conveyance Connection** – Water would be conveyed into the recharge pond through an existing 18 inch concrete pipeline. A new connection at the pipeline would be constructed, including the necessary flow control devices, which would allow the flows to be diverted into the recharge pond.
- **Conveyance Pipeline** – A new, 21 inch PVC pipeline and discharge facility would be constructed to convey extracted well water to the DMC. The pipeline would be approximately 6,400 feet long.
- **Production Well** – A new well would be installed to extract the banked groundwater. The well would be drilled to approximately 300 feet and would have a capacity of approximately 1450 gallons per minute (gpm). The well would be electrically driven and would include a manifold with a flow meter and necessary control valves.
- **Monitoring or Observation Wells** – Three nested monitoring or observation wells would be constructed at key locations to monitor groundwater conditions, rate of

recharge, and impacts from groundwater extraction. CCID will develop and implement a monitoring program to ensure that annual recharge exceeds extraction.

During wet periods, excess water available to the District would be diverted to the proposed recharge ponds, where it will be banked in the local aquifer. During dry periods, the extraction well will pump from this aquifer and deliver that water to the DMC where it will be used within the region to support irrigation demands. Monitoring well data will be used to determine the amount of water that can be extracted without contributing to groundwater overdraft.

### **Construction Features**

The project area is in a rural area, on lands dedicated to agricultural uses. Construction is anticipated to take between nine and twelve weeks.

#### **Recharge Ponds**

Construction of the recharge pond will begin by scarifying the pond and levee footprint to remove all organic material. Levees will be constructed from materials excavated from the interior of the recharge pond using scrapers, excavators or similar equipment. The levees will have a 14 foot width crown and will range in height from approximately 1 foot to approximately 4 feet above the existing grade. Water trucks and compactors will be used to ensure proper moisture content and compaction. The total estimated volume of compacted embankment is approximately 15,500 cubic yards (cy). Completed levees would be armored with rip-rap to protect against erosion. Rip-rap will be placed on the inside face of the levees with an excavator.

As part of the design for the recharge pond, a total of three soil borings will be required – two borings will be drilled to a depth of 50 feet and one boring will be drilled to a depth of 100 feet. The soil borings will be 6 inches or 8 inches in diameter and will be drilled with a standard, truck mounted drilling rig. Approximately 10 soil samples will be collected and analyzed for physical characteristics.

#### **Recharge Water Conveyance Connection**

Water delivered to the recharge ponds will come through an existing pipeline and diverted to the recharge ponds through an existing standpipe. Minor modifications will be required to install a flow control and measurement mechanism. This work will involve a backhoe and hand labor to make the necessary modification.

#### **Conveyance Pipeline**

Approximately 6,400 feet of 21 inch PVC pipe will be installed and connected to the DMC. This conveyance pipeline will deliver the recovered groundwater back to the DMC for CVP deliveries. An excavator will be used to dig the trench for the pipe. The average trench depth will be 5 feet and a width of approximately 36 inches. Approximately 3,400 cubic yards of soil could be excavated as part of the trenching. The excavated material will be placed back into the trench as backfill or graded over the top of the pipe. The pipeline could be backfilled with sand or consolidated gravel to the pipe spring line. A water truck will be used to ensure near-optimum moisture content. The pipeline will terminate at the DMC with an above-lining discharge pipe. This steel discharge pipe will have a flow meter. Reclamation will issue CCID

a MP620 permit to modify a federal facilities and an easement authorizing pipeline construction and operation and maintenance within Reclamation's right of way. Water that is pumped back into the DMC will be tested and will meet Reclamation's current water quality requirements, including selenium concentrations.

#### Production Well

A production well will be installed to recover banked water. The well will be approximately 300 feet deep and have a flow rate of about 1,450 gpm. A rotary drilling rig will be used to drill the hole, and geologic characteristics will be logged during drilling. An E-log will be performed to facilitate well design. A plastic or steel well casing will be installed into the borehole with gravel packing between the casing and borehole to the design depth (300 feet). A reinforced concrete pump foundation pad (8 foot square by 30 inch thick) would be installed to support the pump and provide protection for the well head. Seals and well head protection measures would be installed in accordance with state and county regulations. A vertical turbine pump and electric motor will be installed to extract water at an estimated flow rate of 1,450 gpm. The well discharge would connect to the 21 inch PVC pipeline with a steel manifold. The steel manifold will be welded together on-site using hand labor and include the appropriate valves and meters for operation.

#### Monitoring Wells

Monitoring wells would be installed at key locations around the recharge ponds. Each well site would include a shallow (approximately 180 feet) and deep (approximately 250 feet) monitoring well tube installed in a single 18 inch steel casing. The monitoring tubes would be 6 inch PVC pipe perforated at the appropriate depths according to the well driller's log. The well would be drilled using a rotary drilling rig. Seals and well head protection measures would be installed in accordance with state and county regulations. At a minimum, this would include a concrete foundation pad and a locking well cover. A bentonite seal would be installed between the deep and shallow well to prevent cross-connection between the shallow and deep aquifers.

#### **Mitigation Measures**

The Proposed Project would require avoidance and protection measures, and best management practices to be implemented during construction to protect wildlife and special status species, and to minimize affects to air quality and water quality. Groundwater monitoring protocols will be implemented using the new monitoring wells installed as part of the project. Groundwater monitoring data will be used to ensure that the volume of water recharged exceeds the volume extracted through the production well. The data will be used to quantify the volume of water recharged through the project and the District will extract less water from its well than is recharged through the project. The monitoring will help quantify the magnitude of recovery that can occur and the resulting leave-behind for benefits of the groundwater basin.

## Section 3 Environmental Consequences

### 3.1 Analysis of No Action Alternative

Under the no action alternative, Reclamation would not award the CALFED Water Use Efficiency Grant to CCID for the development of a groundwater recharge facility. As a result, there would be no changes to the project area. Air quality would continue to be influenced by climate and geographic conditions, local and regional emissions from vehicles, and local land uses. Existing farming operations (including ground tilling, planting, and harvesting operations) would continue to generate GHG emissions. Water quality would continue to be influenced by urban, agriculture, and stormwater runoff. The rate of groundwater withdrawal would continue to exceed the rate of replenishment. Monitoring well data will be used to ensure that groundwater extraction by the Proposed Project will not contribute to overdraft.

### 3.2 Analysis of Proposed Action

This section of the EA/IS includes the NEPA and CEQA analysis of the affected environment and the potential environmental consequences from the Proposed Project.

#### I. AESTHETICS

Would the Project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### Affected Environment

The general characteristics of the region includes agricultural lands and support facilities, canals and ditches of varied sizes which are used to convey water for irrigation. Water sources for the region include surface water supplies from the CVP (typically from the DMC) recovered tailwater from irrigation activities, and pumped groundwater. The project area is completely surrounded with active agriculture, including almond orchards and annual field crops, as well as agricultural support features, including farm shops and produce distribution centers.

## Environmental Consequences

The Proposed Project would have no impact on aesthetic resources. The project features that would be visible to the public include the groundwater recharge pond levees and the monitoring or observation wells, which are consistent with the existing agricultural support facilities. The delivery pipelines would be below ground and would not be visible.

## II. AGRICULTURE RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Affected Environment

The lands surrounding project area are irrigated agriculture properties or support agricultural activities (farm yards and shops, water distribution features including canals, ditches, drains, and pump stations). California Department of Conservation inventoried 418,656 acres of designated important farmland in Stanislaus County in 2010, out of a total county area of 969,600 acres. Of these, 252,700 acres were designated as prime farmland, 32,182 acres as farmland of statewide importance, 105,630 acres as unique farmland, and 3,476 acres as farmland of local importance (California Department of Conservation 2010). The project area includes 153 acres of prime farmland. Although the project area is listed a "Prime Farmland" and the property is enrolled in a Williamson Act contract, insufficient water supplies have resulted in fallowing for the past five years, leaving the site unproductive.

## Environmental Consequences

The purpose of the Proposed Project is to support regional agricultural operations by using excess surface waters to recharge groundwater supplies for future extraction. The Proposed Project would convert approximately 20 acres of prime farmland into groundwater recharge ponds, which will assist agriculture activities by providing support to a long-term groundwater supply. The 20 acres of prime farmland represents roughly 13% of the 153 acres of prime

farmland in the project area. Water banked by this project during wet periods would be extracted and used locally to support irrigation demands for up to 200 acres.

Recharge facilities are permitted uses in agricultural zoning districts and agricultural preserves. The Proposed Project is compatible with CCID's goal of protecting agricultural resources through the beneficial use of percolation basins and the project would help reduce the potential for agricultural lands to be fallow. By recharging the groundwater basin, groundwater would be available for irrigation during drier periods and could reduce the need to leave lands fallow, thereby providing a benefit to the agricultural resources in the region.

### III. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

Would the Project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or Projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Substantially alter air movement, moisture, or temperature, or cause any substantial change in climate?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Affected Environment

The Proposed Project lies within the San Joaquin Valley Air Basin. Air basins share a common “air shed”, the boundaries of which are defined by surrounding topography. Although mixing between adjacent air basins inevitably occurs, air quality conditions are relatively uniform within a given air basin. The San Joaquin Valley Air Basin experiences episodes of poor atmospheric mixing caused by inversion layers. Inversion layers are formed when temperature increases with elevation above ground, or when a mass of warm, dry air settles over a mass of cooler air near the ground.

Air quality management responsibilities exist at Federal, State, and local levels of government. The primary statutes that establish ambient air quality standards and the regulations necessary to enforce the regulations designed to attain those standards are the Federal Clean Air Act (CAA) and California Clean Air Act (CCAA). The enforcement of Federal and State air regulations is complex and the various agencies have different, but interrelated responsibilities.

The Federal CAA and the CCAA require that the California Air Resources Board, based on air quality monitoring data, designate portions of the State where Federal or State ambient air quality standards are not met as “nonattainment areas”. Because of the differences between the Federal and State standards, the designation of “nonattainment area” is different under the Federal and State legislation. Stanislaus County is in attainment for all State ambient air quality standards except for ozone, and inhalable particulate matter (PM<sub>10</sub>, and PM<sub>2.5</sub> - particulates 10 microns or less in diameter and 2.5 microns or less in diameter, respectively). The County is designated as severe nonattainment for 1 hour ozone and nonattainment for 8 hour ozone, PM<sub>10</sub>, and PM<sub>2.5</sub>.

Under the Federal ambient air quality standards, Stanislaus County is classified as extreme nonattainment for ozone and in nonattainment for PM<sub>2.5</sub>. The U.S. EPA has determined the region as in attainment or unclassified for all other criteria pollutants, including PM<sub>10</sub>.

The San Joaquin Valley Air Pollution Control District (SJVAPCD) has local jurisdiction over the project area. SJVAPCD is responsible for maintaining and bringing air quality within Federal and State air quality standards. Specifically, SJVAPCD has the responsibility to monitor pollutant levels, and to develop and implement strategies to attain ambient air quality standards. In efforts to reduce emissions and meet the commitments in the PM<sub>10</sub> and Ozone Attainment Plans, SJVAPCD has implemented District Rule 9510. District Rule 9510 prescribes best management practices to reduce PM<sub>10</sub> and NO<sub>x</sub> emissions from new development projects. In addition, SJVAPCD’s Regulation VIII (Fugitive PM<sub>10</sub> Prohibitions) prescribes best management practices to reduce PM<sub>10</sub> emissions from fugitive dust.

To implement Section 176 of the CAA, the EPA issued the General Conformity Rule (GCR) which states that a Federal action must not cause or contribute to any violation of the National Ambient Air Quality Standards, or delay timely attainment of air-quality standards. A conformity determination is required for each pollutant where the total of direct and indirect emissions caused by a Federal action in a non-attainment (or maintenance) area exceeds *de minimus* rates listed in the rule (40 CFR 93.153). The Federal standard and local thresholds, and the San Joaquin Valley attainment status are shown in Table 2.



**Table 2. Attainment Status and Criteria Pollutant Thresholds**

Criteria Pollutant	Federal Attainment Status <sup>a</sup>	Federal Threshold (tons/year) <sup>b</sup>	San Joaquin Valley Attainment Status <sup>a</sup>	SJVAPCD Threshold (tons/year) <sup>a</sup>
Volatile organic compounds (VOC) (as an ozone precursor)	Nonattainment/Extreme (8 hour ozone)	10	Nonattainment/Severe (1-hour) Nonattainment (8 hour)	10
Nitrogen oxides (NO <sub>x</sub> ) (as an ozone precursor)	Attainment/Unclassified	100	Attainment	10
Inhalable particulate matter (PM <sub>10</sub> )	Attainment	100	Nonattainment	15
Inhalable particulate matter (PM <sub>2.5</sub> )	Nonattainment	100	Nonattainment	15
Carbon monoxide (CO)	Attainment/Unclassified	100	Attainment/Unclassified	100

<sup>a</sup> San Joaquin Valley Air Resources Control Board.

<sup>b</sup> 40 CFR 93.153

### Environmental Consequences

Short-term air quality effects would occur during construction activities. Criteria pollutants would be generated from fugitive dust and during the operation of construction equipment. Fugitive dust results from land clearing, grading, excavation, and vehicle traffic on unpaved roads. Fugitive dust is a source of airborne particulates, including PM<sub>10</sub> and PM<sub>2.5</sub>. Operation of large earth-moving equipment, trucks, and other mobile sources powered by diesel or gasoline are also sources of criteria pollutants, including nitrogen dioxide (NO<sub>2</sub>), CO, VOC (as an ozone precursor), sulfur dioxide, and small amounts of air toxics.

Table 3 lists the construction equipment and assumed duration of operations used to estimate air quality effects caused by the project construction. Table 4 provides a summary of the estimated emissions during construction. Comparison of the estimated emissions (Table 4) with the thresholds for Federal conformity determinations (Table 2) demonstrates that the Proposed Project will not produce emissions that are greater than GCR *de minimus* thresholds. Therefore, the project is consistent with the State Implementation Plan and a Conformity Analysis is not required. In addition, the project would fall within SJVAPCD emission thresholds.

The Proposed Project will not have a significant adverse impact on air quality, and therefore requires no mitigation measures. However, SJVAPCD requires all construction projects to implement Regulation VIII control measures for construction emissions of PM<sub>10</sub> as best management practices (BMP) regardless of the significance determination. These may include:

- Individual truck idling in excess of five consecutive minutes will be prohibited, unless allowed under Title 13 of the California Code of Regulations §2485 (CARB's Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling).

- The Contractor will encourage worker carpooling.
- Backfill material will be stabilized prior to and during handling as well as at completion of activity.
- Suspend the use of all construction equipment during first-stage smog alerts.
- Electricity or alternative fuels for on-site mobile equipment will be used instead of diesel equipment to the extent feasible.
- Diesel-power construction equipment shall use low-sulfur diesel fuel, as defined in Rule 431.2.
- Suspend any excavating and grading operations when wind speeds (as instantaneous gusts) exceed 25 miles per hour.
- Minimize disturbed areas during construction.
- Ensure that all construction equipment is properly tuned and maintained prior to and for the duration of construction.
- Provide adequate ingress and egress to minimize vehicle idling and traffic congestion.
- To reduce the potential for significant hazardous air emissions the following project controls are included:
  - Maintain slow speeds with all vehicles
  - During dumping, minimize soil drop height into transportation trucks or stockpiles
  - During transport, cover or enclose trucks transporting soils
  - Increase freeboard requirements, and repair trucks exhibiting spillage due to leaks
- Excavation areas will be controlled with physical barriers (e.g., perimeter fencing with tarps), and soil wetting to avoid or control dust generation. Water will be used periodically to control any fugitive dust from blowing onto other properties. In times of high wind conditions (e.g., wind speed in excess of 25 miles per hour), all excavation areas will be securely covered to prevent excessive amounts of dust. The areas that require excavation and earth-moving operation will be minimized to prevent excessive amounts of dust.

The project would emit less than 2 tons of NO<sub>x</sub> and PM<sub>10</sub> per year, therefore, it is exempt from the requirements in District Rule 9510.

Operation and maintenance of the groundwater recharge pond would be done periodically. Maintenance activities include the removal of sediment, vegetation, and other materials to improve percolation capacity. This work would include the operation of a single excavator and truck to remove accumulated sediment and vegetation for approximately one week every other year. Electrically-driven pumps and motors would be used during operations and would not contribute emissions. The emissions from the operation and maintenance of the groundwater recharge facility would be less than the existing agricultural operations at the site. Emissions would be minimal and not exceed SJVAPCD thresholds or the GCR.

**Table 3: Assumed construction duration and equipment**

Construction Element	Start	End	Operating Equipment	Number	Duration of Operation (days)	Work
Site Preparation	10/1/2017	10/5/2017	Grader	2	4	Clearing and grubbing
	Workdays	4	Water Truck	2	4	Dust control
Levees - Grading	10/5/2017	10/25/2017	Grader	3	20	Grading and clearing
	Workdays	20	Scraper	4	20	Aggregate base transport
			Roller	2	20	Material Handling
			Water Truck	2	20	Compacting aggregate base
			Side Dump	2	4	Rip-Rap placement
			Excavator	1	4	Rip-Rap placement
Wells	10/25/2017	11/4/2017	Well Drilling Rig	1	10	Well drilling - all wells
	Workdays	10	Backhoe	1	3	Backfill and compact
			Welder	2	2	Connection welding
			Generator	1	6	Develop Wells
			Cement Truck	1	4	Well Pads
Pipeline	11/4/2017	11/14/2017	Excavator	2	10	Trenching for pipeline
	Workdays	10	Water Truck	1	10	Dust Control
			Roller	1	10	Trench compaction
			Grader	1	10	Final Grading after backfill
			Front Loader	1	10	placement of bedding
			End Dump	1	5	supply bedding
			Plate Compactor	2	10	Compact bedding
Discharge Installation	11/14/2017	11/16/2017	Excavator	1	2	Excavate & place manifold
	Workdays	2	Cement truck	1	0.5	Support Block
			Front Loader	1	2	Bedding/backfill
			End Dump	1	2	Bedding/backfill
			Plate Compactor	1	2	Backfill compaction

**Table 4. Estimated Maximum Daily Project Emissions During Construction**

Pollutant	Estimated Project Emissions <sup>a</sup> (tons)	Below Federal Threshold	Below SJV Threshold
VOC	0.15	Yes	Yes
NO <sub>x</sub>	1.57	Yes	Yes
PM <sub>10</sub>	0.20	Yes	Yes
PM <sub>2.5</sub>	0.13	Yes	Yes
CO	0.99	Yes	Yes

<sup>a</sup>CalEEMod Version 2013.2.2.

### Cumulative Impacts

The geographic scope of potential cumulative air quality impacts encompasses the immediate project vicinity for particulates and the San Joaquin Valley Air Basin for ozone precursor pollutants. SJVAPCD considers a project would not have a cumulative effect if the project complies with the requirements in an approved plan or mitigation program, including, an air quality attainment or maintenance plan. SJVAPCD developed air quality plans to attain State and Federal standards for ozone and particulate matter. As part of SJVAPCD's air quality

attainment plan, Regulation VIII reduces ambient concentrations of fine particulate matter by controlling fugitive dust and compliance with District Rule 9510 will reduce construction exhaust NO<sub>x</sub> and PM<sub>10</sub> emissions by 20 percent and 45 percent, respectively. Since Regulation VIII measures would be implemented and the project is exempt from District Rule 9510, the project complies with SJVAPCD's air quality attainment plan. Therefore, the Proposed Project would not incrementally contribute to a cumulative effect.

#### IV. BIOLOGICAL RESOURCES

Would the Project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

approved local, regional, or state habitat conservation plan?

### Affected Environment

An official list of species protected by the Endangered Species Act of 1973 (as amended) was generated using the USFWS IPaC website. In addition, a search of the California Natural Diversity Database (CNDDDB) was queried for special-status species in the Newman quadrangle. CNDDDB indicated no state or federal listed species were reported within the project boundaries. **Table 5** lists the special status species from the USFWS and CNDDDB searches, along with the regulatory and CNPS listing status, and the potential for the species to occur within the project area.

**Table 5. Special status species with Potentially to Occur in Project Area**

<u><b>Species</b></u>	<u><b>Status<sup>1</sup></b></u>	<u><b>Effects<sup>2</sup></b></u>	<u><b>Potential to Occur in Project Area<sup>3</sup></b></u>
<b>Amphibians</b>			
California Red-legged Frog ( <i>Rana draytonii</i> )	T	NE	<b>Absent.</b> No suitable habitat in the project area.
California Tiger Salamander ( <i>Ambystoma californiense</i> )	T	NE	<b>Absent.</b> No suitable habitat in the project area.
<b>Birds</b>			
Bald Eagle ( <i>Haliaeetus leucocephalus</i> )	SE, P	NE	<b>Absent.</b> No suitable habitat in the project area.
Black Rail ( <i>Laterallus jamaicensis</i> )	SE, P	NE	<b>Absent.</b> No suitable habitat in the project area.
Burrowing Owl ( <i>Athene cunicularia</i> )	CSSC	NLAA	<b>Unlikely.</b> Habitat conditions (open areas with sparse vegetation) are present, but no species or burrows were observed.
California Horned Lark ( <i>Eremophila alpestris actia</i> )	P	NLAA	<b>Possible.</b> Foraging habitat is present, but no species or sign observed.
Fox Sparrow ( <i>Passerella iliaca</i> )	P	NE	<b>Absent.</b> No suitable habitat in the project area.
Lawrence's Goldfinch ( <i>Carduelis lawrencei</i> )	P	NE	<b>Absent.</b> No suitable habitat in the project area.
Least Bittern ( <i>Ixobrychus exilis</i> )	CSSC	NE	<b>Absent.</b> No suitable habitat in the project area.
Lesser Yellowlegs ( <i>Tringa flavipes</i> )	P	NE	<b>Absent.</b> No suitable habitat in the project area.
Lewis's Woodpecker ( <i>Melanerpes lewis</i> )	P	NE	<b>Absent.</b> No suitable habitat in the project area.
Loggerhead Shrike ( <i>Lanius ludovicianus</i> )	CSSC	NE	<b>Absent.</b> No suitable habitat in the project area.
Long-billed Curlew ( <i>Numenius americanus</i> )	P	NE	<b>Absent.</b> No suitable habitat in the project area.

Marbled Godwit ( <i>Limosa fedoa</i> )	P	NE	<b>Absent.</b> No suitable habitat in the project area.
Mountain Plover ( <i>Charadrius montanus</i> )	P, CSSC	NLAA	<b>Possible.</b> Forging habitat is present, but only present in CA during winter.
Nuttall's Woodpecker ( <i>Picoides nuttallii</i> )	P	NE	<b>Absent.</b> No suitable habitat in the project area.
Peregrine Falcon ( <i>Falco peregrinus</i> )	P	NE	<b>Absent.</b> No suitable habitat in the project area.
Short-eared Owl ( <i>Asio flammeus</i> )	CSSC	NE	<b>Absent.</b> No suitable habitat in the project area.
Swainson's hawk ( <i>Buteo swainsoni</i> )	ST, P	NLAA	<b>Possible.</b> Forging habitat conditions are present, but no species or sign observed.
Tricolored blackbird ( <i>Agelaius tricolor</i> )	CSSC, P	NE	<b>Absent.</b> No suitable habitat in the project area.
Western Grebe ( <i>Aechmophorus occidentalis</i> )	P	NE	<b>Absent.</b> No suitable habitat in the project area.
Yellow-billed Magpie ( <i>Pica nuttalli</i> )	P	NLAA	<b>Possible.</b> Forging habitat is present, but no species or sign observed.
<b>Fish</b>			
Central Valley Steelhead ( <i>Oncorhynchus mykiss</i> )	T, X, NMFS	NE	<b>Absent.</b> No suitable habitat in the project area.
Delta smelt ( <i>Hypomesus transpacificus</i> )	T	NE	<b>Absent.</b> No suitable habitat in the project area.
<b>Insects</b>			
Valley Elderberry Longhorn Beetle ( <i>Desmocerus californicus dimorphus</i> )	T	NE	<b>Absent.</b> No suitable habitat in the project area.
<b>Crustaceans</b>			
Vernal Pool Fairy Shrimp ( <i>Branchinecta lynchi</i> )	T, X	NE	<b>Absent.</b> No suitable habitat in the project area.
Vernal Pool Tadpole Shrimp ( <i>Lepidurus packardii</i> )	E, X	NE	<b>Absent.</b> No suitable habitat in the project area.
<b>Mammals</b>			
Fresno Kangaroo Rat ( <i>Dipodomys nitratoideus exilis</i> )	E	NE	<b>Absent.</b> No suitable habitat in the project area.
San Joaquin Kit Fox ( <i>Vulpes macrotis mutica</i> )	E	NE	<b>Low.</b> No species or sign observed, but potential movement corridor nearby.
<b>Reptiles</b>			
Blunt-nosed Leopard Lizard ( <i>Gambelia sila</i> )	E	NE	<b>Absent.</b> No suitable habitat in the project area.
Giant Garter Snake ( <i>Thamnophis gigas</i> )	T	NE	<b>Absent.</b> No suitable habitat in the project area.
<b>Vegetation</b>			

Sycamore Alluvial Woodland	-	NE	<b>Absent.</b> Habitat describes nearby Orestimba Creek, not in project area.
Spiny-sepaed Button-celery ( <i>Eryngium racemosum</i> )	1B.2	NE	<b>Absent.</b> No suitable habitat in the project area.
1 Status= Listing of state or Federal special status species T: Federally listed as Threatened E: Federally listed as Endangered NMFS: Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service P: Birds protected under the Migratory Bird Treaty Act ST: Listed as Threatened by the State of California SE: Listed as Endangered by the State of California X: Critical Habitat designated for this species CSSC: California species of special concern CNPS 1B.1: Seriously endangered plants in California and elsewhere CNPS 1B.2: Fairly endangered plants in California and elsewhere 2 Effects = Effect determination under Section 7 of the Endangered Species Act NE: No Effect 3 Definition Of Occurrence Indicators Possible: Species recorded in area but habitat suboptimal or lacking entirely Absent: Species not recorded in study area and/or habitat requirements not met 4 CNDDDB = California Natural Diversity Database 2016 5 CNPS = California Native Plant Society			

Of the listed species, 29 have no potential to occur because the study area is outside the species' known range or suitable habitat is absent. Special-status species that were not identified as occurring or having habitat in the project area are not discussed further in this document. The remaining five species could occur in the study area and these species include the yellow-billed magpie, mountain plover, California horned lark, San Joaquin kit fox, and Swainson's hawk. The life histories of these species are described in more detail below.

### ***Migratory Birds***

Several special-status birds protected under the Migratory Bird Treaty Act (MBTA) including the yellow-billed magpie, mountain plover, and California horned lark have potential to occur in or adjacent to the project area. Yellow-billed magpie prefer open fields, farms, ranches, and brush areas dotted with oak trees and near water. They nest in small colonies, typically in oak trees overgrown with mistletoe. Nesting season occurs from April through May. Mountain plovers migrate to California's Central Valley during the winter, primarily from September to mid-March, during their non-breeding season. Their winter habitat is short-grass plains and fields, plowed fields, and sandy deserts. California horned lark forages on grasslands and other open habitats with low, sparse vegetation. They breed in depressions on open ground from March through July, with peak activity in May.

### ***Special Status Species***

The San Joaquin kit fox and the Swainson's hawk were identified as having the potential to occur in the vicinity of the project area and could be affected by construction activities.

**San Joaquin kit fox** The San Joaquin kit fox is Federally listed as an endangered species under the Endangered Species Act. Kit fox currently inhabit the western and southern San Joaquin Valley in grassland and scrubland communities. Kit foxes require dens for shelter and reproduction. Mating usually occurs from December to March with a gestation period of 48 to 52



days (EPA, 2010). In late summer after 4 or 5 months, young pups will begin dispersing. Kit foxes will range from 1 to 12 square miles and use multiple dens throughout the year (CSU Stanislaus, 2006). Their diet varies based on prey availability, and includes small to mid-sized mammals like ground squirrels and kangaroo rats, ground-nesting birds, and insects. Kit foxes excavate their own dens, or may use other animals', and human-made structures such as culverts, abandoned pipelines, and banks in sumps or road beds (Bjurlin, Cypher, Wingert, & Van Horn Job, 2005). Loose-textured soils are preferred by the kit fox for dens but they will use the burrows of other animals in other soil types.

Suitable habitat for San Joaquin kit fox exists within 1.5 miles the project site and the nearby Delta-Mendota Canal could be used as a potential movement corridor. The project area is primarily agricultural and could be used by the San Joaquin kit fox for dispersal, but it does not contain their preferred denning habitat. Potential barriers, including fences, green houses, and almond orchards occur between the Delta-Mendota Canal and the project area. There is low potential for the San Joaquin kit fox to occur in the project area.

**Swainson's Hawk** Swainson's hawks are protected under the MBTA and are State-listed as threatened. Generally, their habitat consists of largely open and undeveloped landscapes, and includes suitable grassland or agricultural foraging habitat and sparsely distributed trees for nesting (England et al. 1997). They exhibit a high degree of nest site fidelity, and will return to the same tree for many years (Estep 1989). Swainson's hawks begin to arrive to their breeding grounds in the Central Valley late February to early March. The nesting season occurs from March 1<sup>st</sup> – September 15<sup>th</sup> and will breed in riparian areas and oak savannahs. Prey items include small mammals, insects, and birds. Large trees located adjacent to the project area provide suitable nesting habitat, and row and field agricultural lands and non-native grasslands provide suitable foraging habitat.

### **Environmental Consequences**

A reconnaissance-level biological field survey was conducted on March 31st, 2016 by Oxford Farms. The survey was conducted by driving and walking the footprint of the project area so the entire area was visibly inspected. Binoculars were used when needed to identify species utilizing or passing through the project area. No special-status species listed in either the USFWS Species List or CNDDB for the project area were observed during the survey.

### ***Migratory Birds***

Migratory birds have been documented in the vicinity of the project area. Construction activities in the vicinity of a nest during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. To avoid and minimize effects to migratory bird the following conservation measures will be implemented:

- To the extent practicable, construction shall be scheduled to avoid the nesting season, which extends from January through August.
- If it is not possible to schedule construction between September 1 and December 31, pre-construction surveys for nesting birds shall be conducted by a qualified biologist.
- A pre-construction survey shall be conducted no more than 14 days prior to the initiation of construction activities during the early part of the breeding season (January through

April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August). During this survey, the qualified biologist shall inspect all potential nest substrates in and immediately adjacent to the impact areas for nests. If an active nest are found within one-half mile of construction sites, then coordination with USFWS and CDFW would occur to determine avoidance and minimization measures.

Upon completion of the project, wading and shore birds from adjacent areas are anticipated to use the ponds during periods of inundation. Species may include the snowy egret (*Egretta thula*) and greater yellowlegs (*Tringa melanoleuca*), assuming amphibian or invertebrate prey is present. When the basin is saturated but not inundated, species that feed on mudflats, such as the killdeer (*Charadrius vociferus*) could use the ponds. When the basin is dry, avian use would be similar to existing conditions.

### ***Special Status Species***

Implementation of the project could result in indirect affects to the San Joaquin kit fox and the Swainson's hawk from construction activities, if they are present.

**Effects to San Joaquin kit fox** Implementation of the Proposed Project could result in a temporary disturbance due to construction and excavation, equipment movement activities, and installation of pipelines and wells. Short term effects, such as disturbance from noise and vibrations from heavy equipment could affect kit foxes, if they are present. However, avoidance and minimization measures have been incorporated into the project in order to reduce the potential for injury, or interference with movement. In order to avoid potential impacts to the San Joaquin kit fox, the following measures will be implemented:

- Pre-construction surveys shall be conducted by a qualified biologist no less than 14 days and no more than 30 days prior to the start of construction. These surveys will be conducted in accordance with the Service's 2011 *Standard Recommendations for the Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance* (2011 Recommendations).
- Prior to the start of construction, the District will retain a qualified biologist to conduct an employee education program. 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 agency personnel involved in the project. The program should include the following: a description of the 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.
- Project-related vehicles shall observe a 20-mph speed limit in all project areas during construction, except on county roads and State and Federal highways. Off-road traffic outside of designated project areas will be prohibited during construction.

- Project activities will occur only during daylight hours (one half hour following sunrise and one half hour prior to sunset).
- All trash items will be disposed of in securely closed containers and removed daily from the project site.
- No pets will be permitted at the project site.

Informal consultation has been initiated with USFWS on effects to the San Joaquin kit fox. The implementation of these protective measures will reduce potential effects to the San Joaquin kit fox during construction. No long term effects to San Joaquin kit fox are anticipated from the project. The groundwater recharge facility would not prohibit the kit fox from using the area as a potential movement corridor and it would not change the habitat encountered during dispersal. Kit fox would continue to disperse through agricultural areas.

**Effects to Swainson's hawk** Construction activities, such as earthmoving with heavy construction equipment occurring within the area for the Proposed Project could cause the failure of a Swainson's hawk nest, if a pair was nesting in the vicinity. The loss of an active nest could contribute to continuing local and statewide declines of Swainson's hawks. In order to avoid potential impacts to the Swainson's hawk, the following measures will be implemented:

- Prior to construction activities, hawk surveys would be conducted to determine the locations of potential nest sites. The surveys would be conducted within one-half mile of the project area. If any active nests are found, then coordination with USFWS and CDFW would occur to determine avoidance and minimization measures.

A ten mile radius is the standard flight distance of the Swainson' hawk between active nest sites and suitable foraging habitats. Upon completion, the proposed project would convert 20 acres of agricultural land into a groundwater recharge pond. The project would affect less than 0.5 percent of their flight distance. Use of the area as forging habitat is anticipated to continue when ponds are dry.

### **Cumulative Impacts**

The geographic scope of potential cumulative biological resources impacts encompasses a ten mile radius from the project area. California transplants, a vegetable plant wholesaler, expanded their crops cultivated under plastic in 2009, changing 7 acres of row crops into hot houses. No proposed land conversion projects are located within a ten miles radius of the project area. Biological resources would continue to be affected by ongoing agricultural activities. The Proposed Project would not have a substantial adverse effect, either directly or through habitat modifications. The proposed project's contribution to biological effects would not be cumulatively considerable.

## **V. CULTURAL RESOURCES**

The Proposed Action requires compliance with CEQA, as well as with the National Historic Preservation Act (NHPA) of 1966, as amended. Both CEQA and the NHPA mandate government agencies take into consideration the effects of their actions on cultural resources

listed on or eligible for inclusion in the California Register of Historical Resources (CRHR) (defined as historical resources at 14 CCR § 15064.5[a]) and the National Register of Historic Places (NRHP) (defined as historic properties at 36 CFR § 800.16[l]). A cultural resource is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. While the CRHR and NRHP significance criteria are similar, the NRHP is given precedence in this analysis because cultural resources eligible for the NRHP are also eligible for inclusion in the CRHR, but the reverse is not necessarily true (PRC 5024.1[c]). Therefore, employing the Federal standards will be applicable in both Federal and State regulatory contexts. Reclamation initiated NHPA Section 106 consultation with the California State Historic Preservation Officer (SHPO) on a finding of no adverse effects to historic properties, pursuant to 36 CFR §800.5(b).

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Affected Environment

The Proposed Action and the area of potential effects (APE) has been subjected to a cultural resources investigation (Asselin and Lloyd. 2016). The investigation included a records search and a pedestrian survey to identify resources in the APE. No evidence of human remains was identified through the cultural resources investigation (Asselin and Lloyd 2016). No plant resources of potential value for Native Americans such as sedge or deer grass, which are of importance in the traditional methods of basketry construction, were observed in the surveyed area.

As a result of a records search at the South San Joaquin Valley Information Center, historical research, and architectural and archaeological field surveys, one significant cultural resource was identified with the APE: a segment of Reclamation's Delta-Mendota Canal (P-54-001904) and a

concrete irrigation pipeline. The only identified historic properties within the APE are the DMC and a concrete irrigation pipeline. Reclamation drafted the CVP National Register Multiple Property Listing (NRMPL) in 2006 (edited in 2009) in which the DMC is considered an eligible property under the theme of development, construction, and operation of the CVP. The CVP is considered to be eligible under Criterion A through association with large-scale agricultural and economic development and expansion of California's Central Valley with a period of significance of 1946-1971. At this time, no consensus eligibility determination for the CVP or DMC has been reached between Reclamation and the SHPO. Reclamation treats the CVP and the DMC as eligible for the NRHP under Criterion A, as outlined in the draft NRMPL documentation and the current DMC nomination form. Specifically, the DMC is considered significant under the theme of development, construction, and operation of the CVP, with a period of significance of 1946-1971. Under this theme and within this period, the DMC, as a water conveyance component of the CVP, contributed to California's economic and agricultural development and growth. The DMC is therefore also eligible for the CRHR under Criteria 1.

The existing concrete pipeline located under the existing field road was not discussed or documented in the cultural resources report by Applied EarthWorks. Reclamation identified that this concrete pipeline connects to an existing turnout on the DMC, and may have been constructed at the same time as the DMC turn-out, or shortly after 1948, based on Reclamation construction drawings. Although no consensus on eligibility has been received, the DMC is managed as a contributing component of the CVP. For purposes of this undertaking only, Reclamation is assuming that this concrete pipeline is a contributing structure of the DMC, and would also be assumed eligible for the CRHR under Criteria 1.

## **Environmental Consequences**

### ***Impact Criteria***

The Proposed Project would have an adverse impact on cultural resources if it were to conflict with the regulations, policies, and laws of Section 106 of the NHPA, and other cultural resources related law and regulations, or Reclamation cultural resource policies.

Implementing the Proposed Project would also have a significant impact on cultural resources if it were to do any of the following:

- Cause a substantial adverse change in the significance of a historical resource, as defined in §15064.5;
- Cause a substantial adverse change in the significance of an archaeological resource, in accordance with §15064.5; or
- Disturb any human remains, including those interred outside of formal cemeteries.

Reclamation applied the criteria of adverse effect [36 CFR § 800.5(a)] for the current undertaking and found that the proposed activities would result in no significant alterations to the historic characteristics that make the DMC or concrete pipeline eligible for the National Register. The proposed action of installing a new inlet facility on the DMC will not alter any physical characteristics of the canal or its berm. This installation is consistent with other similar existing

facilities that pump water into the DMC. Likewise, connecting a new turnout on the pipeline to deliver water to the new recharge ponds would not adversely affect any qualities that would make this concrete pipeline contribute to the eligibility of the DMC. Such inlet connections are common-place and consistent with discharges on this pipeline type and along the DMC. Since there will be no significant alterations to the DMC or pipeline, the CVP will also be unaffected. Therefore, the proposed project would not result in a significant impact or adverse effects to historical resources and historic properties pursuant to 14 CCR § 15064.5(b)(1) and 36 CFR § 800.5(b), respectively.

The Proposed Action will result no significant impacts or adverse effect to historical resources and historic properties pursuant to 14 CCR § 15064.5(b)(1) and 36 CFR § 800.5(b), respectively.

Reclamation entered into consultation with the SHPO on May 27, 2016, seeking their concurrence on a finding of “no adverse effects to historic properties pursuant to 36 CFR § 800.5(b).” SHPO concurred with Reclamations’ findings and determination on May 31, 2016.

Should an unanticipated discovery of cultural resources be made, implementation of the following mitigation measure will reduce any potential impacts to less than significant.

**Environmental Commitment CR-1:** In the unlikely event that buried archaeological deposits are encountered during construction, excavation, grading or leveling or development related activities, work in the immediate vicinity of the discovery shall cease until the finds have been evaluated by a qualified archaeologist. Should human remains and associated materials be encountered during construction on non-Federal lands, work in that area must be halted and the Stanislaus County Coroner’s Office shall be immediately contacted pursuant to Health and Human Safety Code Section 7050.5 and 14 CCR § 15064.5(e). If the remains are determined to be of Native American origin, the Native American Heritage Commission (NAHC) shall be notified within 24 hours of determination, as required by PRC Section 5097. Work at the location of the discovery may not proceed until all requirements of PRC Section 5097 are met through the NAHC.

### Cumulative Impacts

The project would not contribute incrementally to cumulative effects on on the DMC as it will have no significant impacts or adverse effect to the DMC.

### VI. GEOLOGY AND SOILS

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. |                          |                          |                          |                                     |
| ii) Strong seismic ground shaking?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iii) Seismic-related ground failure, including liquefaction?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iv) Landslides?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Result in substantial soil erosion or the loss of topsoil?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Be located on expansive soil, as defined in Table 18-1-B of the most recently adopted Uniform Building Code creating substantial risks to life or property?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

### **Affected Environment**

The project area consists of deep soils derived from alluvial sources. The soil types in the project area are Zacharias gravelly clay and Vernalis loam which are well drained and range from low to moderate shrink-swell potential (NRCS, 2016). The topography of the project area slopes gently to the northeast towards the San Joaquin River. There are no known active faults near the project area and Proposed Project is not located in an Alquist-Priolo Earthquake Fault Zones (California Geological Survey, 2007).

### **Environmental Consequences**

The project area is not located within a fault zone, therefore the Alquist-Priolo Earthquake Fault Zoning Act does not apply to this project. Common secondary seismic hazards include ground, shaking, liquefaction, subsidence and seiches. The project components would be designed to meet California Uniform Building Codes design standards for secondary hazards.



Localized areas of the project area would be disturbed during construction due to excavation associated with construction of the recharge pond and pipeline. All suitable material from excavation would be reused in the project area to the extent feasible. Prior to construction, a Stormwater Pollution Protection Plan (SWPPP) would be prepared, and BMPs would be proposed to reduce potential erosion and runoff during rain events. Potential erosion during construction would be addressed through the implementation of the SWPPP and BMPs. The Proposed Project would not have an effect on soil erosion or expose people or structures to potential adverse effects.

## VII. GREENHOUSE GAS EMISSIONS

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Climate change refers to significant change in measures of climate (e.g., temperature, precipitation, or wind) lasting for decades or longer. Many environmental changes (changes in ocean circulation, deforestation, urbanization, burning fossil fuels, etc.) can contribute to climate change (EPA 2009). Gases that trap heat in the atmosphere are called greenhouse gases (GHG). Some GHG such as carbon dioxide (CO<sub>2</sub>) 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 greenhouse gases that enter the atmosphere because of human activities are: CO<sub>2</sub>, methane (CH<sub>4</sub>), nitrous oxide, and fluorinated gasses (EPA 2009).

During the past century, humans have contributed to the amount of GHG in the atmosphere by burning fossil fuels such as coal, natural gas, oil, and gasoline to power cars, factories, utilities, and appliances. More than 20 million Californians rely on regulated delivery of water resources such as the State Water Project and the CVP, as well as established water rights from rivers. Climate change could affect precipitation patterns, runoff timing and volume, sea level, and the amount of irrigation water needed due to modified evapotranspiration rates. These changes may lead to impacts to the State's water resources and project operations.

In 2002 California adopted Assembly Bill 1493 (AB 1493) which required the California Air Resources Board to develop and implement regulations to reduce automobile and light truck GHG emissions beginning with their respective 2009 models. The State has adopted Assembly

Bill 32 (AB 32) which promoted the development of a GHG inventory and has identified GHG reduction goals.

The SJVAPCD provides guidance for addressing greenhouse gas emissions. The SJVAPCD guidance for evaluating greenhouse gas significance states that projects implementing best performance standards, reducing project specific GHG emissions by at least 29 percent compared to “business as usual” and are consistent with GHG emissions reduction targets established in the AB 32 Scoping Plan would be determined to have a less than significant individual and cumulative impact on global climate change.

### Affected Environment

The Stanislaus County completed a baseline greenhouse gas (GHG) inventory for the entire county which provides the quantification (in terms of carbon dioxide equivalent) of GHG emissions for the year 2005. Total GHG emissions were 6,044,112 metric tons of carbon dioxide equivalent (MT CO<sub>2</sub>e). GHG emission are shown in Table 6. The largest sources of GHG emissions in the region are Building Energy (Electricity plus Natural Gas), On-Road Transportation and Agriculture (livestock).

**Table 6. 2005 GHG Emissions Inventory for the Stanislaus County (MT CO<sub>2</sub>e)\***

	<b>Sector</b>	<b>Emissions</b>	<b>Percent</b>
<b>Direct<sup>a</sup></b>	Agriculture—Livestock Emissions	1,113,647	18%
	Agriculture—Other Emissions	340,767	6%
	Building Energy—Natural Gas	973,386	16%
	Off-Road Transportation	134,546	2%
	On-Road Transportation	1,636,983	27%
	High GWP/Refrigerants	364,473	6%
<b>Indirect<sup>b</sup></b>	Building Energy—Electricity	1,380,477	23%
	Waste Generation	49,667	0.8%
	Wastewater Treatment	17,899	0.3%
	Water	32,267	0.5%
<b>Total</b>		6,044,112	100%
<p>* Extracted from table in the Stanislaus Regional GHG Inventory Project Report, 2013.</p> <p>a. Direct emissions are emissions that physically occur within the inventory boundary; see Chapter 1 for detail.</p> <p>b. Indirect emissions are due to activity that occurs within the inventory boundary although the GHG emission may happen inside or outside the inventory boundary</p>			

### Environmental Consequences

The Proposed Project would involve a short-term increase in emissions during the construction and long-term effects attributable to the generation of electrical energy for pumping. Construction related emissions are analyzed in Table 4 and would be limited to the construction period. The operational emissions would occur during the generation of electrical energy. These emissions would vary annually depending on how much water was extracted, but have been estimated to average about 65 metric tons/year of CO<sub>2</sub> (EPA GHG equivalencies calculator). and would be less than emissions related to the typical farming operation of the property, which would include multiple passes of tractors and other agricultural equipment each year.

According to the SJVAPCD's guidance for valley land-use agencies in addressing GHG emission impacts for new projects, projects implementing Best Performance Standards in accordance with the guidance are determined to have a less than significant individual and cumulative impact on global climate change and do not require project specific quantification of GHG emissions. The Proposed Project would implement the following Best Management Practices during construction:

- Recycle at least 50 percent of the construction waste.
- Use at least 10 percent local building materials (from within 100 miles of the Project Site).

### Cumulative Impacts

The geographic scope of potential cumulative climate change impacts encompasses the SJVAPCD. It is unlikely that any single project by itself could have a significant impact on the environment with respect to GHGs. However, the cumulative effect of human activities has been clearly linked to quantifiable changes in the composition of the atmosphere. Therefore, GHG impacts are inherently a cumulative effect issue.

GHG emissions generated by the Proposed Project would predominantly be in the form of CO<sub>2</sub>. Construction emissions of CO<sub>2</sub> would be short-term and temporary. The area surrounding the Proposed Project is expected to remain in agricultural production with no significant change in GHG emissions. Projects in the SJVAPCD would be subject to the same regional and statewide GHG regulations. Therefore, cumulative impacts related to increase in GHG emissions and conflict with state goals would be less than significant.

### VIII. HAZARDS AND HAZARDOUS MATERIALS

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?                                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard for people residing or working in the Project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) For a Project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the Project area?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

### **Affected Environment**

The Hazardous Waste and Substances Sites List (Cortese List) is a planning document used to comply with the requirements for providing information about the location of hazardous materials release sites. A search of the Cortese List was conducted to identify any known hazardous release sites located within one mile of the project area. The records search identified one leaking underground storage tank (LUST) cleanup site (RB Case # 500281) was located adjacent to the project area. However, the site has been cleaned up and the case was closed in March 1996. There are no schools or airports within two miles of the project area.

### **Environmental Consequences**

Hazardous materials (e.g., gasoline, oil, and lubricants) used during construction could be accidentally released. Compliance with Federal, State, and local regulations would reduce the potential for accidental release of hazardous materials during construction. The contractor would also be required to prepare a SWPPP, which details the contractors plan to prevent discharge from the site. The implementation of the SWPPP and BMPs would ensure that the risk of accidental spills and releases into the environment would be minimal. BMPs could include (but are not limited to) the following:

- Vehicle maintenance plan to prevent fluid leaks.
- Designated refueling station.

- Installation of tarps and/or straw wattles to prevent soil runoff.

## IX. HYDROLOGY AND WATER QUALITY

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## IX. HYDROLOGY AND WATER QUALITY

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Affected Environment

The project area is located approximately one mile from Orestimba Creek and the Delta Mendota Canal. The project area is completely surrounded by cultivated agriculture as either row crops or almond orchards. Irrigation water is applied either through pressurized irrigation systems (within the orchards) or furrow irrigation supplied by a head ditch. Runoff would flow easterly toward CCID's Outside Canal and make its way into the Outside Canal by way of existing storm drain pipes or percolate through the soil and into the groundwater table.

### Environmental Consequences

The project would construct a 20 acre recharge facility that would recharge up to 500 afy in the local groundwater basin. The recharge water source would vary from year to year but would include excess winter flows from the Project Proponents. Deliveries would be made from the DMC. The proposed extraction well will pump groundwater into the DMC to support local irrigation demand. Monitoring well data will be used to determine the volume of water that can be extracted without negatively impacting the local aquifer. It is anticipated at least 10% of the water recharged would not be recovered, however, the monitoring well data could determine if that percentage needs to be greater. The proposed recharge pond would not be within an existing or historic streambed. In compliance with State regulations, a SWPPP would be developed. Standard storm water and erosion BMPs would be implemented to prevent the discharge of silt or other pollutants into runoff. The Proposed Project would not cause a change to the drainage pattern or stormwater drainage system; place housing within a 100-year flood hazard area. The project site is not in the 100 year floodplain and therefore will not redirect flood flows. Water to be placed into storage will be provided by CCID and Del Puerto in accordance with their water supply rights and contracts.

## X. LAND USE AND PLANNING

Would the Project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the General Plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Affected Environment

The majority of Stanislaus County has been actively farmed for the last century. Crops typically include almonds, alfalfa, annual fruit, vegetable, and forage crops (such as tomatoes, beans, and corn) and the soil is tilled annually. The project area is zoned as general agricultural and is surrounded by cultivated agriculture and agriculture-supporting infrastructure. The project area is listed as Prime Farmland but has been left fallow due to insufficient water. A variety of water conveyance facilities exist near the project area including the Delta-Mendota Canal, small canal laterals, pipelines, and drainage ditches.

### Environmental Consequences

The Proposed Project would construct the following features: groundwater recharge ponds, conveyance pipelines, production well, and monitoring or observation wells. The project features support agricultural activities and would be consistent with the property zoning designation. The pipelines would be located below ground and not interfere with agricultural activities or irreversibly converting agricultural lands into non-agricultural uses.

## XI. MINERAL RESOURCES

Would the Project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



### Affected Environment

The area in the vicinity of the Proposed Project has no know mineral resources.

### Environmental Consequences

The Proposed Project would have no impact on mineral resources.

## XII. NOISE

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Affected Environment

The project area is surrounded by cultivated agriculture and agriculture-supporting infrastructure. Ambient noises are typical of agricultural practices, including vehicle traffic, farm equipment operations, and aviation operations (including airplane and helicopter crop dusting). There are no residences, institutions, or business located within ¼ mile of the project.

### Environmental Consequences

Construction of the project would generate temporary, short-term noises due to activities associated with the excavation of the recharge basin and pipeline, drilling the soil boring and wells, and pouring concrete. All construction activities would be during daylight hours. The nearest business is a ¼ mile from the recharge basin site. At this distance, there would be some attenuation reducing noise effects. Ground-borne vibration could be generated during

construction but it would not be different from existing agricultural activities in terms of duration or intensity. Operation of the project would include the operation of a single electrical pump for the extraction well and would not produce significant noise or vibration when compared to the normal agricultural operations of the area. Maintenance would be generally limited to periodic site visits to review the site conditions and maintain the pump. Excavation of accumulated silt would likely occur every other year and require the operation of a single excavator and truck for approximately one week. This also is not significantly different from existing agricultural operations and would be similar to the operation of a tractor. Other activities, such as water deliveries into the pond, would not be a source of noise and vibration.

### XIII. POPULATION AND HOUSING

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Affected Environment

The Proposed Project would be located in western Stanislaus County, approximately three miles east of the City of Newman. Rural residences and farmworker housing complexes are scattered throughout the landscape surrounding the project area.

### Environmental Consequences

The Proposed Project would remain consistent with the land use and zoning. The project would not induce population growth or displace people. The Proposed Project has no impact on population or housing.

### XIV. PUBLIC SERVICES

Would the Project:

- a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or

physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Affected Environment

Law enforcement for the project area is provided through the Stanislaus County Sheriff's Department and fire protection is provided through the West Stanislaus County Fire Protection District. The project area falls within the Newman-Crows Landing Unified School District.

### Environmental Consequences

The Proposed Project would not result in the need for additional services or the expansion of existing facilities and public services provided by the City of Newman or Stanislaus County. The Proposed Project would not induce population growth that could result in the need for new or physically altered governmental facilities. Therefore, the project will have no impact on any public services.

## XV. RECREATION

Would the Project:

- a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
- b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Affected Environment

There are no recreational facilities in the vicinity of the Proposed Project. The closest recreation facility is Lions Park, located 2.5 miles from the project area.

## Environmental Consequences

The Proposed Project would have no impact on recreation or recreational facilities.

### XVI. TRANSPORTATION/TRAFFIC

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Affected Environment

Traffic corridors near the Proposed Project area includes county roads, Highway 33, and Interstate 5. Orestimba Road, Eastin Road, and West Stuhr Road are two lane arterial roadways

closest to the project area. Traffic on these roads varies from light to moderate and fluctuates seasonally, mostly as a function of farming activities.

### Environmental Consequences

The Proposed Project would result in a small increase in traffic during the construction period as construction workers commute to the project site and construction vehicles are mobilized and demobilized. Construction workers would commute to the project site daily via county roads and state highways while the equipment would be stored in the project area. The increase in traffic would be short term and limited to the construction period. Estimates anticipate two round trips of 12 tractor-trailer rigs to transport heavy construction vehicles (one trip for mobilization and one for demobilization), and daily trips of approximately 10 workers for the duration of construction. The Proposed Project would not generate a substantial increase to the existing traffic load nor exceed the capacity of existing roads or highways. There would be no road or lane closures, so there would be no effect on access for local residents or emergency services. Therefore, construction-related traffic would not adversely affect traffic conditions and this impact would be less than significant.

### XVII. UTILITIES AND SERVICE SYSTEMS

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's Projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| f) Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Comply with federal, state, and local statutes and regulations related to solid waste?                              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

### Affected Environment

A variety of public utilities and services are provided to the general area of the Proposed Project. Electrical power and natural gas is provided through Pacific Gas and Electric Company. There are no public sewer systems, water treatment plants, or wastewater treatment plants in the vicinity of the project area.

### Environmental Consequences

The Proposed Project would not result in any impact to public utilities in terms of exceeding existing capacity, increasing demand of use, or violating water quality or waste regulations. All suitable material from excavation would be reused to the extent feasible. If construction-related solid waste is generated, the contractor would be required to properly dispose of all construction related solid waste, including soil, at appropriate disposal facilities and in compliance with applicable state and local regulations.

### XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporation	Less than Significant Impact	No Impact
a) Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are considerable when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- c) Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? ☐ ☐ ☐ ☒

**XVIII a):** The Proposed Project would not degrade the quality of the environment. The Proposed Project would bank excess south of Delta water supplies in the regional aquifer to help balance future demands. With the implementation of the proposed BMPs, conservation and avoidance measures the project would not impact wildlife or special status species, air quality and water quality.

**XVIII b):** Cumulative effects have been address under each affected resource. The Proposed Project would not result in a substantial contribution to impacts that are individually limited or cumulatively considerable. The project's effects on air quality, biological resources, traffic, and noise from the short term construction activities are not expected to create impacts which would be large enough to cumulatively lead to significant adverse impacts. The project would support agricultural services and would contribute to Stanislaus County General Plan to promote and protect local agriculture.

**XVIII c):** The project has the potential to have minor effects on human beings from increased noise, dust, traffic, and exposure to hazardous materials during construction. These impacts would be short term and temporary, and reduced through the implementation of best management practices. The Proposed Project would have a beneficial effect by banking up to 500 acre feet to the regional aquifer, which could be extracted during dry periods.

### 3.4 Federal Disclosure Requirements

Department of the Interior Regulations, Executive Orders, and Reclamation guidelines require a discussion of the following items when preparing environmental documentation.

#### Indian Sacred Sites

Executive Order 13007 (May 24, 1996) requires that Federal agencies accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners, and avoids adversely affecting the physical integrity of such sacred sites. The Proposed Action would not be located on Federal lands and therefore would not affect access to or use of Indian sacred sites.

#### Indian Trust Assets

Indian Trust Assets (ITAs) are legal interests in assets that are held in trust by the United States for federally recognized Indian tribes or individuals. There are no Indian reservations, rancherias or allotments in the project area. The closest Indian Trust Asset (ITA) to the proposed Orestimba Creek Groundwater Recharge and Banking Project is the Public Land Allotment (not generally associated with any one particular tribe) about 45.42 miles to the south, southeast (Appendix D). The Proposed Action will have no impacts to ITAs.

#### Environmental Justice

Executive Order 12898 requires each Federal agency to identify and address disproportionately high and adverse human health or environmental effects, including social and economic effects

of its program, policies, and activities on minority populations and low-income populations. No significant changes in agricultural communities or practices would result from the Proposed Action. Reclamation has not identified adverse human health or environmental effects on any population as a result of implementing the Proposed Action. Therefore, the Proposed Action would not have disproportionately negative impacts on low-income or minority individuals or populations within the project area.

## **4 Consultation and Coordination**

Reclamation has consulted with the following regarding the Proposed Action:

- Central California Irrigation District
- Chris Linneman, Summers Engineering, Inc.
- Dana Herman, U.S. Fish and Wildlife Service
- Julianne Polanco, State Historic Preservation Officer

### **4.1 Endangered Species Act (16 U.S.C. 1531 et seq.)**

Section 7 of the Endangered Species Act (ESA) requires Federal agencies, in consultation with the Secretary of the Interior, 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 has requested informal consultation with the U.S. Fish and Wildlife Service regarding potential effects of the Proposed Action on San Joaquin kit fox.

### **4.2 Public Review Period**

The EA is being released for a 30-day public review period. Through the State Clearing House, CCID (acting as Lead Agency for CEQA) has made the CEQA portion of the draft EA/IS and the proposed adoption of a negative declaration available to the public. Reclamation and CCID will consider all comments received on the EA prior to determining whether to sign a Finding of No Significant Impact and Mitigated Negative Declaration.



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## **Appendix A:**

### **California Department of Fish and Game Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California**

## Memorandum

To : Div. Chiefs - IFD, BDD, NHD, WMD  
Reg. Mgrs. - Regions 1, 2, 3, 4

Date : November 8, 1994

From : Department of Fish and Game

Subject: Staff Report Regarding Mitigation for Impacts to Swainson's Hawks  
(*Buteo swainsoni*) in the Central Valley of California

I am hereby transmitting the Staff Report Regarding Mitigation for Impacts to Swainson's Hawks in the Central Valley of California for your use in reviewing projects (California Environmental Quality Act [CEQA] and others) and in developing 2081 Management Authorizations and 2090 Biological Opinions which may affect Swainson's hawk habitat in the Central Valley. The staff report has been developed during the last 18 months by the Environmental Services Division (ESD) in cooperation with the Wildlife Management Division (WMD) and Regions 1, 2, and 4. It has been sent out for public review on several occasions and redrafted as appropriate.

Either the mitigation measures in the staff report may be used or project specific measures may be developed. Alternative project specific mitigation measures proposed by the Department Divisions/Regions or by project sponsors will also be considered. However, such mitigation measures must be submitted to ESD for review. The review process will focus on the consistency of the proposed measure with Department, Fish and Game Commission, and legislative policy and with laws regarding raptors and listed species. ESD will coordinate project specific mitigation measure review with WMD.

If you have any questions regarding the report, please contact Mr. Ron Rempel, Program Supervisor, Habitat Conservation Planning and Endangered Species Permitting, Environmental Services Division at (916) 654-9980.

COPY Original signed by  
A. Petrovich, Jr.

For  
Boyd Gibbons  
Direction

Enclosure

cc: Mr. Ron Rempel  
Department of Fish and Game  
Sacramento

file; d, exfile, esd, chron  
Vouchilas/seh/pdl SRPBUTEO.DS1

**Staff Report regarding Mitigation  
for Impacts to Swainson's Hawks (*Buteo swainsoni*)  
in the Central Valley of California**

**INTRODUCTION**

The Legislature and the Fish and Game Commission have developed the policies, standards and regulatory mandates which, if implemented, are intended to help stabilize and reverse dramatic population declines of threatened and endangered species. In order to determine how the Department of Fish and Game (Department) could judge the adequacy of mitigation measures designed to offset impacts to Swainson's hawks in the Central Valley, Staff (WMD, ESD and Regions) has prepared this report. To ensure compliance with legislative and Commission policy, mitigation requirements which are consistent with this report should be incorporated into: (1) Department comments to Lead Agencies and project sponsors pursuant to the California Environmental Quality Act (CEQA); (2) Fish and Game Code Section 2081 Management Authorizations (Management Authorizations); and (3) Fish and Game Code Section 2090 Consultations with State CEQA Lead Agencies.

The report is designed to provide the Department (including regional offices and divisions), CEQA Lead Agencies and project proponents the context in which the Environmental Services Division (ESD) will review proposed project specific mitigation measures. This report also includes "model" mitigation measures which have been judged to be consistent with policies, standards and legal mandates of the Legislature and Fish and Game Commission. Alternative mitigation measures, tailored to specific projects, may be developed if consistent with this report. Implementation of mitigation measures consistent with this report are intended to help achieve the conservation goals for the Swainson's hawk and should complement multi-species habitat conservation planning efforts currently underway.

The Department is preparing a recovery plan for the species and it is anticipated that this report will be revised to incorporate recovery plan goals. It is anticipated that the recovery plan will be completed by the end of 1995. The Swainson's hawk recovery plan will establish criteria for species recovery through preservation of existing habitat, population expansion into former habitat, recruitment of young into the population, and other specific recovery efforts.

During project review the Department should consider whether a proposed project will adversely affect suitable foraging habitat within a ten (10) mile radius of an active (used during one or more of the last 5 years) Swainson's hawk nest(s). Suitable Swainson's hawk foraging habitat will be those habitats and crops identified in Bechard (1983), Bloom (1980), and Estep (1989). The following vegetation types/agricultural crops are considered small mammal and insect foraging habitat for Swainson's hawks:

- alfalfa
- fallow fields
- beet, tomato, and other low-growing row or field crops
- dry-land and irrigated pasture

- rice land (when not flooded)
- cereal grain crops (including corn after harvest)

The ten mile radius standard is the flight distance between active (and successful) nest sites and suitable foraging habitats, as documented in telemetry studies (Estep 1989, Babcock 1993). Based on the ten mile radius, new development projects which adversely modify nesting and/or foraging habitat should mitigate the project's impacts to the species. The ten mile foraging radius recognizes a need to strike a balance between the biological needs of reproducing pairs (including eggs and nestlings) and the economic benefit of developments) consistent with Fish and Game Code Section 2053.

Since over 95% of Swainson's hawk nests occur on private land, the Department's mitigation program should include incentives that preserve agricultural lands used for the production of crops, which are compatible with Swainson's hawk foraging needs, while providing an opportunity for urban development and other changes in land use adjacent to existing urban areas.

## **LEGAL STATUS**

### **Federal**

The Swainson's hawk is a migratory bird species protected under the Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in Section 50 of the Code of Federal Regulations (C.F.R.) Part 10, including feathers or other parts, nests, eggs or products, except as allowed by implementing regulations (50 C.F.R. 21).

### **State**

The Swainson's hawk has been listed as a threatened species by the California Fish and Game Commission pursuant to the California Endangered Species Act (CESA), see Title 14, California Code of Regulations, Section 670.5(b)(5)(A).

## LEGISLATIVE AND COMMISSION POLICIES, LEGAL MANDATES AND STANDARDS

The FGC policy for threatened species is, in part, to: "Protect and preserve all native species ... and their habitats...." This policy also directs the Department to work with all interested persons to protect and preserve sensitive resources and their habitats. Consistent with this policy and direction, the Department is enjoined to implement measures that assure protection for the Swainson's hawk.

The California State Legislature, when enacting the provisions of CESA, made the following findings and declarations in Fish and Game Code Section 2051:

- a) "Certain species of fish, wildlife, and plants have been rendered extinct as a consequence of man's activities, untempered by adequate concern and conservation";
- b) "Other species of fish, wildlife, and plants are in danger of, or threatened with, extinction because their habitats are threatened with destruction, adverse modification, or severe curtailment because of overexploitation, disease, predation, or other factors (emphasis added)";and
- c) "These species of fish, wildlife, and plants are of ecological, educational, historical, recreational, esthetic, economic, and scientific value to the people of this state, and the conservation, protection, and enhancement of these species and their habitat is of statewide concern" (emphasis added).

The Legislature also proclaimed that it "is the policy of the state to conserve, protect, restore, and enhance any endangered or threatened species and its habitat and that it is the intent of the Legislature, consistent with conserving the species, to acquire lands for habitat for these species" (emphasis added).

Section 2053 of the Fish and Game Code states, in part, "it is the policy of the state that state agencies should not approve projects as proposed which would jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species and or its habitat which would prevent jeopardy" (emphasis added).

Section 2054 states "The Legislature further finds and declares that, in the event specific economic, social, and or other conditions make infeasible such alternatives, individual projects may be approved if appropriate mitigation and enhancement measures are provided" (emphasis added).

Loss or alteration of foraging habitat or nest site disturbance which results in:

(1) nest abandonment; (2) loss of young; (3) reduced health and vigor of eggs and/or nestlings (resulting in reduced survival rates), may ultimately result in the take (killing) of nestling or fledgling Swainson's hawks incidental to otherwise lawful activities. The taking of Swainson's hawks in this manner can be, a violation of Section 2080 of the Fish and Game Code. This interpretation of take has been judicially affirmed by the landmark appellate court decision pertaining to CESA (DFG v. ACID, 8 CA App.4, 41554). The essence of the decision emphasized that the intent and purpose of CESA applies to all activities that take or kill endangered or threatened species, even when the taking is incidental to otherwise legal activities. To avoid potential violations of Fish and Game Code Section 2080, the Department recommends and encourages project sponsors to obtain 2081 Management Authorizations for their projects.

Although this report has been prepared to assist the Department in working with the development community, the prohibition against take (Fish and Game Code Section 2080) applies to all persons, including those engaged in agricultural activities and routine maintenance of facilities. In addition, sections 3503, 3503.5, and 3800 of the Fish and Game Code prohibit the take, possession, or destruction of birds, their nests or eggs.

To avoid potential violation of Fish and Game Code Section 2080 (i.e. killing of a listed species), project-related disturbance at active Swainson's hawk nesting sites should be reduced or eliminated during critical phases of the nesting cycle (March 1 - September 15 annually). Delineation of specific activities which could cause nest abandonment (take) of Swainson's hawk during the nesting period should be done on a case-by-case basis.

CEQA requires a mandatory findings of significance if a project's impacts to threatened or endangered species are likely to occur (Sections 21001 (c), 21083, Guidelines Sections 15380, 15064, 15065). Impacts must be avoided or mitigated to less than significant levels unless the CEQA Lead Agency makes and supports findings of Overriding Consideration. The CEQA Lead Agency's Findings of Overriding Consideration does not eliminate the project sponsor's obligation to comply with Fish and Game Code Section 2080.

## **NATURAL HISTORY**

The Swainson's hawk (*Buteo swainsoni*) is a large, broad winged buteo which frequents open country. They are about the same size as a red-tailed hawk (*Buteo jamaicensis*), but trimmer, weighing approximately 800-1100 grams (1.75 - 2 lbs). They have about a 125 cm. (4+foot) wingspan. The basic body plumage may be highly variable and is characterized by several color morphs - light, dark, and rufous. In dark phase birds, the entire body of the bird may be sooty black. Adult birds generally have dark backs. The ventral or underneath sections may be light with a characteristic dark, wide "bib" from the lower throat down to the upper breast, light colored wing linings and pointed wing tips. The tail is gray ventrally with a subterminal dusky band, and narrow, less conspicuous barring proximally. The sexes are similar in appearance; females however, are slightly larger and heavier than males, as is the case in most sexually dimorphic raptors. There are no recognized subspecies (Palmer 1988).

The Swainson's hawk is a long distance migrator. The nesting grounds occur in northwestern Canada, the western U.S., and Mexico and most populations migrate to wintering grounds in the open pampas and agricultural areas of South America (Argentina, Uruguay, southern Brazil). The species is included among the group of birds known as "neotropical migrants". Some individuals or small groups (20-30 birds) may winter in the U.S., including California (Delta Islands). This round trip journey may exceed 14,000 miles. The birds return to the nesting grounds and establish nesting territories in early March.

Swainson's hawks are monogamous and remain so until the loss of a mate (Palmer 1988). Nest construction and courtship continues through April. The clutch (commonly 3-4 eggs) is generally laid in early April to early May, but may occur later. Incubation lasts 34-35 days, with both parents participating in the brooding of eggs and young. The young fledge (leave the nest) approximately 42-44 days after hatching and remain with their parents until they depart in the fall. Large groups (up to 100+ birds) may congregate in holding areas in the fall and may exhibit a delayed migration depending upon forage availability. The specific purpose of these congregation areas is as yet unknown, but is likely related to: increasing energy reserves for migration; the timing of migration; aggregation into larger migratory groups (including assisting the young in learning migration routes); and providing a pairing and courtship opportunity for unattached adults.

### **Foraging Requirements**

Swainson's hawk nests in the Central Valley of California are generally found in scattered trees or along riparian systems adjacent to agricultural fields or pastures. These open fields and pastures are the primary foraging areas. Major prey items for Central Valley birds include: California voles (*Microtus californicus*), valley pocket gophers (*Thomomys bottae*), deer mice (*Peromyscus maniculatus*), California ground squirrels (*Spermophilus beecheyi*), mourning doves (*Zenaida macroura*), ring-necked pheasants (*Phasianus colchicus*), meadowlarks (*Sturnella neglecta*), other passerines, grasshoppers (*Conocephalinae sp.*), crickets (*Gryllidae sp.*), and beetles (Estep 1989). Swainson's hawks generally search for prey by soaring in open country and agricultural fields similar to northern harriers (*Circus cyaneus*) and ferruginous hawks (*Buteo regalis*). Often several hawks may be seen foraging together following tractors or other farm equipment capturing prey escaping from farming operations. During the breeding season, Swainson's hawks eat mainly vertebrates (small rodents and reptiles), whereas during migration vast numbers of insects are consumed (Palmer 1988).

Department funded research has documented the importance of suitable foraging habitats (e.g., annual grasslands, pasture lands, alfalfa and other hay crops, and combinations of hay, grain and row crops) within an energetically efficient flight distance from active Swainson's hawk nests (Estep pers. comm.). Recent telemetry studies to determine foraging requirements have shown that birds may use in excess of 15,000 acres of habitat or range up to 18.0 miles from the nest in search of prey (Estep 1989, Babcock 1993). The prey base (availability and abundance) for the species is highly variable from year to year, with major prey population (small mammals and insects) fluctuations occurring based on rainfall patterns, natural cycles and agricultural cropping and harvesting patterns. Based on these variables, significant acreages of potential foraging habitat (primarily agricultural lands) should be preserved per nesting pair (or aggregation of



nesting pairs) to avoid jeopardizing existing populations. Preserved foraging areas should be adequate to allow additional Swainson's hawk nesting pairs to successfully breed and use the foraging habitat during good prey production years.

Suitable foraging habitat is necessary to provide an adequate energy source for breeding adults, including support of nestlings and fledglings. Adults must achieve an energy balance between the needs of themselves and the demands of nestlings and fledglings, or the health and survival of both may be jeopardized. If prey resources are not sufficient, or if adults must hunt long distances from the nest site, the energetics of the foraging effort may result in reduced nestling vigor with an increased likelihood of disease and/or starvation. In more extreme cases, the breeding pair, in an effort to assure their own existence, may even abandon the nest and young (Woodbridge 1985).

Prey abundance and availability is determined by land and farming patterns including crop types, agricultural practices and harvesting regimes. Estep (1989) found that 73.4% of observed prey captures were in fields being harvested, disced, mowed, or irrigated. Preferred foraging habitats for Swainson's hawks include:

- alfalfa;
- fallow fields;
- beet, tomato, and other low-growing row or field crops;
- dry-land and irrigated pasture;
- rice land (during the non-flooded period); and
- cereal grain crops (including corn after harvest).

Unsuitable foraging habitat types include crops where prey species (even if present) are not available due to vegetation characteristics (e.g. vineyards, mature orchards, and cotton fields, dense vegetation).

## **Nesting Requirements**

Although the Swainson's hawk's current nesting habitat is fragmented and unevenly distributed, Swainson's hawks nest throughout most of the Central Valley floor. More than 85% of the known nests in the Central Valley are within riparian systems in Sacramento, Sutter, Yolo, and San Joaquin counties. Much of the potential nesting habitat remaining in this area is in riparian forests, although isolated and roadside trees are also used. Nest sites are generally adjacent to or within easy flying distance to alfalfa or hay fields or other habitats or agricultural crops which provide an abundant and available prey source. Department research has shown that valley oaks (*Quercus lobata*), Fremont's cottonwood (*Populus fremontii*), willows (*Salix* spp.), sycamores (*Platanus* spp.), and walnuts (*Juglans* spp.) are the preferred nest trees for Swainson's hawks (Bloom 1980, Schlorff and Bloom 1983, Estep 1989).

## **Fall and Winter Migration Habitats**

During their annual fall and winter migration periods, Swainson's hawks may congregate in large groups (up to 100+ birds). Some of these sites may be used during delayed migration periods lasting up to three months. Such sites have been identified in Yolo, Tulare, Kern and San Joaquin counties and protection is needed for these critical foraging areas which support birds during their long migration.

## **Historical and Current Population Status**

The Swainson's hawk was historically regarded as one of the most common and numerous raptor species in the state, so much so that they were often not given special mention in field notes. The breeding population has declined by an estimated 91% in California since the turn of the century (Bloom 1980). The historical Swainson's hawk population estimates are based on current densities and extrapolated based on the historical amount of available habitat. The historical population estimate is 4,284-17,136 pairs (Bloom 1980). In 1979, approximately 375 ( $\pm 50$ ) breeding pairs of Swainson's hawks were estimated in California, and 280 (75%) of those pairs were estimated to be in the Central Valley (Bloom 1980). In 1988, 241 active breeding pairs were found in the Central Valley, with an additional 78 active pairs known in northeastern California. The 1989 population estimate was 430 pairs for the Central Valley and 550 pairs statewide (Estep, 1989). This difference in population estimates is probably a result of increased survey effort rather than an actual population increase.

## **Reasons for decline**

The dramatic Swainson's hawk population decline has been attributed to loss of native nesting and foraging habitat, and more recently to the loss of suitable nesting trees and the conversion of agricultural lands. Agricultural lands have been converted to urban land uses and incompatible crops. In addition, pesticides, shooting, disturbance at the nest site, and impacts on wintering areas may have contributed to their decline. Although losses on the wintering areas in South America may occur, they are not considered significant since breeding populations outside of California are stable. The loss of nesting habitat within riparian areas has been accelerated by flood control practices and bank stabilization programs. Smith (1977) estimated that in 1850

over 770,000 acres of riparian habitat were present in the Sacramento Valley. By the mid-1980s, Warner and Hendrix (1984) estimated that there was only 120,000 acres of riparian habitat remaining in the Central Valley (Sacramento and San Joaquin Valleys combined). Based on Warner and Hendrix's estimates approximately 93% of the San Joaquin Valley and 73% of the Sacramento Valley riparian habitat has been eliminated since 1850.

## **MANAGEMENT STRATEGIES**

Management and mitigation strategies for the Central Valley population of the Swainson's hawk should ensure that:

- suitable nesting habitat continues to be available (this can be accomplished by protecting existing nesting habitat from destruction or disturbance and by increasing the number of suitable nest trees); and
- foraging habitat is available during the period of the year when Swainson's hawks are present in the Central Valley (this should be accomplished by maintaining or creating adequate and suitable foraging habitat in areas of existing and potential nest sites and along migratory routes within the state).

A key to the ultimate success in meeting the Legislature's goal of maintaining habitat sufficient to preserve this species is the implementation of these management strategies in cooperation with project sponsors and local, state and federal agencies.

## **DEPARTMENT'S ROLES AND RESPONSIBILITIES IN PROJECT CONSULTATION AND ADMINISTRATION OF CEQA AND THE FISH AND GAME CODE**

The Department, through its administration of the Fish and Game Code and its trust responsibilities, should continue its efforts to minimize further habitat destruction and should seek mitigation to offset unavoidable losses by (1) including the mitigation measures in this document in CEQA comment letters and/or as management conditions in Department issued Management Authorizations or (2) by developing project specific mitigation measures (consistent with the Commission's and the Legislature's mandates) and including them in CEQA comment letters and/or as management conditions in Fish and Game Code Section 2081 Management Authorizations issued by the Department and/or in Fish and Game Code Section 2090 Biological Opinions.

The Department should submit comments to CEQA Lead Agencies on all projects which adversely affect Swainson's hawks. CEQA requires a mandatory findings of significance if a project's impacts to threatened or endangered species are likely to occur (Sections 21001 fc), 21083. Guidelines 15380, 15064, 15065). Impacts must be: (1) avoided; or (2) appropriate mitigation must be provided to reduce impacts to less than significant levels; or (3) the lead agency must make and support findings of overriding consideration. If the CEQA Lead Agency makes a Finding of Overriding Consideration, it does not eliminate the project sponsor's obligation to comply with the take prohibitions of Fish and Game Code Section 2080. Activities

which result in (1) nest abandonment; (2) starvation of young; and/or (3) reduced health and vigor of eggs and nestlings may result in the take (killing) of Swainson's hawks incidental to otherwise lawful activities (urban development, recreational activities, agricultural practices, levee maintenance and similar activities. The taking of Swainson's hawk in this manner may be a violation of Section 2080 of the Fish and Game Code. To avoid potential violations of Fish and Game Code Section 2080, the Department should recommend and encourage project sponsors to obtain 2081 Management Authorizations.

In aggregate, the mitigation measures incorporated into CEQA comment letters and/or 2081 Management Authorizations for a project should be consistent with Section 2053 and 2054 of the Fish and Game Code. Section 2053 states, in part, "it is the policy of the state that state agencies should not approve projects as proposed which would jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species and or its habitat which would prevent jeopardy" - Section 2054 states: "The Legislature further finds and declares that, in the event specific economic, social, and or other conditions make infeasible such alternatives, individual projects may be approved if appropriate mitigation and enhancement measures are provided."

State lead agencies are required to consult with the Department pursuant to Fish and Game Code Section 2090 to ensure that any action authorized, funded, or carried out by that state agency will not jeopardize the continued existence of any threatened or endangered species. Comment letters to State Lead Agencies should also include a reminder that the State Lead Agency has the responsibility to consult with the Department pursuant to Fish and Game Code Section 2090 and obtain a written findings (Biological Opinion). Mitigation measures included in Biological Opinions issued to State Lead Agencies must be consistent with Fish and Game Code Sections 2051-2054 and 2091-2092.

#### **NEST SITE AND HABITAT LOCATION INFORMATION SOURCES**

The Department's Natural Diversity Data Base (NDDB) is a continually updated, computerized inventory of location information on the State's rarest plants, animals, and natural communities. Department personnel should encourage project proponents and CEQA Lead Agencies, either directly or through CEQA comment letters, to purchase NDDB products for information on the locations of Swainson's hawk nesting areas as well as other sensitive species. The Department's Nongame Bird and Mammal Program also maintains information on Swainson's hawk nesting areas and may be contacted for additional information on the species.

Project applicants and CEQA Lead Agencies may also need to conduct site specific surveys (conducted by qualified biologists at the appropriate time of the year using approved protocols) to determine the status (location of nest sites, foraging areas, etc.) of listed species as part of the CEQA and 2081 Management Authorization process. Since these studies may require multiple years to complete, the Department shall identify any needed studies at the earliest possible time in the project review process. To facilitate project review and reduce the potential for costly

project delays, the Department should make it a standard practice to advise developers or others planning projects that may impact one or more Swainson's hawk nesting or foraging areas to initiate communication with the Department as early as possible .

## **MANAGEMENT CONDITIONS**

Staff believes the following mitigation measures (nos. 1-4) are adequate to meet the Commission's and Legislature's policy regarding listed species and are considered as preapproved for incorporation into any Management Authorizations for the Swainson's hawk issued by the Department. The incorporation of measures 1-4 into a CEQA document should reduce a project's impact to a Swainson's hawk(s) to less than significant levels. Since these measures are Staff recommendations, a project sponsor or CEQA Lead agency may choose to negotiate project specific mitigation measures which differ. In such cases, the negotiated Management Conditions must be consistent with Commission and Legislative policy and be submitted to the ESD for review and approval prior to reaching agreement with the project sponsor or CEQA Lead Agency.

Staff recommended Management Conditions are:

1. No intensive new disturbances (e.g. heavy equipment operation associated with construction, use of cranes or draglines, new rock crushing activities) or other project related activities which may cause nest abandonment or forced fledging, should be initiated within 1/4 mile (buffer zone) of an active nest between March 1 - September 15 or until August 15 if a Management Authorization or Biological Opinion is obtained for the project. The buffer zone should be increased to 1/2 mile in nesting areas away from urban development (i.e. in areas where disturbance [e.g. heavy equipment operation associated with construction, use of cranes or draglines, new rock crushing activities] is not a normal occurrence during the nesting season). Nest trees should not be removed unless there is no feasible way of avoiding it. If a nest tree must be removed, a Management Authorization (including conditions to off-set the loss of the nest tree) must be obtained with the tree removal period specified in the Management Authorization, generally between October 1- February 1. If construction or other project related activities which may cause nest abandonment or forced fledging are necessary within the buffer zone, monitoring of the nest site (funded by the project sponsor) by a qualified biologist (to determine if the nest is abandoned) should be required . If it is abandoned and if the nestlings are still alive, the project sponsor shall fund the recovery and hacking (controlled release of captive reared young) of the nestling(s). Routine disturbances such as agricultural activities, commuter traffic, and routine facility maintenance activities within 1/4 mile of an active nest should not be prohibited.
2. Hacking as a substitute for avoidance of impacts during the nesting period may be used in unusual circumstances after review and approval of a hacking plan by ESD and WMD. Proponents who propose using hacking will be required to fund the full costs of the effort, including any telemetry work specified by the

Department.

3. To mitigate for the loss of foraging habitat (as specified in this document), the Management Authorization holder/project sponsor shall provide Habitat Management (HM) lands to the Department based on the following ratios:

(a) Projects within 1 mile of an active nest tree shall provide:

- one acre of HM land (at least 10% of the HM land requirements shall be met by fee title acquisition or a conservation easement allowing for the active management of the habitat, with the remaining 90% of the HM lands protected by a conservation easement [acceptable to the Department] on agricultural lands or other suitable habitats which provide foraging habitat for Swainson's hawk) for each acre of development authorized (1:1 ratio); or
- One-half acre of HM land (all of the HM land requirements shall be met by fee title acquisition or a conservation easement [acceptable to the Department] which allows for the active management of the habitat for prey production on-the HM lands) for each acre of development authorized (0.5:1 ratio).

(b) Projects within 5 miles of an active nest tree but greater than 1 mile from the nest tree shall provide 0.75 acres of HM land for each acre of urban development authorized (0.75:1 ratio). All HM lands protected under this requirement may be protected through fee title acquisition or conservation easement (acceptable to the Department) on agricultural lands or other suitable habitats which provide foraging habitat for Swainson's hawk.

(c) Projects within 10 miles of an active nest tree but greater than 5 miles from an active nest tree shall provide 0.5 acres of HM land for each acre of urban development authorized (0.5:1 ratio). All HM lands- protected under this requirement may be protected through fee title acquisition or a conservation easement (acceptable to the Department) on agricultural lands or other suitable habitats which provide foraging habitat for Swainson's hawk.

4. Management Authorization holders/project sponsors shall provide for the long-term management of the HM lands by funding a management endowment (the interest on which shall be used for managing the HM lands) at the rate of \$400 per HM land acre (adjusted annually for inflation and varying interest rates).

Some project sponsors may desire to provide funds to the Department for HM land protection. This option is acceptable to the extent the proposal is consistent with Department policy regarding acceptance of funds for land acquisition. All HM lands should be located in areas which are consistent with a multi-species habitat conservation focus. Management

Authorization holders/project sponsors who are willing to establish a significant mitigation bank (> 900 acres) should be given special consideration such as 1.1 acres of mitigation credit for each acre preserved.

## **PROJECT SPECIFIC MITIGATION MEASURES**

Although this report includes recommended Management Measures, the Department should encourage project proponents to propose alternative mitigation strategies that provide equal or greater protection of the species and which also expedite project environmental review or issuance of a CESA Management Authorization. The Department and sponsor may choose to conduct cooperative, multi-year field studies to assess the site's habitat value and determine its use by nesting and foraging Swainson's hawk. Study plans should include clearly defined criteria for judging the project's impacts on Swainson's hawks and the methodologies (days of monitoring, foraging effort/efficiency, etc.) that will be used.

The study plans should be submitted to the Wildlife Management Division and ESD for review. Mitigation measures developed as a result of the study must be reviewed by ESD (for consistency with the policies of the Legislature and Fish and Game Commission) and approved by the Director.

## **EXCEPTIONS**

Cities, counties and project sponsors should be encouraged to focus development on open lands within already urbanized areas. Since small disjunct parcels of habitat seldom provide foraging habitat needed to sustain the reproductive effort of a Swainson's hawk pair, Staff does not recommend requiring mitigation pursuant to CEQA nor a Management Authorization by the Department for infill (within an already urbanized area) projects in areas which have less than 5 acres of foraging habitat and are surrounded by existing urban development, unless the project area is within 1/4 mile of an active nest tree.

## **REVIEW**

Staff should revise this report at least annually to determine if the proposed mitigation strategies should be retained, modified or if additional mitigation strategies should be included as a result of new scientific information.

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## **Appendix B:**

# **Endangered Species Act Compliance**



## United States Department of the Interior




In Reply Refer to:  
08ESMF00-  
2016-1-2101

FISH AND WILDLIFE SERVICE  
Sacramento Fish and Wildlife Office  
2800 Cottage Way, Suite W-2605  
Sacramento, California 95825-1846

SEP 29 2016

### Memorandum

To: Anastasia T. Leigh, Regional Environmental Officer, Mid-Pacific Regional Office  
Bureau of Reclamation, Sacramento, California

From:  Thomas Leeman, Chief, San Joaquin Valley Division, Sacramento Fish and Wildlife  
Office, Sacramento, California

Subject: Informal Consultation for the Orestimba Creek Groundwater Recharge Project,  
Stanislaus County, California

Dear Ms. Leigh:

This memorandum is in response to the Bureau of Reclamation's (Reclamation) August 10, 2016, memo requesting informal consultation with the U.S. Fish and Wildlife Service's (Service) on the proposed Orestimba Creek Groundwater Recharge Project (proposed project). The proposed project is located on the east side of Interstate 5 (I-5), approximately three miles northwest of the City of Newman in Stanislaus County, California. Your request was received by the Service on August 16, 2016. Reclamation will provide funding for the proposed project through a CALFED Water Use Efficiency Grant to the Central California Irrigation District (CCID) to construct a groundwater banking facility. This project will help reduce groundwater overdraft by banking excess water during wet periods into the regional aquifer.

Reclamation has determined that the proposed project may affect, but is not likely to adversely affect the federally listed as endangered San Joaquin kit fox (*Vulpes macrotis mutica*) (kit fox) and is seeking concurrence from the Service on this determination.

This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) (Act) and in accordance with the implementing regulations pertaining to interagency cooperation (50 CFR 402). The findings and recommendations presented in this document are based on: (1) Reclamation's August 10, 2016, memorandum requesting informal consultation, (2) the March 22, 2016, *CCID Orestimba Recharge Project Biological Pre-Activity Survey Report* (survey report) prepared by wildlife biologist Jason Dean, and (3) the August 31, 2016, and September 15, 2016, emails from Reclamation addressing the Service's August 30, 2016, request for additional information.

### Project Description

The proposed project calls for the construction of a 20-acre recharge pond, and associated wells and pipelines, amidst dense agricultural production near Orestimba Creek and the Delta-Mendota Canal (DMC). The proposed project will allow for the recharge of 500 acre feet of water per year (afy) to the local groundwater basin. In addition, the banked water will be available for recovery during dry

periods through the construction of a recovery well on the proposed project site. Construction is anticipated to begin in the fall of 2016 and will be completed in 9 to 12 weeks. The proposed project site will be accessed via West Stuhr Road, Eastin Road, and Orestimba Road.

#### *Recharge pond*

The recharge pond will be constructed within a 160-acre parcel that was previously utilized for row-crop farming but is currently fallowed. To inform the design for the recharge pond, a total of three borings will be drilled within the 20-acre pond footprint. Two borings will be drilled to a depth of 50 feet and one boring will be drilled to a depth of 100 feet. The borings will be 8 inches in diameter and drilled using a standard, truck mounted drilling rig. Pond construction will begin by scarifying the pond and levee footprint to remove all organic material. Once this is complete, a 2-foot deep by 8-foot wide keyway will be excavated along the levee alignments. Levees will be constructed from materials excavated from the interior of the pond using scrapers, excavators, or similar equipment. Water trucks and compactors will be used to ensure proper moisture content and compaction. Completed levees will be armored with rip-rap to protect against erosion; rip-rap will be placed on the inside face of the levees with an excavator. The total estimated volume of compacted embankment is approximately 12,000 cubic yards. Staging for this portion of the project, in addition to the recovery and observation wells described below, will occur within the recharge pond footprint.

#### *Connection to an existing concrete pipeline*

The proposed project calls for a connection to an existing 18-inch concrete pipeline that will deliver water from the DMC to the recharge pond for groundwater banking. The recharge water source will vary from year to year, but could include excess winter flows from Central California Irrigation District and storm water flow from the Kings and San Joaquin Rivers. The point of connection with this pipeline will occur along the western edge of the recharge pond within an existing ditch. This work will require a backhoe or excavator to expose the existing concrete pipe, resulting in a 5 by 10 by 10-foot excavation. Once exposed, the existing pipeline will be saw-cut and aligned with a new delivery pipeline. A reinforced concrete connection block will be used to provide a water-tight connection. The pipeline connection will be backfilled with the excavated material. Staging for this portion of the project will occur within the recharge pond footprint and the existing pipeline alignment.

#### *Recovery well and connection to DMC*

A recovery well will be constructed within the 20-acre recharge pond footprint to recover banked water. The well will be approximately 600 feet deep and have a flow rate of 1,000 gallons per minute (gpm). A rotary well drilling rig will be used to drill the well and a steel well casing will be inserted. A reinforced concrete pump foundation will be installed to support the pump and provide protection for the well head. A vertical turbine pump and electric motor will be installed to extract water.

Six-thousand feet of 21-inch PVC pipe will be installed to deliver recovered groundwater back to the DMC for Central Valley Project (CVP) deliveries. The pipeline will connect to the recovery well with a steel manifold that will be welded together on-site using hand labor. The pipeline will travel to the DMC via an existing pipeline alignment, along a dirt road that runs parallel to Orestimba Road and West Stuhr Road. An excavator will be used to dig the trench for the pipe, resulting in an average trench depth of 4 to 9 feet with a width of 3 feet. The pipeline will be backfilled with sand or consolidated gravel and with native material to final grade. A water truck will be used to ensure near-optimum moisture content and an excavator will be used to place and compact backfill. The pipeline

will terminate at the DMC with an above-lining discharge pipe constructed of steel. Staging will occur within the existing pipeline alignment.

#### *Observation wells*

Three observation wells will be installed at key locations around the recharge pond. Two wells will be located along the eastern edge of the recharge pond footprint and one will be located east of the recharge pond, along the eastern edge of the 160-acre parcel. Each well site will include two, 6-inch PVC pipe monitoring tubes (one at 180 feet deep and another at 250 feet deep) installed in a single 18-inch steel casing. The wells will be drilled with a rotary drilling rig. A concrete foundation will provide well head protection.

#### **Conservation Measures**

No sign of kit fox was observed in the proposed project area during the March 2016 reconnaissance level survey conducted by wildlife biologist Jason Dean. The CCID will implement the following avoidance and minimization measures, adapted from the Service's 2011 *Standard Recommendations for the Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance* (2011 Recommendations), during construction of all components of the proposed project; including within staging areas:

1. Pre-construction surveys shall be conducted by a qualified biologist no less than 14 days and no more than 30 days prior to the start of construction. These surveys will be conducted in accordance with the Service's 2011 Recommendations. When surveys identify potential dens (defined as burrows at least four inches in diameter which open up within two feet), potential den entrances shall be dusted for four consecutive calendar days to register and track activity of any kit fox present. If an active kit fox den is detected in, or within 200 feet of the area of work, the Service and the California Department of Fish and Wildlife (CDFW) shall be contacted immediately.
2. The surveyor shall thoroughly check the project site for kit fox dens and, if found, exclusion zones shall be placed, in consultation with the Service and CDFW, at the following radii: 50-feet for a potential den, 100-feet for a known den, and 50-feet for an atypical den. If a natal/pupping den is found, the Service will be contacted for guidance. Known kit fox dens, even if they are inactive, may not be destroyed.
3. Prior to the start of construction, the applicant will retain a qualified biologist to conduct an employee education program. 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 agency personnel involved in the project. The program should include the following: a description of the 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.
4. Project-related vehicles shall observe a 10-mph speed limit in all project areas during construction, except on county roads and State and federal highways. Off-road traffic outside of designated project areas will be prohibited during construction.

5. Project activities will occur only during daylight hours (one half hour following sunrise and one half hour prior to sunset).
6. All excavated steep-walled holes or trenches more than two feet deep shall be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Areas that are covered will be inspected daily, for as long as they are covered, to ensure that no kit fox have become trapped despite the presence of covers. 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 procedures under numbers 11, 12 and 13 must be followed.
7. All construction pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at a construction site for one or more overnight periods shall 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 shall not be moved until the Service has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved once to remove it from the path of construction activity, until the fox has escaped.
8. All food-related trash items shall be disposed of in closed containers and removed at least once a week from a construction or project site.
9. No firearms shall be allowed on the project site.
10. To prevent harassment, mortality of kit foxes, or destruction of dens by dogs or cats, no pets shall be permitted on project sites during construction.
11. In the case of trapped animals, escape ramps or structures shall be installed immediately to allow the animal(s) to escape, or the Service shall be contacted for advice.
12. A representative shall be appointed by CCID 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. Any contractor, employee, or agency personnel who inadvertently kills or injures a kit fox shall immediately report the incident to their representative.
13. In the case of an accidental death of or injury to a kit fox during project-related activities, the Sacramento Fish and Wildlife Office and CDFW shall be notified immediately by telephone or email, and project activities will cease until the agencies provide guidance. In addition, Reclamation would need to reinitiate consultation. 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.
14. Use of rodenticides or herbicides in project areas will be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. If it is later determined that the use of rodenticides or herbicides is needed, Reclamation would need to reinitiate consultation.



15. 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.

### **Determination**

Although the Service believes the probability of encountering a kit fox within the action area is low, it cannot be dismissed entirely. According to the California Natural Diversity Database, there are three occurrences of kit fox within five miles of the proposed project site. The site falls within an area that provides an important linkage between the Western Merced and Stanislaus County Satellite Area and the Central Merced County Satellite Area, two designated kit fox recovery areas. Furthermore, the site is located within two miles of a large expanse of grassland habitat to the west that provides suitable foraging and denning habitat for kit fox.

The proposed project site is a row-crop farmed field that is currently fallowed and is surrounded on all sides by farmed fields which offer limited foraging and denning opportunities for the kit fox. While the agricultural lands within the proposed project area could potentially be utilized by kit fox during dispersal activity, use of the site is likely limited by partial barriers such as I-5 and the DMC, and by frequent disturbance associated with agricultural practices. Therefore, due to the applicant's commitment to adhere to the Conservation Measures, the temporary nature of the disturbance, and the low likelihood of encountering a kit fox within the action area, it is the Service's opinion that the effects of the action on the kit fox will be of an insignificant and discountable nature.

Based on the information you have provided, The Service concurs with your determination that the project may affect, but is not likely to adversely affect San Joaquin kit fox. This concludes the Service's review of the proposed project. No further coordination with the Service under the Act is necessary at this time. Please note, however, this letter does not authorize take of listed species. As provided in 50 CFR §402.14, initiation of formal consultation is required where there is discretionary Federal involvement or control over the action (or is authorized by law) and if: 1) new information reveals the effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this review; 2) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this review; or 3) a new species is listed or critical habitat designated that may be affected by the action.

If you have any questions regarding this biological opinion, please contact Dana Herman, Fish and Wildlife Biologist, or Thomas Lecman, San Joaquin Division Chief, at the letterhead address or at (916) 414-6683, and (916) 414-6544, respectively.

cc:

Julie Vance, Regional Manager, California Department of Fish and Wildlife

## **Appendix C:**

### **Cultural Resources Compliance**

**CULTURAL RESOURCE COMPLIANCE**  
**Mid-Pacific Region**  
**Division of Environmental Affairs**  
**Cultural Resources Branch**

MP-153 Tracking Number: 15-SCAO-201

Project Name: CCID Orestimba Creek Groundwater Recharge Project

NEPA Document: EA 16-13-MP

MP 153 Cultural Resources Reviewer: Amy J. Barnes

Date: May 31, 2016

This proposed undertaking by Reclamation is to award a CalFed Water Use Efficiency Grant to the CCID for the Orestimba Creek Groundwater Recharge Project approximately 3 miles west of Newman, California. This is the type of action that has the potential to cause effects to historic properties pursuant to 36 CFR §800.3 of the Section 106 implementing regulations. As a result of this determination, Reclamation implemented the steps in the Section 106 process as outlined at §800.3 to §800.6.

The CCID proposes to construct a recharge pond, a groundwater recovery well with a pipeline connecting to a new discharge on the Reclamation-owned Delta Mendota Canal (DMC), and up to three observation wells to monitor groundwater levels. A series of up to 12 geotechnical bore holes will also be drilled to help determine the final construction design and placement of the pond. The CCID project will include the following construction activities.

- Geotechnical bore holes will be drilled by truck-mounted equipment using a 3-inch or 4-inch-diameter auger to a depth of approximately 20 to 30 feet. Upon completion, each hole will be backfilled with native soil.
- The 20-acre recharge pond will be situated adjacent to an existing field/orchard road. The new pond will be excavated to a maximum depth of 4 feet below the existing ground surface. Surrounding earthen levees will be constructed using the excavated material, and the inside face of the levees will be reinforced with rip-rap. The new pond will connect to an existing concrete pipeline located under the existing field road. This concrete pipeline connects to an existing turnout on the DMC, from which water will be delivered to the recharge ponds. A 10 foot wide by 10 foot long area will be excavated to a depth of approximately 5 feet to expose the existing pipeline so that a new delivery pipeline can be connected to the pond.
- The new 21-inch diameter PVC pipeline, measuring approximately 6,000 feet long (1.14 miles), will connect a new groundwater recovery well to the DMC. The new pipeline will be located within the existing field road and orchard, parallel and adjacent to the existing concrete pipeline, and installed within a 3-foot wide trench excavated up to 9 feet deep. The pipe will carry water from the new recovery well to the DMC. The new recovery well will be drilled to a depth of approximately 600 feet by truck-mounted equipment using an 8-inch or 12-inch-diameter casing. The well head will be surrounded by an 8-foot square concrete pad, on which the pump and motor will be set and enclosed with a security fence. The discharge connection to the DMC will consist of a steel pipe with a flow meter. The pipeline will be installed in a trench under the DMC service road up to 3 feet deep. The exposed portion of pipe over the DMC will rest on a concrete saddle measuring approximately 12 inches wide, 12 inches long, and 18 inches high (12 inches of which will be buried). The concrete



## **CULTURAL RESOURCE COMPLIANCE**

### **Mid-Pacific Region**

### **Division of Environmental Affairs**

### **Cultural Resources Branch**

saddle will be located 24 inches away from the edge of the canal liner and the pipe will extend approximately 5 feet over the DMC.

- Each observation well will be drilled by truck-mounted equipment and will consist of a 180-foot deep and a 250-foot deep monitoring well tube both installed in a single 18-inch steel casing. The well head will include an above ground segment of pipe with a locking cap surrounded by a concrete foundation. Up to four bollards, measuring approximately 4 inches in diameter, will be installed to a depth of approximately 3 feet around the monitoring well for protection.
- Access and staging will occur within the existing DMC right-of-way and orchard/field roads. Upon project completion, the DMC right-of way and embankment and field roads will be recontoured to their pre-construction form.

The area of potential effects (APE) for this undertaking includes an approximately 137-acre area where the pond, pipeline, and wells will be constructed. The project is located in Sections 15 and 16, T. 7 S., R. 8 E., Mount Diablo Baseline and Meridian, as depicted on the Newman 7.5' U.S. Geological Survey topographic quadrangle map. The vertical extent of the APE will be up to 9 feet below the existing ground surface. The APE is bracketed by agricultural roads, orchards, and fields.

The historic property identification efforts included a cultural resources inventory by Applied EarthWorks to assist in the identification of historic properties. In an effort to identify historic properties, Applied EarthWorks to conduct a cultural resources inventory covering the APE (Asselin and Lloyd 2016). Two cultural resources were identified in the APE: Reclamations' DMC and a concrete irrigation pipeline. Asselin and Lloyd (2016) only recorded the segment of the DMC within the APE.

The only identified historic properties within the APE are the DMC and concrete pipeline. Reclamation drafted the CVP National Register Multiple Property Listing (NRMPL) in 2006 (edited in 2009) in which the DMC is considered an eligible property under the theme of development, construction, and operation of the CVP. The Central Valley Project (CVP) is considered to be eligible under Criterion A through association with large-scale agricultural and economic development and expansion of California's Central Valley with a period of significance of 1946-1971. At this time, no consensus eligibility determination for the CVP or DMC has been reached between Reclamation and the SHPO. Reclamation treats the CVP and the DMC as eligible for the National Register of Historic Places (National Register) under Criterion A, as outlined in the draft NRMPL documentation and the current DMC nomination form. Specifically, the DMC is considered significant under the theme of development, construction, and operation of the CVP, with a period of significance of 1946-1971. Under this theme and within this period, the DMC, as a water conveyance component of the CVP, contributed to California's economic and agricultural development and growth.

The existing concrete pipeline located under the existing field road was not discussed or documented in the cultural resources report by Applied EarthWorks. Reclamation identified that this concrete pipeline connects to an existing turnout on the Delta Mendota Canal (DMC), and may have been constructed at the same time as the DMC turn-out, or shortly after 1948, based on Reclamation construction drawings. Although no consensus on eligibility has been received, the DMC is managed as a contributing component of the Central Valley Project (CVP). For purposes of this undertaking only, Reclamation is assuming that this concrete pipeline is a contributing structure of the DMC.

**CULTURAL RESOURCE COMPLIANCE**  
**Mid-Pacific Region**  
**Division of Environmental Affairs**  
**Cultural Resources Branch**

Reclamation applied the criteria of adverse effect [36 CFR § 800.5(a)] for the current undertaking and found that the proposed activities would result in no significant alterations to the historic characteristics that make the DMC or concrete lateral pipeline eligible for the National Register. The proposed actions of installing a new turnout on the DMC will not alter any physical characteristics of the canal or its berm. This turn-out installation is consistent with other similar existing facilities that pump water from the DMC. Likewise, connecting a new turnout on the pipeline to deliver water to the new recharge ponds would not adversely affect any qualities that would make this pipeline contribute to the eligibility of the DMC. Such turn-out connections are common-place and consistent with turn-outs on this pipeline type and along the DMC. Since there will be no significant alterations to the DMC or pipeline, the CVP will also be unaffected.

Reclamation entered into consultation with the California State Historic Preservation Officer (SHPO) on May 27, 2016, seeking their concurrence on a finding of “no adverse effects to historic properties pursuant to 36 CFR § 800.5(b).” SHPO concurred with Reclamations’ findings and determination on May 31, 2016 (consultation attached).

After reviewing EA 16-13-MP, dated June 2016 entitled *Central California Irrigation District Orestimba Creek Groundwater Recharge Project*, I concur that this action would not have significant impacts on properties listed, or eligible for listing, on the National Register of Historic Places.

This memorandum is intended to convey the completion of the NHPA Section 106 process for this undertaking. Please retain a copy in the administrative record for this action. Should changes be made to this project, additional NHPA Section 106 review, possibly including consultation with the State Historic Preservation Officer, may be necessary. Thank you for providing the opportunity to comment.

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

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May 31, 2016

In reply refer to: BUR\_2016\_0428\_001

Ms. Anastasia T. Leigh  
Regional Environmental Officer  
U.S. Bureau of Reclamation  
Mid-Pacific Regional Office  
2800 Cottage Way  
Sacramento, CA 95825-1898

RE: Section 106 Consultation for a CalFed Grant to the Central California Irrigation District (CCID) for the Orestimba Creek Groundwater Recharge Project, Stanislaus County (Project #15-SCAO-201)

Dear Ms. Leigh:

The Office of Historic Preservation received on April 28, 2016 your letter initiating consultation on the above referenced project to comply with Section 106 of the National Historic Preservation Act of 1966 (as amended) and its implementing regulations at 36 CFR Part 800. The Bureau of Reclamation (BUR) is seeking comments on their delineation of the Area of Potential Effect (APE), appropriateness of historic properties identification efforts, and finding of effect for the Orestimba Creek Groundwater Recharge Project located in Stanislaus County, California.

The proposed undertaking would involve the BUR issuing a CalFed Water Use Efficiency Grant to the CCID for the Orestimba Creek Groundwater Recharge Project (project). The proposed project would involve construction of a 20-acre recharge pond, a groundwater recovery well with a pipeline connecting to a new discharge on the Delta Mendota Canal (DMC), and up to three groundwater observation wells. The recharge pond will be excavated to a maximum depth of 4 feet, and the recovery well will be drilled to a depth of approximately 600 feet. In addition, up to 12 geotechnical bore holes will be drilled to a depth of 20-30 feet, and will be backfilled with native soil following completion of the project. A 10 feet wide by 10 feet long area will be excavated to a depth of approximately 5 feet around an existing concrete pipeline that is located underneath the existing field road, in allow for connection of a new pipeline connected to the recharge pond. The new pipeline will be approximately 6,000 feet long, and will be placed in a trench parallel to the existing concrete pipeline.

The BUR has defined the APE as the approximately 137-acres proposed project site, including the locations where the pond, pipeline, and wells will be constructed. Access and staging for construction will occur within the existing DMC right-of-way and existing orchard/field roads. The right-of-way, field roads, and embankment will be re-contoured to their present form following completion of the project. BUR has defined the vertical APE as being comprised of up to 9 feet below the ground surface. Along with your letter, the following documents were submitted to support the BUR's finding of effect:

- *Cultural Resources Survey for the Orestimba Creek Groundwater Recharge Project, Stanislaus County, California* (Applied Earthworks, Inc. 2016)

- *Continued National Historic Preservation Act (NHPA) Section 106 Compliance for a CalFed Grant to the Central California Irrigation District (CCID) for the Orestimba Creek Groundwater Recharge Project, Stanislaus County, California (BUR 2016)*

Efforts to identify historic properties that may be affected by the undertaking included a records search, pedestrian survey, and Native American consultation. The applicant's consultant (Applied Earthworks) requested a records search from the Central California Information Center (CCIC) on October 22, 2015 for an area encompassing the APE and 0.5-mile surrounding the APE. The only resource identified within the APE was a previously unrecorded segment of the DMC.

Applied Earthworks conducted an intensive pedestrian cultural resources survey of the APE on November 4-5, 2015. An additional pedestrian survey of a previously inaccessible portion of the APE comprising 5 acres was conducted on March 16, 2016. The entire APE was surveyed. Surface visibility varied throughout APE from 30 to 100 percent. No cultural resources were identified or recorded as a result of the survey. The segment of the DMC within the APE was recorded. Although no consensus determination on eligibility has been received, the DMC is treated as eligible to the National Register of Historic Places (NRHP) by the BUR as a component of the Central Valley Project. The proposed project would not alter the physical characteristics or the integrity of the DMC or its berm.

In a letter received by the Office of Historic Preservation on May 27, 2016, the BUR continued consultation regarding this undertaking. Although not documented in the inventory report prepared for this project (Applied Earthworks 2016), an underground concrete pipeline is present in the APE. The pipeline connects to an existing turnout on the DMC and is assumed to be a contributing structure of the DMC. Connecting a new turnout on the pipeline for the project will not adversely affect any qualities that would make this pipeline contribute to the eligibility of the DMC.

Applied Earthworks contacted the Native American Heritage Commission (NAHC) to request a search of their Sacred Lands File on October 22, 2015. The NAHC replied that there were no resources identified within the APE. The BUR sent letters to the 11 Native American contacts provided by the NAHC on March 11, 2016. One response was received from the Table Mountain Rancheria, indicating the project site is beyond their area of interest. No other responses have been received, but the BUR will take appropriate steps to make notifications and address any future concerns that might arise.

The BUR has concluded that the proposed undertaking would have no adverse effect on historic properties. The BUR has requested my review and comment on their delineation of the APE, adequacy of historic properties identification efforts, and finding of effect for the proposed undertaking. After reviewing your letter and supporting documentation, I have the following comments:

- Pursuant to 36 CFR 800.16(d), the horizontal extent of the APE appears appropriate. However, the vertical APE for this undertaking as defined by the BUR, does not meet the definition pursuant to 36 CFR 800.16(d). The BUR has defined their vertical APE for this project as extending no more than 9 feet in depth; however the proposed project includes elements (recovery well) that will be drilled to a depth of approximately 600 feet. Therefore, I recommend that the BUR expand the vertical APE to include the entire geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, including the entire depth of ground disturbance.
- Pursuant to 36 CFR 800.4(b), the historic property identification efforts carried out for this undertaking are adequate.

- Pursuant to 36 CFR 800.5(b), I concur that a finding of *no adverse effect to historic properties* is appropriate.

Be advised that under certain circumstances, such as unanticipated discovery or a change in project description, the BUR may have additional future responsibilities for this undertaking under 36 CFR Part 800. If you require further information, please contact Koren Tippett of my staff at (916) 445-7017 or [Koren.Tippett@parks.ca.gov](mailto:Koren.Tippett@parks.ca.gov).

Sincerely,

A handwritten signature in blue ink, appearing to be 'JP' followed by a long horizontal stroke.

Julianne Polanco  
State Historic Preservation Officer



## **Appendix D:**

### **Indian Trust Assets Compliance**

## Indian Trust Assets Request Form

\*\*Please send your request to: Kevin Clancy, kclancy@usbr.gov

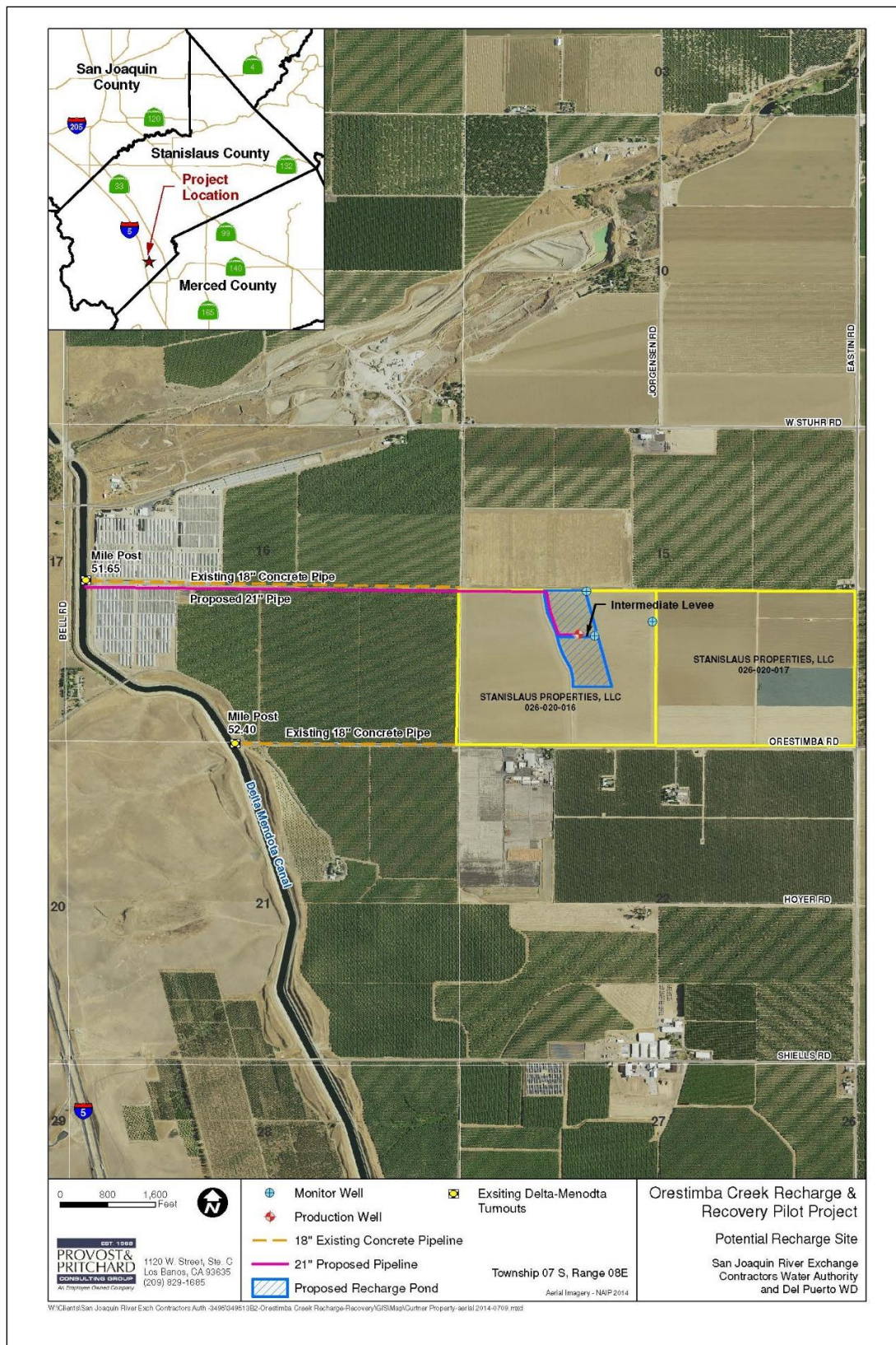
**Date:**

<b>Requested by</b>	Jamie LeFevre, x 5035
<b>Fund</b>	15XR0680A1
<b>WBS</b>	RX02148945CCID00A
<b>Cost Center</b>	2015200
<b>Region # (if other than MP)</b>	(NA)
<b>Project Name</b>	Orestimba Creek Groundwater Recharge and Banking Project
<b>CEC or EA Number</b>	
<b>Project Description</b>	<p>The Proposed Project will construct a 20 acre recharge facility near Orestimba Creek and the Delta-Mendota Canal (DMC) that would allow the recharge of 500 acre feet per year (afy) to the local groundwater basin. The scope of the Proposed Project would include:</p> <ul style="list-style-type: none"> <li>• Construction of a two-pool recharge pond with a total area of approximately 20 acres.</li> <li>• Connection to an existing concrete pipeline to deliver excess flows into the pond for recharge.</li> <li>• Construction of a groundwater well and discharge manifold.</li> <li>• Construction of a 21inch PVC pipeline to convey well water to the Delta-Mendota Canal.</li> <li>• Construction of up to three observation wells to monitor groundwater levels.</li> </ul>



<b>*Project Location (Township, Range, Section, e.g., T12 R5E S10, or XY cords)</b>	The proposed Orestimba Creek Groundwater Recharge and Banking Project is located three miles west of Newman, California on assessor's parcel number 026-020-016 and 026-020-017.
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\*Please include map with request, if available.



**Figure 1. Proposed Location Map**

**ITA Determination:**

The closest ITA to the proposed Orestimba Creek Groundwater Recharge and Banking Project, activity is the Public Land Allotment (not generally associated with any one particular tribe) about 45.42 miles to the south, southeast (see attached image).

Based on the nature of the planned work it does not appear to be in an area that will impact Indian hunting or fishing resources or water rights nor is the proposed activity on actual Indian lands. It is reasonable to assume that the proposed action will not have any impacts on ITAs.

<i>K. Clancy</i>	Kevin Clancy	11-09-2015
Signature	Printed name of approver	Date



