

Summary Form for Electronic Document Submittal**Form F**

Lead agencies may include 15 hardcopies of this document when submitting electronic copies of Environmental Impact Reports, Negative Declarations, Mitigated Negative Declarations, or Notices of Preparation to the State Clearinghouse (SCH). The SCH also accepts other summaries, such as EIR Executive Summaries prepared pursuant to CEQA Guidelines Section 15123. Please include one copy of the Notice of Completion Form (NOC) with your submission and attach the summary to each electronic copy of the document.

SCH #: _____

Project Title: Reclamation District 1500 Flood Control and Flood Safety Rehabilitation Project

Lead Agency: Reclamation District 1500

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Project Location: Unincorporated Sutter County
City *County*

Project Description (Proposed actions, location, and/or consequences).

See attached project description.

Identify the project's significant or potentially significant effects and briefly describe any proposed mitigation measures that would reduce or avoid that effect.

See attached Mitigation Monitoring and Reporting Program.

If applicable, describe any of the project's areas of controversy known to the Lead Agency, including issues raised by agencies and the public.

No known areas of controversy at this time.

Provide a list of the responsible or trustee agencies for the project.

United States Army Corps of Engineers
United States Environmental Protection Agency
California Department of Fish and Wildlife
California Office of Historic Preservation
State Water Resources Control Board
State Lands Commission
California Department of Water Resources
Central Valley Flood Protection Board
Central Valley Regional Water Quality Control Board
Feather River Air Quality Management District
Sutter County

PROJECT DESCRIPTION

The Project would rehabilitate and modernize the existing Karnak Drainage Facility to continue to provide flood protection for the Sutter Basin similar to current operations. The Project's Area of Potential Effects is approximately 7.6 acres in size.

The existing Karnak Drainage Facility discharges water from the Sutter Basin into the Sacramento Slough and consists of three antiquated pump stations that have been well maintained but much of the equipment is nearing the end of its useful life. Pumping Plant 1 (PP1) on the north bank of the drainage canal was constructed in 1914 and provides the ability to discharge $1,200 \pm$ cubic feet per second (cfs) of drain water out of the Sutter Basin utilizing six centrifugal pumps during above normal winters and large storm events. Pumping Plant 2 (PP2) was constructed in 1929 and has never operated correctly and is not utilized. PP3 is located adjacent to PP2 and has been in operation since 1952 and is used in day-to-day operations to remove excess precipitation in the winter months and seepage water during the entire year, utilizing four vertical pumps with a capacity of $700 \pm$ cfs. These pumping plants have no automatic controls or a backup power system. All three pumping plants have concrete pump houses and have existing culverts through the flood control levee that discharge the water into the Sacramento Slough.

The Project would overhaul and modernize the existing drainage and flood protection facility to increase reliability and efficiency, leveraging to the extent possible, the existing facilities that RD 1500 already owns. The Project would also result in the installation of a backup power source and increased pumping capacity to provide redundancy and provide for anticipated climate change impacts. Project design would result in maintaining the PP1 building and discharge culverts but modernizing the pumping equipment and electrical system; removing the existing PP2 building and equipment; constructing a gravity outlet structure with fish barrier that utilizes the existing PP2 culverts for gravity drainage; and the removal of the existing Pumping Plant 3 (PP3) building and equipment and constructing a slightly larger, new Pumping Plant 4 (PP4) with submersible pumps that utilizes the existing PP3 discharge culverts. Electrical equipment would be located above the base flood elevation. Fill would be added onto a portion of the outer levee slope to make an equipment pad to facilitate installation of an engine generator set above the base flood elevation to serve as a backup power source. The Project would provide a long-term flood management solution by efficiently and reliably continuing current operations.

An inflatable bladder cofferdam, or comparable watertight barrier, will be used temporarily during construction to isolate the discharge culvert outlets in the Sacramento Slough to prevent water from obstructing the installation of protective liners and flowmeters in the discharge culverts and installation of new flap gates on the existing culvert outlets. Construction activities in the Sacramento Slough would occur when the water level is at its lowest stage, likely in the summer and fall months.

In developing the Project design, a preliminary structural evaluation of the existing Karnak Drainage Facility pump station buildings was conducted by a licensed California structural engineer to determine their suitability for continued use. Initial Structural Evaluation reports for all three of the existing buildings at the Karnak site are contained in the Watershed Plan-EIS, with the findings summarized below:

- The PP1 pump house building (PH1) is impressively sized and reinforced, and it appears the building has performed well and is currently performing in general conformance to the original intent of the design. However, there exist some issues that are recommended for further evaluation to determine if remedial efforts are needed and/or if structural strengthening would be beneficial for further long-term use of the structure.

- While not currently being used, the PP2 pump house building (PH2) has significant geometric characteristics of the structure that cause a high level of concern for the structure to resist moderate to major seismic event forces.
- The PP3 pump house building (PH3) appears to be performing in general conformance to the original intent of the design, however, similar to the PH2 building, the structure has significant geometric characteristics that cause a high level of concern for the structure to resist moderate to major seismic event forces.

It is anticipated at this time that Pacific Gas & Electric Company (PG&E), the local electrical utility, will want to discontinue providing the existing 2300V electrical service to the facility once the modernization has been complete, and that PG&E will want to bring in 4160V or higher voltage to serve the site in the future, although this assumption needs to be verified with PG&E during the final design process. The Project design can accommodate the upgraded PG&E service by installing District owned transformers to step the voltage down to 480V to power the new submersible pumps at the new pump station as well as the rebuilt motors on the existing centrifugal pumps at PP1.

The Project has been divided into four Measures that correspond to the major work items. The table below presents the various components of each measure of the Project.

Modernization Alternative Project Activities Summary

Measure 1 - Modernize Existing Pumping Plant 1 (PP1)
• Installation of permanent sheet piling near PP1 to construct a foundation pad for a new electrical control building and area adjacent to the new gravity outlet structure.
• Construction of a new, larger, and slightly higher platform structure near PP1 with the installation of a new air-conditioned electrical control building.
• Refurbish the six existing 200 cfs centrifugal pumps.
• Rebuild the six existing centrifugal pump 800 Hp motors for 480V service.
• Modify the existing centrifugal pump priming system for easier operation.
• Replacement of valves and actuators on pump discharges.
• Install protective liner and add flow measurement inside all 3 existing discharge culverts.
• Replacement of existing flap gates and slide gates on discharge culverts in existing access chamber.
• Rehabilitate existing PP1 building by sealing concrete cracks and recoating roof.
• Remove all electrical equipment that serves PP1 from the existing platform structure.
• Installation of all new electrical equipment, switchgear, and motor controls for PP1.
• Installation of step-down transformers adjacent to the control building on the elevated platform to reduce PG&E high-voltage down to 480V to power the pumping equipment.
Measure 2 – Utility Upgrade
• Construction of an elevated platform for new transformers.
• Installation of new PG&E high-voltage electrical transformers.
Measure 3 – Construct Gravity Outlet Structure
• Relocation of powerlines serving the existing PP3 station (which currently cross the existing PP2 building).
• Installation of a temporary cofferdam in the drainage canal to facilitate dewatering the area around the existing PP2 building.
• Removal of all equipment and demolition of the existing PP2 building.
• Removal of existing concrete stopblocks and sediment lodged in discharge culverts.
• Construction of a concrete gravity outlet structure and fish barrier, consisting of:

○ reorientation of discharge culvert inlets; ○ slide gates on culvert inlets; ○ pleated long-crested weir for level control in the drainage canal, outlet measurement, and prevention of juvenile fish from migrating into the drainage canal during gravity flow operations; ○ fish barrier screen to prevent migration of adult fish into the drainage canal during gravity flow operations; ○ bypass slide gates in long-crested weir if drainage canal needed to be drained; ○ installation of a water level sensor; and ○ maintenance hoist to clean the fish barrier screen.
● Installation of protective liner inside all 3 discharge box culverts.
● Replacement of flap gates on discharge culvert outlets.
Measure 4 – Construct New Pumping Plant 4 (PP4)
● Installation of a temporary cofferdam in the drainage canal to facilitate dewatering the area around the existing PP3 building.
● Removal of all PP3 equipment and demolition of the existing PP3 building.
● Construction of a new concrete PP4 pump structure.
● Installation of protective liner and flow measurement inside all four existing PP3 box culverts.
● Replacement of slide gates inside access chamber on existing PP3 discharge culverts.
● Replacement of flap gates on the existing PP3 discharge box culvert outlets.
● Construct pad for backup generator on a portion of the outer levee, with fill material installed on the levee.
● Installation of permanent sheet piling between the PP4 pump structure and the gravity discharge structure.
● Miscellaneous grading around structures and approach roads.
● Installation of six submersible VFD (variable-frequency drive) controlled pumps with a discharge capacity of approximately 1,000± cfs.
● Installation of electrical controls inside the air-conditioned control building at PP1.
● Installation of a SCADA (Supervisory Control and Data Acquisition) system for automated operation and monitoring of the pump stations.
● Installation of backup generator on outer levee to power PP4 in the event PG&E power is lost.

Construction of the Project would need to be conducted in phases since drainage service must continue to be provided at the Karnak Facility at all times. Construction would likely need to occur in the following sequence:

Year 1 (PP3 operational)

- Installation of new elevated platform, control building and electrical system at PP1, keeping power to existing PP3 station
- Modernization of pumping equipment at PP1 and rehabilitation of existing PP1 discharge culverts while PP3 is still operational
- Installation of new PG&E high-voltage transformers on elevated platform
- Demolition of PP2 building, renovation of PP2 discharge culverts for gravity drainage, and construction of gravity outlet structure with fish barrier while PP3 is still operational

Year 2 (PP1 and gravity drainage operational)

- Demolition of PP3 building, rehabilitation of existing PP3 discharge culverts, and construction of a new PP4 pump station
- Installation of backup generator on a portion of the outer levee

- Installation of a SCADA system

Modernization of the existing facility meets the purpose and need of the Project, provides safety and protection for the community of Robbins and surrounding area, protects farmland and emergency access roads, maintains the local economy, maintains environmental benefits, and is the most logistically reasonable option for maintaining flood protection for the Sutter Basin.

CHAPTER 5 MITIGATION, MONITORING, AND REPORTING PROGRAM

This Mitigation Monitoring and Reporting Program (MMRP) has been formulated based upon the findings of the IS/MND for the Project. The MMRP lists mitigation measures recommended in the IS/MND for the Project and identifies monitoring and reporting requirements.

Table 5-1: Mitigation, Monitoring, and Reporting Program presents the mitigation measures identified for the Project. Each mitigation measure is numbered with a symbol indicating the topical section to which it pertains, a hyphen, and the impact number. For example, BIO-2 would be the second mitigation measure identified in the Air Quality analysis of the IS/MND.

The first column of **Table 5-1: Mitigation, Monitoring, and Reporting Program** identifies the mitigation measure. The second column, entitled “When Monitoring is to Occur,” identifies the time the mitigation measure should be initiated. The third column, “Frequency of Monitoring,” identifies the frequency of the monitoring of the mitigation measure. The fourth column, “Agency Responsible for Monitoring,” names the party ultimately responsible for ensuring that the mitigation measure is implemented. The last columns will be used by the Lead and Responsible Agencies to ensure that individual mitigation measures have been complied with and monitored

In addition to the mitigation measures listed in **Table 5-1: Mitigation, Monitoring, and Reporting Program**, the Project shall comply with the BMPs listed in **Section 4.4.2** and **Section 4.10.2**.

Table 5-1: Mitigation, Monitoring, and Reporting Program

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
Biological Resources						
BIO-1	The Project has the potential to impact special status plant species, including Woolly-Rose Marrow, Sanford's Arrow Head, and Suisun Marsh Aster. To avoid significant impacts to these species, the following mitigation measures will be implemented: (Rare Plant Surveys) Prior to construction commencing for any portion of the Project, rare plant surveys shall be conducted during the appropriate blooming periods by a qualified biologist. Should Woolly-Rose Marrow, Sanford's Arrowhead, or Suisun Marsh Aster be identified within the APE, the Project shall comply with the recommendations of the qualified biologist. (Avoidance) If any special status plants are detected during the rare plant surveys, the Project should be designed to avoid direct (i.e. species removal) and indirect impacts to these populations. Avoidance of indirect impacts would entail establishing a suitable disturbance-free buffer of at least 25 to 50 feet from any special status plants. (Relocation) If it is not possible to avoid populations of rare plants identified within construction zones, a qualified biologist will remove all individual plants to be impacted and relocate them to suitable habitat in the vicinity of the planning area.	Prior to construction during blooming season	Once, prior to construction during blooming season	RD 1500 and/or construction contractor	Rare Plant survey memo	
BIO-2	The following mitigation measures will be implemented to mitigate potential impacts to green sturgeon, Chinook salmon, and white sturgeon: (Avoidance) Peak outmigration of sturgeon juveniles occurs during the spring and early summer. Peak outmigration of salmon and steelhead smolts occurs during the spring. Few,	During Construction Activities	Daily	RD 1500 and/or construction contractor	RD 1500 with assistance of a qualified biologist	

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
	if any juvenile sturgeon, salmon, or steelhead would be present in the Sacramento River or waters outside of Sutter Basin between August 15th and October 31st. Therefore, to the extent possible, all Project activities in the Sacramento River and waters outside of Sutter Basin will occur during that time frame, to avoid possible Project impacts to these species. (Fish Rescue and Relocation) Should Project activities be required to be conducted between November 1 and August 14 in the Sacramento River or waters outside of the Sutter basin, a fish rescue and relocation plan shall be prepared and implemented in consultation with the National Marine Fisheries Service (NMFS) to minimize impacts to these species.					
BIO-3	The following mitigation measures will be implemented to mitigate potential impacts to giant garter snakes: (Pre-construction Surveys) If work will occur during the active season for giant garter snake (between May 1 and September 30), a qualified biologist will conduct two giant garter snake pre-construction surveys of the APE (including any accessible suitable habitat adjacent to the APE) with the first occurring within 15 days and the second occurring within 24-hours of the onset of construction. The information collected from this first pre-construction survey will serve primarily to alert the biologist and construction crews of the general level of giant garter snake activity at the site, and the second survey will serve to minimize potential for take of giant garter snakes (Education Program) Prior to any work occurring within the APE, an education program shall be prepared and delivered by a qualified biologist to	Prior to and During Construction Activities	Daily during Construction Activities	RD 1500 and/or construction contractor	Daily inspection reports	

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
	all personnel working on the site. It shall include a description on the regulations protecting this species, implications for impacting this species, the biology of this species, and who to contact should personnel potentially observe this species. (Exclusion) If work will occur during the inactive season for giant garter snake (between October 1 and April 30), an exclusion fence will be installed around the work areas prior to the start of the inactive season. The design of the fence will be approved by the CDFW and USFWS prior to installation. Fence installation will be supervised by a qualified biologist. (Monitoring) A qualified biological monitor will inspect the exclusion fence each day to ensure it is functional for the intended purpose and monitor all in-water construction activities. The biologist will conduct a daily survey of the Project site (morning). The purpose of daily monitoring is to ensure that the exclusion fence remains in good repair as long as construction is occurring at the Project site. Any wildlife, including giant garter snakes, observed in the Project area will be allowed to passively leave the site. (Vegetation Removal) Clearing of herbaceous vegetation (i.e., grasses and forbs) will be confined to the minimal area necessary to facilitate construction activities and preserve native vegetation.					
BIO-4	The following mitigation measures will be implemented to mitigate potential impacts to western pond turtles: (Pre-construction Survey) Within 24 hours of the start of construction activities, a qualified biologist will complete a preconstruction survey for western pond turtle.	Prior to and During Construction Activities	Daily during Construction Activities	RD 1500 and/or construction contractor	RD 1500 with assistance of a qualified biologist	

Mitigation, Monitoring, and Reporting Program						
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	(Avoidance) Should any western pond turtles be observed on the site, they shall be allowed to leave the Project on their own.					
BIO-5	The following mitigation measures will be implemented to mitigate potential impacts to Swainson's hawks: (Avoidance) In order to avoid Project-related "take" of Swainson's hawk, Project-related activities will occur, where possible, outside of the Swainson's hawk nesting season, or between September 16th and the end of February. (Establish Buffers) Should any active Swainson's hawk nests be discovered within ½ mile of impact areas of the APE, the biologist will consult with CDFW to determine an appropriate construction setback distance. Construction-free buffers will be identified on the ground with flagging, fencing, or by other easily visible. (Foraging Habitat Compensation) Should any active Swainson's hawk nests be discovered within ½ mile of impact areas of the APE, and the Project may remove any potential foraging habitat for Swainson's hawk (i.e. agricultural fields suitable for foraging or unknown upland habitats), an amount of habitat management land, to be determined in consultation with CDFW, shall be required to mitigate for loss of Swainson's hawk foraging habitat. The amount of habitat management land set aside for impacts to Swainson's hawk foraging habitat may range from 0.5 – 1.0 acres of habitat management for every acre of Swainson's hawk foraging habitat removed by the Project.	During Construction Activities	Daily	RD 1500 and/or construction contractor	RD 1500 with assistance of a qualified biologist	
BIO-6	The following mitigation measures will be implemented to mitigate potential impacts to burrowing owls:	During Construction Activities	Daily	RD 1500 and/or construction contractor	RD 1500 with assistance of a qualified biologist	

Mitigation, Monitoring, and Reporting Program						
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	(Take Avoidance Surveys). Take avoidance surveys for burrowing owls shall be conducted by a qualified biologist within 30 days prior to the start of construction and activities involving ground disturbance. The surveys will be conducted according to methods described in the Staff Report on Burrowing Owl Mitigation (CDFG 2012). Each survey is to cover the work area(s) in question and adjacent lands within 200 meters, where potential nesting or roosting habitat is present (“survey area”). (Avoidance of Nest Burrows). If construction or ground-disturbing activities are to occur during the breeding season (February 1-August 31) and active nest burrows are identified within the survey area, a disturbance-free buffer will be established by a qualified biologist around each burrow, following the Staff Report on Burrowing Owl Mitigation (CDFG 2012). The buffers will be enclosed with temporary fencing to prevent encroachment by construction equipment and workers. Buffers will remain in place for the duration of the breeding season, unless otherwise arranged with CDFW. After the breeding season, passive relocation of any remaining owls may take place as described below. (Avoidance or Passive Relocation of Resident Owls). During the non-breeding season (September 1-January 31), resident owls occupying burrows in work areas associated with construction or ground-disturbing activities may either be avoided, or passively relocated to alternative habitat. If the applicant chooses to avoid active owl burrows within the work area during the non-breeding season, a 50-meter disturbance-free buffer will be established					

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
	around these burrows. The buffers will be enclosed with temporary fencing, and will remain in place until a qualified biologist determines that the burrows are no longer active. If the applicant chooses to passively relocate owls during the non-breeding season, this activity will be conducted in accordance with a relocation plan prepared by a qualified biologist.					
BIO-7	The following mitigation measures will be implemented to mitigate potential impacts to Nesting Bank Swallow, Western Yellow-billed Cuckoo, Tricolored Blackbird, Northern Harrier, White-tailed Kite, Modesto Song Sparrow, Long-eared Owl, Short-eared Owl, Loggerhead Shrike and other Nesting Raptors and Migratory Birds: (Avoidance) When possible, Project construction activities will occur outside of the February 1-August 31 avian nesting season such that Project activities will have no potential to disrupt active nests. (Preconstruction Surveys) If Project construction activities must occur during the nesting season, a qualified biologist will conduct preconstruction surveys for active nests within 14 days of the onset of these activities. The survey will include the proposed work area(s) and surrounding lands within 500 feet. If no active nests are found within the survey area, no further mitigation would be required. (Special Status Bird Nest Consultation, Nest Buffers, and other Minimization or Mitigation Measures) Should any active nests of federal or State threatened or endangered birds be discovered on or near proposed work areas, a qualified biologist will consult with the CDFW and/or USFWS (depending on their listing status)	During Construction Activities	Daily	RD 1500 and/or construction contractor	RD 1500 with assistance of a qualified biologist	

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
	to determine an appropriate disturbance-free nest buffer and any other minimization or mitigation measures. Should any nests of nests of bird species of special concern be discovered near proposed work areas, a qualified biologist will determine an appropriate disturbance-free nest buffer and any other minimization or mitigation measures. Disturbance-free buffers will be identified on the ground with flagging, fencing, or by other easily visible means, and will be maintained until the biologist has determined that the young have fledged. (Other Nesting Raptor and Migratory Bird Nest Buffers) Should the active nests of any non-special-status birds or raptors be discovered near proposed work areas, a qualified biologist will determine appropriate no-disturbance nest buffers based on applicable CDFW guidelines and/or the biology of the affected species. Disturbance-free buffers will be identified on the ground with flagging, fencing, or by other easily visible means, and will be maintained until the biologist has determined that the young have fledged.					
BIO-8	The following mitigation measures will be implemented to mitigate potential impacts to Townsend's big-eared bat, pallid bat, western red bat, and other roosting bats: (Preconstruction Survey) Prior to Project activities that will impact potentially suitable roosting habitat for special-status bats (e.g. removal or modification of buildings or bridges, removal of shrubs or trees) a qualified biologist will conduct preconstruction surveys within 14 days of the onset of these activities. The surveys will include inspecting any suitable roost sites for bat sign (guano, etc.) and completing an acoustic	During Construction Activities	Daily	RD 1500 and/or construction contractor	RD 1500 with assistance of a qualified biologist	

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
	monitoring survey and evening emergence survey at all locations suitable for bats, as determined by the qualified biologist. The bat acoustic monitoring survey will include setting up bat detectors adjacent to the suitable structures the afternoon before the emergence survey, which will be left in place for at least two nights, and will be used to determine which species are utilizing the area. The evening emergence surveys will include watching for bats emerging from suitable structures over two consecutive nights. If no emerging bats are found within the survey area, no further mitigation would be required. (Avoidance, Consultation, and/or Establish Buffers) Should active roosts for special-status bats be observed, or active roosts for other bat species are observed during the bat winter roosting season (November 1 through April 15) or maternity roosting season (May 15 through August 15), these bat roosts will be avoided and buffers will be established. If any active special-status bat roosts are discovered near proposed work areas, the biologist will consult with CDFW to determine appropriate disturbance-free setback distances and other minimization measures. Should any other bat winter or maternal roosts be discovered near proposed work areas, the biologist will determine appropriate disturbance-free setback distances. Disturbance-free buffers will be identified on the ground with flagging, fencing, or by other easily visible means, and will be maintained until the biologist and/or CDFW has determined the roost is no longer active. (Exclusion) Should active roosts for bats be identified, bats may be excluded from occupied					

Mitigation, Monitoring, and Reporting Program						
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	features outside of the bat winter roosting season (August 15-November 1) and maternity roosting season (April 15-May 15 and). An exclusion plan would be developed in consultation with CDFW for any special-status bat roosts, and may include compensation, exclusion methods, and roost removal methods to safely exclude roosting bats from the roosting structure to be removed, monitoring the roost during eviction, and a discussion of type, amount, and distance of suitable habitat near the habitat to be removed. Should any other bat winter or maternal roosts be discovered near proposed work areas, the biologist will develop the exclusion plan. Exclusion methods may include the use of one-way doors at roost entrances, or sealing roost entrances when a site can be confirmed to contain no bats.					
BIO-9	The following mitigation measures will be implemented to mitigate potential impacts to waters of the United States and other jurisdictional waters and wetlands: (Delineation) An aquatic resources delineation will be prepared for the Project area, to determine the boundaries of all potentially jurisdictional waters present. (Minimization) Based on the results of the aquatic resources delineation, the Project will be designed to minimize impacts to potentially jurisdictional waters to the maximum extent practicable while still achieving its goal of flood control. (Permits) If the final Project design requires impacts to areas of jurisdictional waters, permits under Section 404 and 401 of the Clean Water Act and a Streambed Alteration Agreement will be obtained for the Project, and the Project will	Before Construction Activities	Daily	RD 1500 and/or construction contractor	RD 1500 with assistance of a qualified biologist	

Mitigation, Monitoring, and Reporting Program						
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	adhere to all conditions of the permits, such as compensatory mitigation requirements, survey requirements, monitoring requirements, timing requirements and reporting requirements.					
BIO-10	The following mitigation measures will be implemented to mitigate potential impacts related to the degradation of water quality in seasonal drainages and downstream waters: (Preparation of a Storm Water Pollution Prevention Plan) The District will have a certified contractor prepare a Storm Water Pollution Prevention Plan (SWPPP) that includes erosion and sedimentation control Best Management Practices (BMP's) to protect water quality and measures to prevent contaminants from entering storm water. The plan would include, at a minimum, provisions that the limits of construction be defined and wattles or other appropriate erosion controls be placed downstream and/or downslope of areas where ground disturbance will occur, to prevent flows and/or surface runoff from causing erosion. The plan will also require all exposed graded slopes to be stabilized. (Spill Containment and Material Storage) The contractor shall store fuel used for contractor equipment and hazardous materials away from the APE. When possible, the contractor shall not refuel construction equipment when working adjacent to potential waters of the United States or State. If refueling is necessary near potential waters of the United States or State, the contractor shall use portable spill containment equipment or maintain a spill containment kit during construction.	Before and During Construction Activities	Weekly inspections and inspections prior to and following storm events	RD 1500 and/or construction contractor	RD 1500 with assistance of a qualified SWPPP developer and/or qualified SWPPP practitioner	

Mitigation, Monitoring, and Reporting Program						
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BIO-11	The following mitigation measures will be implemented to mitigate potential impacts to mixed riparian forest habitat: (Vegetation Survey) Prior to Project construction, a qualified biologist will survey all mixed riparian forest habitat with the potential to be impacted by construction and will record the species, location, and diameter at breast height (DBH) of each tree and the general flora present within this habitat. Upon Project completion, a qualified biologist will survey the mixed riparian forest habitat again to determine if any of this habitat was impacted. (Revegetation) The District will prepare a revegetation plan to provide compensation for removal of any riparian trees and associated riparian vegetation. It will include replacement tree plantings at a ratio of 3:1 for trees with a DBH between 4 and 24 inches, and at a ratio of 10:1 for trees with a DBH greater than 24 inches. Associated species of Great Valley mixed riparian forest will also be included in the revegetation plan. The revegetation plan will also detail the methods for planting, irrigating, and maintaining any replacement revegetation planted. All plantings will be monitored annually for a minimum of five years.	Before, During, and After Construction Activities	Annually for five years after construction	RD 1500 and/or construction contractor	Annual Revegetation Monitoring Report	
Cultural Resources						
CUL-1	(Archaeological Remains) Should archeological remains or artifacts be unearthed during any stage of project activities, work in the area of the discovery shall cease until the area is evaluated by a qualified archaeologist. If mitigation is warranted, the Project proponent shall abide by recommendations of the archaeologist.	During Construction Activities	Daily during excavation and ground disturbance activities	RD 1500 and/or construction contractor	RD 1500 with assistance of a qualified archaeologist	
CUL-2	Proposed modifications to the exterior of PP1 shall conform with the Secretary of the Interior's	Before Construction Activities	Completion of Design Plans	RD 1500	RD 1500 with assistance of	

Mitigation, Monitoring, and Reporting Program						
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	Standards for Preservation and the Secretary of the Interior's Standards for the Treatment of Historic Properties as economically and technically feasible to realize the objectives of the proposed Project. Additionally, an architectural historian that meets the Secretary of the Interior's Professional Qualifications Standards for architectural history or a historic architect that meets the Secretary of the Interior's Professional Qualifications Standards for historic architecture shall be retained to review project Plans at concept, preliminary, and final design for compliance with the Secretary of the Interior's Standards for the Treatment of Historic Properties.				a qualified historic architect	
CUL-3	New construction of the elevated electrical control building shall conform with the Secretary of the Interior's Standards for the Treatment of Historic Properties as economically and technically feasible to realize the objectives of the proposed Project. The Secretary of the Interior Standards for the Treatment of Historic Properties stipulates that new construction needs to be built in a manner that protects the integrity of the historic building(s) and the property's setting. It further stipulates that the massing, size, scale, and architectural features of new construction on the site of a historic building must be compatible with those of the historic building. When visible and in close proximity to historic buildings, the new construction must be subordinate to these buildings. New construction should also be distinct from the old and must not attempt to replicate historic buildings elsewhere on site to avoid creating a false sense of historic development. Additionally, an architectural historian that meets the Secretary of the Interior's Professional Qualifications Standards for architectural history or a historic architect that	Before Construction Activities	Completion of Design Plans	RD 1500	RD 1500 with assistance of a qualified historic architect	

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Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
	meets the Secretary of the Interior's Professional Qualifications Standards for historic architecture shall be retained to review Project plans at concept, preliminary, and final design for compliance with the Secretary of the Interior's Standards for the Treatment of Historic Properties. As the design of the new elevated electrical control building progresses, the exterior of the building will be styled to coordinate architecturally with the nearby historic Pumphouse No. 1 building.					
CUL-4	(Human Remains) In the event that human remains are discovered on the Project site, the Sutter County Coroner must be notified of that discovery (Health and Safety Code Section 7050.5) and all activities in the immediate area if the find or in any nearby area reasonably suspected of overlies adjacent human remains must cease until appropriate and lawful measures have been implemented. If the Coroner determines that the remains are not recent, but rather of Native American origin, the Coroner shall notify the Native American Heritage Commission (NAHC) in Sacramento within 24 hours to permit the NAHC to determine the most likely descendent of the deceased Native American.	During Construction Activities	Daily during excavation and ground disturbance activities	RD 1500 and/or construction contractor	RD 1500 with assistance of County Coroner	
CUL-5	Monitoring of PP2 and PP3 demolition activities by a qualified archaeologist and tribal monitor due to potential for discovery of human remains and/or cultural materials in the levees and any non-disturbed sediments will be coordinated with the potentially affected tribes.	During Demolition of PP2 and PP3	During demolition activities	RD 1500 and/or construction contractor	RD 1500 with assistance of qualified archaeologist and tribal monitor	
Geology and Soils						
GEO-1	Should a unique paleontological resource, site, or unique geological feature be unearthed during any stage of Project activities, work in the area of discovery will cease until the area is evaluated by a qualified geologist and/or paleontologist. If discoveries are uncovered, the Project proponent	During Construction Activities	Daily during excavation and ground disturbance activities	RD 1500 and/or construction contractor	RD 1500 with assistance of a qualified geologist and/or paleontologist	

Mitigation, Monitoring, and Reporting Program						
Item	Mitigation Measure	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
	will abide by recommendations of the geologist or paleontologist.					
Hazards and Hazardous Materials						
See BIO-10.						
Hydrology and Water Quality						
See BIO-10.						
Tribal Cultural Resources						
TCR-1	At least 30 days prior to the start of any ground-disturbing activities, the District shall notify the United Auburn Indian Community of the Auburn Rancheria to determine if the tribe would like to be present during ground-disturbing activities. If the tribe determines a monitor is required, the District shall retain a paid tribal monitor approved by the United Auburn Indian Community of the Auburn Rancheria. The monitor would only be present during ground-disturbing activities. The term "ground-disturbing activities" includes activities such as grading, excavation, trenching, clearing, and drilling within the Project site. If the tribal monitor determines the presence of cultural soils is negative, no additional monitoring would be required. All monitoring would cease following the completion of ground-disturbing activities	During Construction Activities	Daily during excavation and ground disturbance activities	RD 1500 and/or construction contractor	RD 1500 with assistance of County Coroner	
See CUL-1 and CUL-4.						