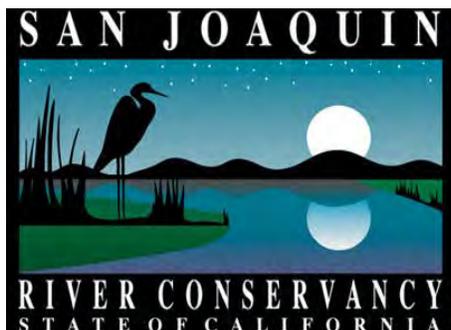


DRAFT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

for

**San Joaquin River Parkway
Sycamore Island Pond Isolation Project (Pit 46e)**



January 2015

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INITIAL STUDY/DRAFT MITIGATED NEGATIVE DECLARATION
San Joaquin River Parkway Sycamore Island Pond Isolation Project (Pit 46e)

1. **Project Title:** San Joaquin River Parkway Sycamore Island Pond Isolation Project
2. **Lead agency name and address:** San Joaquin River Conservancy
5469 E. Olive Avenue
Fresno, CA 93727
3. **Contact person and phone number:** Ms. Melinda Marks
Executive Officer
(559) 253-7324
4. **Project location:** Madera County and Fresno County
5. **Project sponsor's name and address:** N/A
6. **General plan designation:** Madera County: Planned Open Space; Fresno County: Agriculture Exclusive-5 acres
7. **Zoning:** Madera County: POS; Fresno County AE-5
8. **Description of project (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary):**

See attached.
9. **Surrounding land uses and setting:**

See attached.
10. **Other public agencies whose approval is required (e.g. permits, financing approval, or participation agreement):**

California Regional Water Quality Control Board, Central Valley Region

California Department of Fish and Wildlife

Central Valley Flood Protection Board

State Lands Commission

United States Army Corps of Engineers

United States Fish and Wildlife Service

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

Aesthetics		Agriculture and Forestry Resources	Air Quality
Biological Resources		Cultural Resources	Geology and Soils
Greenhouse Gas Emissions		Hazards and Hazardous Materials	Hydrology and Water Quality
Land Use and Planning		Mineral Resources	Noise
Population and Housing		Public Services	Recreation
Transportation/Traffic		Utilities and Service Systems	Mandatory Findings of Significance

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
X	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
	I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature: Melinda Marks

Date: Jan. 26, 2015

Printed name: Melinda Marks For: San Joaquin River Conservancy

Notice of Intent to Adopt a Mitigated Negative Declaration

Pursuant to the provisions of Title 14, Section 15072 of the California Code of Regulations, the San Joaquin River Conservancy (Conservancy) gives notice of its intent to adopt the mitigated negative declaration for the project: San Joaquin River Parkway Sycamore Island Pond Isolation Project (Pit 46e).

The Conservancy proposes to restore alternate vehicle access between Sycamore Island and the Van Buren Unit on the San Joaquin River, repairing a 2005 berm breach and isolating Pit 46e from the river channel. The project would additionally construct an equalization saddle, strengthen the existing berm, create a gravel road on top of the saddle and berm, and create and restore floodplain habitat.

The mitigated negative declaration proposed for adoption for this project finds that the proposed project will not have a significant effect on the environment and that preparation of an environmental impact report is not required.

For additional information about this project or for copies of the initial study/draft mitigated negative declaration, contact Ms. Melinda Marks at (559) 253-7324.

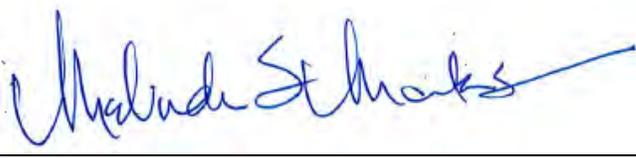
A comment period for the initial study/draft mitigated negative declaration will begin January 27, 2015, and will end February 25, 2015.

Written comments should be mailed to:

San Joaquin River Conservancy
5469 E. Olive Avenue
Fresno, CA 93727
Attention: Melinda Marks

Electronic comments can be sent to:

info@sjrc.ca.gov

By: 

Date: Jan. 26, 2015

Melinda Marks, Executive Officer
San Joaquin River Conservancy

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INITIAL STUDY/ DRAFT MITIGATED NEGATIVE DECLARATION

Background

In 1988, the San Joaquin River Parkway and Conservation Trust was formed due to concern over the loss of San Joaquin Valley wetlands and river resources. Awareness of the need for comprehensive planning for resource management led to state legislative action. The State Legislature passed Assembly Bill 3121 in 1990, authorizing funds for the San Joaquin River Parkway Taskforce. Taskforce members included representatives of state and local governmental agencies and organizations with interest in the river and effects of the parkway. Through additional legislation, the San Joaquin River Conservancy (Conservancy) was created.

The Conservancy is a regionally-governed State agency created to develop and manage the San Joaquin River Parkway (Parkway), a planned 22-mile natural recreational area in the San Joaquin River floodplain extending from Friant Dam to Highway 99. The Conservancy's mission includes acquiring approximately 5,900 acres of land from willing sellers; developing, operating, and managing those lands for public access and recreation; and protecting, enhancing, and restoring riparian and floodplain habitat. In 1997, the Conservancy adopted the *San Joaquin River Parkway Interim Master Plan (Parkway Plan)*, and certified the associated Environmental Impact Report (EIR). In 2012, the County of Madera and Conservancy adopted the *River West Madera County Master Plan Initial Study/Mitigated Negative Declaration (River West Madera Plan)*. This document was prepared to tier from the Parkway Plan, and provides a narrower, site specific environmental analysis of the project area not provided in the Parkway Plan. The Proposed Project lies largely within, and is consistent with, the River West Madera Plan).

Proposed Project

There are several reclaimed gravel pits created by mining operations along the river in the Conservancy's planning area. Many of these gravel pits are separated from each other and from the river by earthen berms. These earthen berms are not levees constructed to flood control standards, and tend to fail during high flow events.

The reclaimed gravel pit, designated Pit 46e by the Department of Water Resources (DWR), is located just downstream of the Conservancy's Proctor Broadwell Cobb property (also known as the Van Buren Unit) and upstream of the Conservancy-owned Sycamore Island recreation area on the Madera County side of the river (Figure 1). The earthen berm that previously separated the gravel pit pond and river channel and provided a vehicle access road between the properties was breached in a 2005 high-flow event, eliminating the vehicle access route.

The Proposed Project (Project) is to restore alternate vehicle access to the Sycamore Island recreation area by repairing the berm breach and isolating Pit 46e from the river channel. The Project would also construct an equalization saddle (saddle), strengthen the existing berm, create a gravel road on top of the saddle and berm, and create floodplain habitat. The Conservancy's Board of Directors approved a plan for DWR to perform all planning, design, and environmental compliance work associated with the Project, and DWR entered into an agreement with the Wildlife Conservation Board (WCB), who provided the funding.

This initial study/mitigated negative declaration tiers from the Parkway Plan. The Parkway Plan and the River West Madera Plan are incorporated by reference. Consistent with California Environmental Quality Act (CEQA) Guidelines section 15168, the Conservancy is the lead agency for the project and for this site-specific mitigated negative declaration. This Project is consistent with the Land Use Consistency discussion in pages 4-1 through 4-22 of the Parkway Plan.

Location

The Project would be constructed near River Mile (RM) 253.5 on the right bank of the river about 1.6 miles downstream of the State Route (SR) 41 Bridge in Madera County and on the left bank of the river in Fresno County (Figure 1). The Project and all features are located within the state property owned by the Conservancy or within State Sovereign Lands under the jurisdiction of the State Lands Commission.

Environmental Setting

The Project Area is located in portions of Fresno and Madera Counties. The area is part of the San Joaquin Valley bioregion which is bordered on the west by the Diablo and Coast Ranges and on the east by the Sierra Nevada foothills (CNRA, 2003).

Average summer temperatures in the area are in the mid-90's, but can exceed 100° F. Rainfall in the area typically falls between November and April and averages 11 inches per year. The average winter temperature is 37° F, and Tule fog is frequent. Habitat in the valley includes vernal pools, valley sink scrub and saltbush, freshwater marsh, grasslands, arid plains, and oak savannah (CNRA, 2003).

Fresno County has approximately 1.88 million acres in productive farmland; Madera County farms approximately 1.37 million acres. The major river is the San Joaquin, with tributaries of the Stanislaus, Tuolumne, Merced, and Fresno rivers. The California Aqueduct extends the entire length of the bioregion. The southern portion of the bioregion includes the Kings, Kaweah, and Kern rivers, which drain into closed interior basins. No significant rivers or creeks drain into the valley from the Coast Range. The Project is on the San Joaquin River.

Historically, millions of acres of wetlands flourished in the bioregion, however, stream diversions for irrigation dried all but about 5 percent. Remnants of this vanishing habitat are protected in the San Joaquin Valley bioregion in publicly owned parks, reserves, and wildlife areas.

Project Description

Repair of the breached berm is necessary to provide access between Sycamore Island and the Van Buren Unit and to achieve consistency with the goals of the adopted Parkway Plan and the River West Madera Plan. The Project would repair the existing berm breach, including construction of an equalization saddle (saddle), strengthening the existing berm, and creating a gravel road on top of the saddle and berm. The Project will also isolate the Pit 46e gravel pond from the river channel, create floodplain habitat, and will restore habitat. Two onsite borrow sites may be excavated for fill. The borrow sites would be restored; a portion of the one closest to the river would be restored as floodplain habitat. The Project will serve multiple objectives:

- Provide a management road and future trail access between the Parkway units;
- Provide emergency access and egress for Sycamore Island;
- Protect the berm and road from damage from river currents and floods;
- Isolate the warm-water gravel pond from the river channel and provide for off-stream recreational fishing; and
- Restore floodplain, riparian, and fisheries habitat as feasible.

Project Features Overview

The following features would be included in the Project (Figure 2):

- Transport equipment to the project area as required for each construction phase;
- Add gravel to improve existing dirt haul roads;
- Install a temporary crossing between Borrow Site 1 and Staging Area 1;
- Construct an equalization saddle in the berm breach;
- Strengthen the existing berm;
- Create a floodplain along the river side of the strengthened berm;
- Create a gravel road on top of the berm and saddle to facilitate access between the Conservancy's Sycamore Island recreation area and the Van Buren Unit;
- Create about two acres of lower and upper floodplain along the river side of the strengthened berm and about two and one-half acres of lower and upper floodplain along the river in Borrow Site 1;
- Restore borrow sites, including filling a road breach on Borrow Site 1; revegetate floodplains and borrow sites.

Project features are described in detail below, and are shown in Figure 2.

Project Access and Staging

Various state, county, and local roads could be used for project access. State Route (SR) 41, SR 99 and Madera County roads Avenue 9, Avenue 7 ½, Road 40, and Children's Boulevard could be used to transport equipment and crews to and from the Project Area. The following City of Fresno roads could also be used to transport equipment and crews: Herndon Avenue, Blackstone Avenue, Friant Road, Audubon Drive, North Del Mar Avenue, West Riverview Drive, Nees Avenue, and with the City of Fresno's permission, the intersection of Palm and Nees Avenues. Equipment would be brought into the project on flatbed trucks as needed for each construction phase, but would not exceed 20 trips throughout Project construction. Approximately 850 truck trips will be needed to import Project materials.

Two existing dirt roads in the Project Area can be used for equipment and crew access. One of the roads is on the Madera County side of the project; the other is on the Fresno County side (see Figure 2). Each is approximately two miles long. A portion of the access road near Borrow Site 1 on the Fresno County side is currently under private ownership, but ownership is expected to be transferred to the San Joaquin River Parkway and Conservation Trust prior to construction of this Project. It is expected that the River Parkway Trust, a nonprofit organization to benefit the Parkway, will allow access for construction purposes. The road on the Madera County side will include three staging and spoils areas. Staging Area 1 will be approximately 4.5 acres, Staging Area 2 will be approximately 2 acres, and Staging Area 3 will be approximately 3 acres. The staging areas will be located along the dirt haul road on the Madera County side (see Figure 2). These areas would be used to store equipment, supplies, and borrow and fill material.

In order to transport equipment on the haul roads, gravel may be added to the surface of the Conservancy-owned road on the Fresno County side of the Project. Approximately 850 cubic yards (cy) of gravel may be placed on the haul roads.

The existing dirt roads would be used to haul material from the borrow sites to the construction area. The overall haul route would include the two dirt roads as well as installation of a temporary crossing to connect Borrow Site 1 with Staging Area 1. The temporary crossing would consist of either a rail car bridge or multiple pipe culverts, and would require narrowing the low-flow river channel for the duration of Project construction. The location selected for the temporary crossing is the site of a bridge crossing previously used by the gravel mining operation; the damaged bridge was removed in 2005.

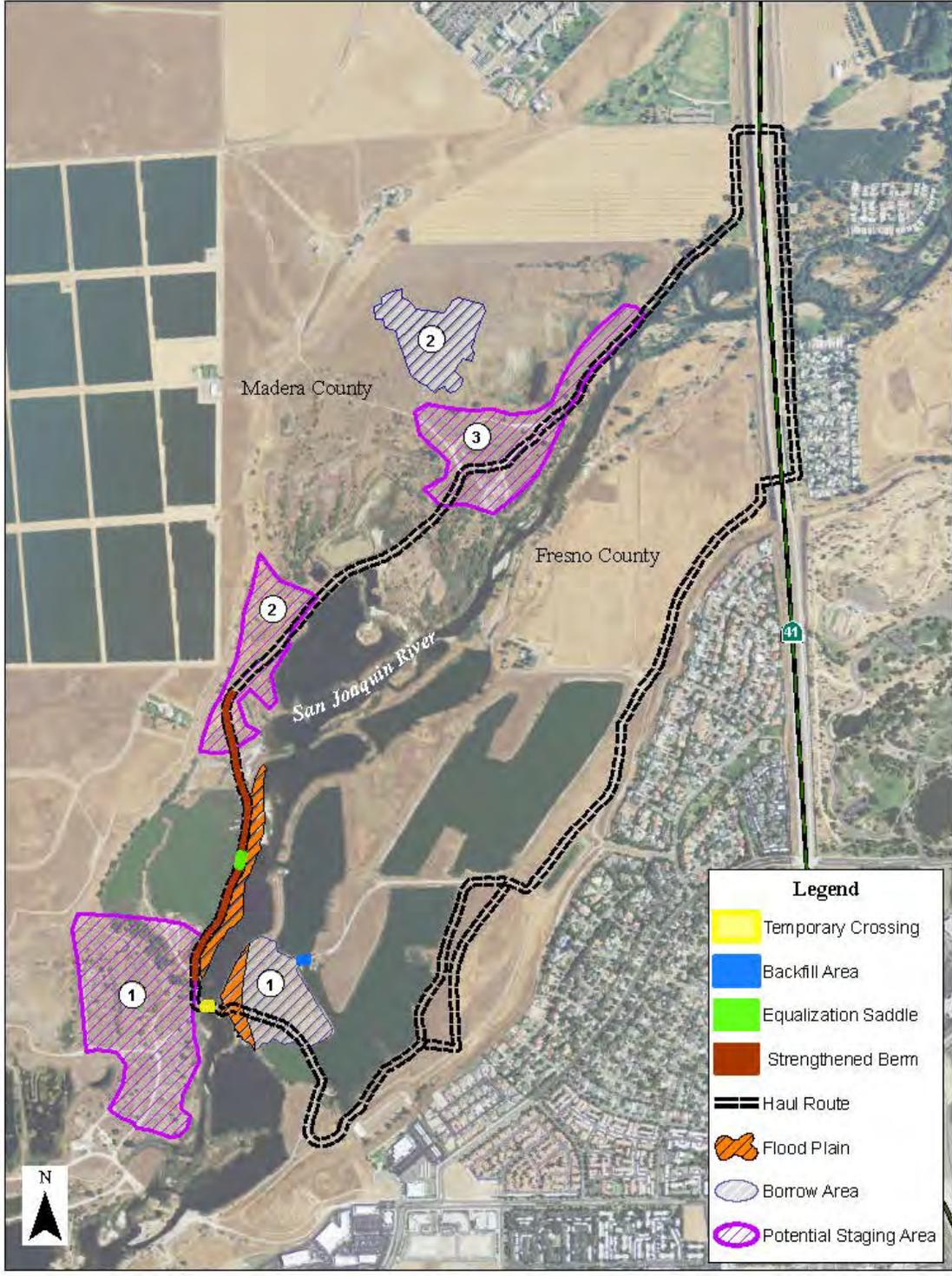


Figure 2: Project Features

To install the crossing, the low-flow river channel would be narrowed to accommodate an approximately 12 foot wide, 89 foot long railroad flat car or several corrugated metal pipe culverts (see Figure 3). If the railroad flat car is used, fill would be deposited in the channel, but only in areas to provide abutment support for the flat car. If the culvert option is used, the size and number of culverts would be calculated based on the expected flow during construction; fill would be needed throughout the length of the crossing. If the culverts are used there will be approximately 3.5 feet of clearance between the 350 cfs water surface and the top of the culverts; if the railroad flat car is used there will be approximately 3.5 feet of clearance between the 350 cfs water surface and the bottom of the flat car bridge. Fill material would be obtained from the borrow sites, but material may be imported if a sufficient amount is not available onsite.

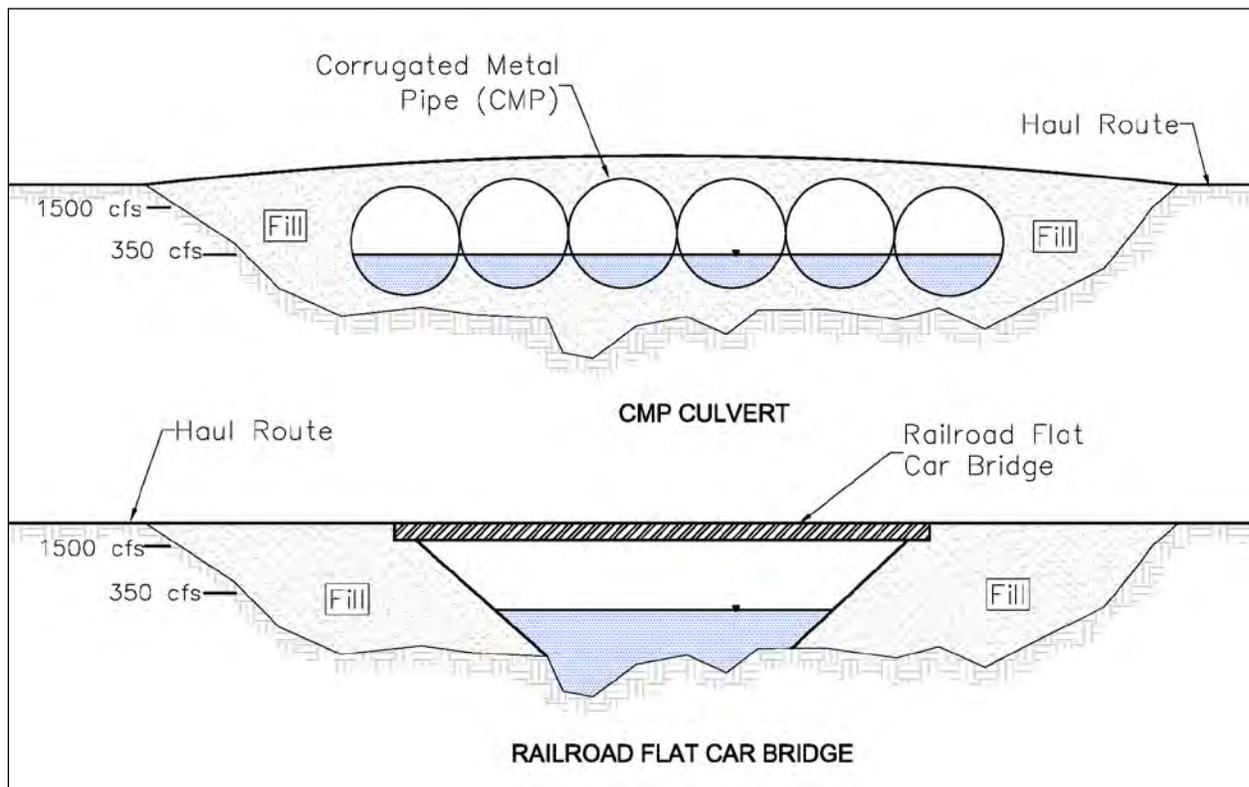


Figure 3: Conceptual Temporary Crossing Options Diagram

The channel would not be dewatered for construction of the crossing; materials for the railcar option would be placed by excavator or bulldozer from the bank on each side of the channel, and the railcar bridge would be placed by crane. Materials for the culvert option would also be placed by excavator and bulldozer, and the culverts would be placed using an excavator or crane.

After project construction is complete, an excavator and crane would be used to remove the temporary crossing and fill materials from the low-flow channel; the area would be restored as described in the Revegetation Plan (Appendix A) and consistent with any permit conditions.

If a temporary crossing is not installed between Borrow Site 1 and Staging Area 1, then materials from borrow sites would be transported only on the existing dirt roads. However, this

option will be avoided if possible because hauling material without the use of the crossing would significantly lengthen the haul trips and would cause a less efficient use of construction time and resources.

During each phase of construction, equipment would be brought in on flatbed trucks using existing roads. Equipment would be stored in the staging areas or removed from the construction site when no longer needed.

Equalization Saddle

The saddle is the portion of the berm that would be constructed in the breach area and would be composed of large boulders and river cobbles. Typical sections of a saddle are shown in Figure 4. The saddle will allow the gravel pit pond to efficiently equalize its water level with the river channel during flow fluctuations by allowing water to pass through the pores between the boulders and cobbles more quickly than it would pass through standard compacted berm material. When flow in the channel increases, water would flow through the saddle to avoid creating high pressure differences in the berm between the river and pond sides, thus preventing berm failure. The saddle will be designed to overtop when flow exceeds 8,000 cfs. The approximate length of the saddle would be no more than 300 feet, the approximate top width of the saddle would be 32 feet, and the height would be about 9 feet.

A portion of the existing berm on the both sides of the berm breach would be excavated using bulldozers and excavators to accommodate the proposed saddle and would be constructed with imported materials. The excavated material could be used either for berm improvement, mixed with other materials suitable for floodplain fill, or deposited in the designated spoils areas. Materials containing invasive plant species would only be used in ways consistent with California Department of Fish and Wildlife invasive species protocols. The saddle would be constructed using an excavator. A layer of geotextile material would be provided at the boulder-soil interface.

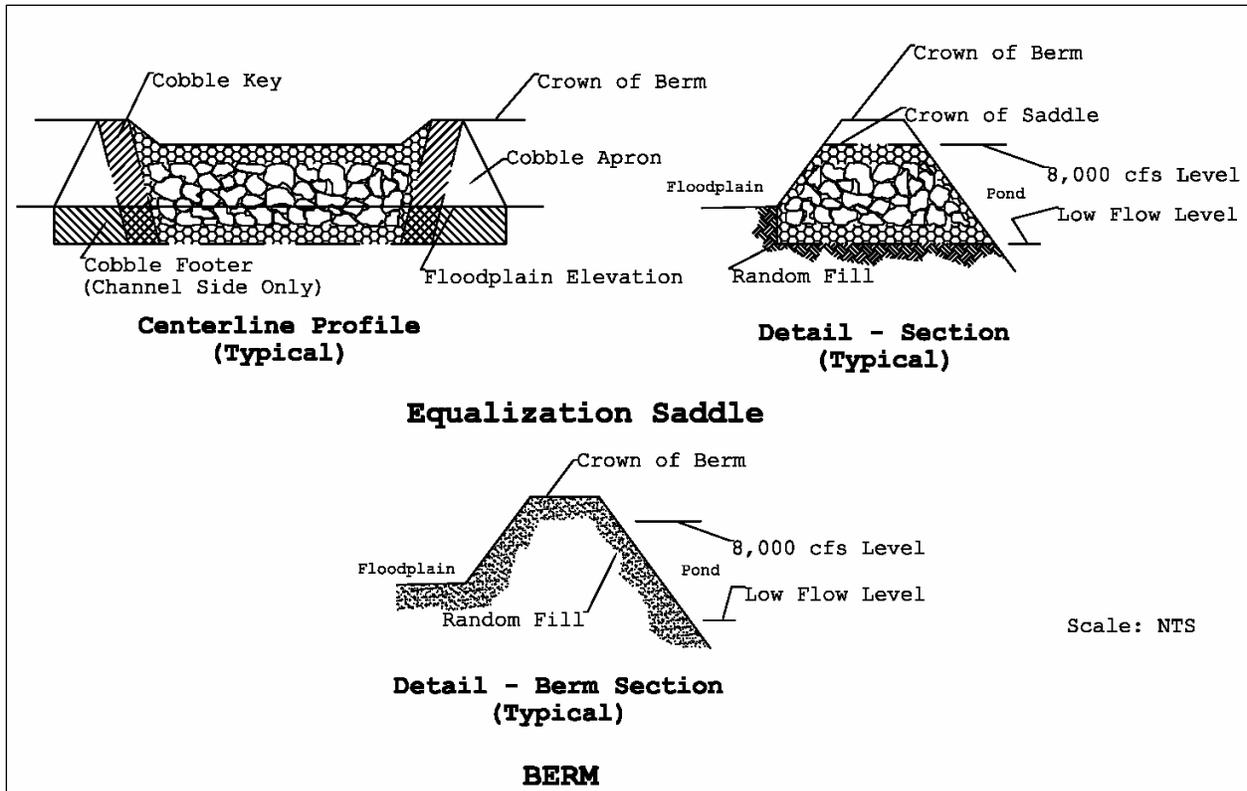


Figure 4: Typical Sections of Equalization Saddle and Berm Design

Berm Improvements

In addition to repairing the berm breach that occurred in 2005, improvements to the berm must be made to reduce the risk of future failure. Improvements will increase the berm crown elevation to at least three feet above the predicted 8,000 cfs water surface elevation, and will increase the width of the berm to about 20 feet. The height of the improved berm and road would be designed to overtop when flow exceeds approximately 13,000 cfs.

The berm on both sides of the saddle would be raised to the design elevation using compacted fill material from the borrow sites or from imported sources. Narrow sections of the existing berm would be widened to meet design parameters. A typical section of the improved berm is shown in the bottom portion of Figure 4.

Approximately 7,000 cy of material would be needed to complete the berm improvements. Berm improvements would be constructed using excavators, dump trucks, road graders, bulldozers, and rollers.

Gravel Road

A road will be constructed on top of the berm and saddle to facilitate access between the Sycamore Island recreation area and the Van Buren Unit. Approximately 700 cy of gravel will be used to construct a 12-foot-wide road surface on the crest of the berm and saddle. Decomposed granite may also be used for the road surface. The gravel or decomposed granite would be placed using dump trucks, loaders, and bulldozers or similar equipment and would be compacted.

Road stability over the saddle would be achieved either by using a polyethylene cellular confinement system or a precast concrete mat system. A layer of geotextile fabric would first be placed on the saddle before either of the road reinforcement systems is installed. If the cellular confinement system is used, then additional gravel would be added to the top of the polyethylene material. If the concrete mat system is used, then sheets of interlocked concrete mats would be laid out by a crane or excavator and tied together to ensure resistance to scour during high flow events. Spaces between the concrete blocks would be filled with the same type of gravel used on the road surface.

Borrow Sites

The locations of the borrow sites are shown in Figure 2. Approximately 50,000 cy of material would be needed to construct the equalization saddle, create floodplain along the berm, install the temporary crossing, and backfill the road breach between Borrow Site 1 and the land on the Fresno County side.

Borrow Site 1 would be a new borrow site located across from Staging Area 1 on the Fresno County side of the river; Borrow Site 2 is a previously used site located on the Madera County side of the project, approximately one mile upstream of the Pit 46e breach (Figure 2). Both borrow sites are approximately 15 acres in size. To reduce the amount of construction-related travel and emissions and to increase habitat benefits achieved by the Project, use of Borrow Site 1 is preferred for this project, although material from Borrow Site 2 would be extracted if needed.

Material from the borrow sites would be excavated and used when fill is needed for the Project. Borrowed material would be used during installation of the temporary crossing, construction of the saddle, and to strengthen the berm and create floodplain habitat along the berm. Borrowed material would also be used to fill the area where a road washed out on the northeast side of the Borrow Site 1.

Material excavated from the borrow pit in Borrow Site 1 would be suitable for the in-water construction of the temporary crossing, construction of the saddle, and to strengthen the berm and create floodplain along the strengthened berm. Material excavated during creation of floodplain habitat on the river side of Borrow Site 1 is not suitable for construction of the in-water Project features, but would be suitable to fill and reclaim the borrow pit in Borrow Site 1 at the end of construction. If sufficient material is not available in the borrow sites to complete in-water construction, then fill material would be imported.

Floodplain

Approximately 4.5 acres of upper and lower floodplain would be created as part of the Project. Up to two acres would be created along the strengthened berm on the Madera County side of the river, and approximately 2.5 acres would be created on the river edge of Borrow Site 1 on the Fresno County side. See Figure 5 for a conceptual diagram of floodplain design.

A portion of the river channel adjacent to the existing berm would be filled using material from the borrow sites and imported materials consisting of river silts, sands, and gravels. The floodplains would be designed to provide a gently sloping bank down to the low flow water line and a relatively flat upper surface extending from the toe of the berm to the new low flow water surface. The maximum width of the floodplain along the berm would be approximately 100 feet. To allow the saddle to operate at flows between the design low flow and bankfull flow, the floodplain directly between the saddle and the channel would be constructed so that the floodplain elevation would not be higher than the low-flow water elevation.

Upon Project completion, the river side of Borrow Site 1 would be re-graded as floodplain. Approximately 19,000 cy of borrow material would be used to fill the area where a road washed out on the northeast side of Borrow Site 1. The material excavated for creation of floodplain on Borrow Site 1 would be used to fill the portion of Borrow Site 1 that was excavated for project fill.

The floodplains would be constructed using dump trucks, bulldozers, excavators, scrapers, and loaders.

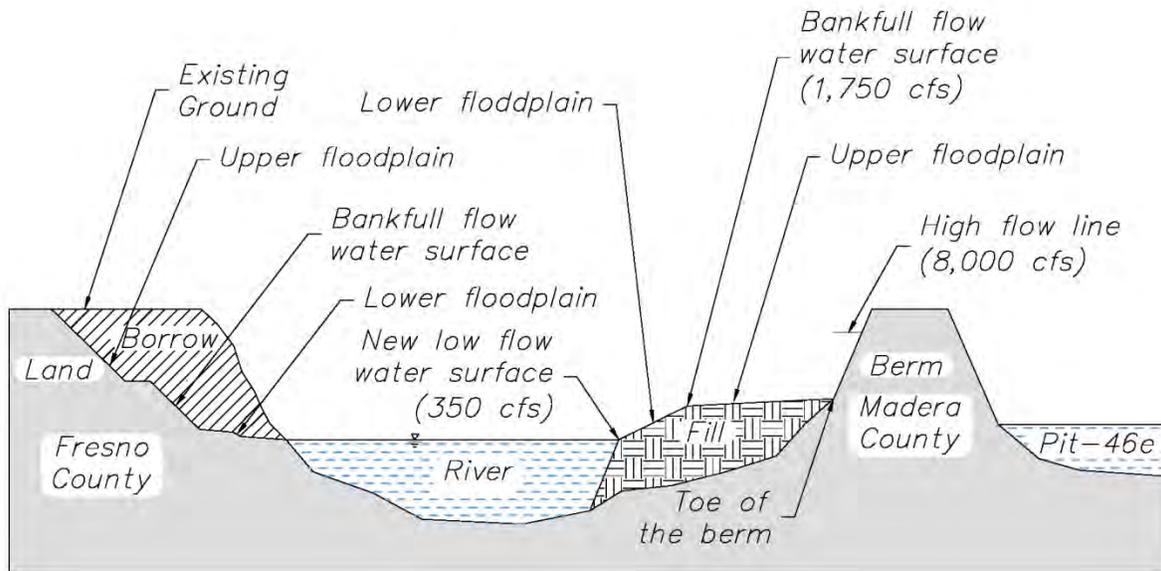


Figure 5: Conceptual Floodplain Diagram (looking downstream)

Revegetation

The floodplains will be planted with riparian vegetation. Riparian species may include valley oak, cottonwood, willow, sycamore, and other riparian species native to the area including shrubs, forbs, and grasses.

After construction is complete, and before the rainy season begins, topsoil would be replaced on the floodplains and the borrow sites. Hydroseeding and planting of pole cuttings would occur on the disturbed waterside slope areas of the strengthened berm. Pole cuttings would be installed at the low flow water level using a D-8 tractor equipped with a ripper shank with trailing flanges to penetrate the soil to a minimum depth of 48 inches, forming a "planting pocket." As the shank moves along the predetermined planting lines, cuttings would be placed in the planting pocket so that the rooting end of the cutting is at a minimum soil depth of 42 inches. Cuttings would be placed about 12 feet apart along the planting lines, and the rows would be about 20 feet apart. Spacing of the cuttings would comply with Central Valley Flood Protection Board requirements to ensure that the vegetation will not obstruct high water flows. Planting would be conducted in late fall or early winter while the pole cuttings are dormant. The cuttings may initially be watered by a water truck or other mobile source to assist in establishment of the plants during the first growing season.

Construction Details

Work Window

Project construction would require a total of six months of work. However, in the event of permit restrictions, increases in river flows, or other unforeseen circumstances, the six months of construction work may take place over two construction seasons. Depending on funding and permit requirements, construction could begin in mid-June of 2016.

All work would take place beginning at 6:00 am and ending by 6:00 pm each day; no work would be done after dark.

Site Preparation

Signage regarding the Project will be posted at least two weeks before the start of construction. The Project Area is adjacent to Sycamore Island, which is seasonally open for public recreation. Signs will be posted to prohibit the public from entering the construction area and to redirect the public to recreation areas outside of the construction area. If permit conditions require resource protection, areas with sensitive resources such as wildlife habitat and waterways would be segregated from construction activities and protected by the contractor. Segregation measures may include erosion control devices, high visibility temporary fencing, and temporary chain-link fencing. Appropriate fencing would also be installed during this phase to restrict public access from the construction area. If a silt curtain is required, it would be installed in the water before construction begins. Staging and borrow areas would be mechanically cleared of vegetation and topsoil, and potentially fenced. A site office would be established in one of the staging areas.

Sequencing of Work

Multiple crews would likely work simultaneously on different components of the Project. Table 1 lists the expected duration of each construction phase; some phases may occur simultaneously.

Table 1. Approximate Duration of Construction Phases

Construction Phase	Length of time to complete
Mobilization	1 week
Site Preparation	2 weeks
Saddle Construction	6 weeks
Berm Improvements	4 weeks
Floodplain Construction/ Fill material hauling	12 weeks
Miscellaneous	5 weeks

Prior to construction the following would occur:

- 1) At least two weeks prior to construction, biological and other environmental surveys would be conducted by DWR Environmental Scientists;
- 2) Utility companies would be informed of the proposed construction;
- 3) Signage would be posted two weeks prior to construction;
- 4) Mowing would occur prior to construction as needed;

- 5) Fencing, flags or other methods to protect private structures or facilities from construction would be installed.

Construction Crews and Equipment

Average daily commuter trip miles for DWR staff are estimated at 12 miles each way from the DWR Fresno office. The daily commuter trip for contractor crews is estimated to range from 15 to 25 miles each way. Heavy equipment for each phase would be dropped off at the site by the contractor prior to construction of the phase, and will remain on-site until the equipment is no longer needed. Equipment would be stored in the staging areas when not in use. Table 2 describes the type and horsepower of the heavy equipment that would likely be used during construction. Final equipment selection will depend on the contractor.

Table 2. Construction Equipment List for Proposed Project

Equipment Type	Horsepower	Equipment Type	Horsepower
Generator	9	Compressor 750 CFM	275
Water Trucks 3600 Gal	400	Off Highway Truck 18-22 Ton	381
Backhoe	75	Flatbed Truck	250
Bobcats	50	4x2 Pick Up	250
Excavator (325L)	168	4x4 Pick Up	250
Compactor (815F Sheepfoot)	240	Foreman Operator 4x2 Pick Up	250
12H Motor Grader	165	Dump Truck	250
140H Motor Grader	185	Loader	120
D-8N Dozer	270		
623F Self Load Scrapers	365		

Operation and Maintenance

Once construction is complete, the Conservancy would contract with service providers to water the revegetated area. A water truck or other mobile source would likely be used during the first season to establish the plantings. Irrigation and weed control may continue during additional growing seasons to optimize plant survival. The Conservancy would be responsible for berm, road, and saddle maintenance, and any additional vegetation plantings.

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Initial Study Environmental Checklist

ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i><u>I. AESTHETICS</u></i> -- <i>Would the project:</i>				
a) Have a substantial adverse effect on a scenic vista?			X	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?			X	
c) Substantially degrade the existing visual character or quality of the site and its surroundings?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				X
<i><u>II. AGRICULTURE and FORESTRY RESOURCES</u></i> --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. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. <i>Would the project:</i>				
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?				X
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?				X

ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land as defined in Public Resources Code section 12220(g), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				X
d) Result in the loss of forestland or conversion of forestland to non-forest use?				X
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?				X
<i>III. AIR QUALITY</i> --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. <i>Would the project:</i>				
a) Conflict with or obstruct implementation of the applicable air quality plan?				X
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?		X		
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)?			X	
d) Expose sensitive receptors to substantial pollutant concentrations?		X		
e) Create objectionable odors affecting a substantial number of people?			X	
<i>IV. BIOLOGICAL RESOURCES</i> -- <i>Would the project:</i>				
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 Wildlife or U.S. Fish and Wildlife Service?		X		

ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		X		
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?		X		
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?		X		
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X
<i><u>V. CULTURAL RESOURCES--Would the project:</u></i>				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?				X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?				X
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		X		
d) Disturb any human remains, including those interred outside of formal cemeteries?		X		
<i><u>VI. GEOLOGY AND SOILS--Would the project:</u></i>				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				

ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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.				X
ii) Strong seismic ground shaking?				X
iii) Seismic-related ground failure, including liquefaction?				X
iv) Landslides?				X
b) Result in substantial soil erosion or the loss of topsoil?		X		
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?				X
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?				X
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?				X
<i>VII. GREENHOUSE GAS EMISSIONS--Would the project:</i>				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?		X		
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				X
<i>VIII. HAZARDS AND HAZARDOUS MATERIALS--Would the project:</i>				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?				X
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?		X		

ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
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?				X
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?				X
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?				X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
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?		X		
<i>IX. HYDROLOGY AND WATER QUALITY-- Would the project:</i>				
a) Violate any water quality standards or waste discharge requirements?		X		
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)?			X	
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?			X	

ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?			X	
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?				X
f) 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?				X
g) Otherwise substantially degrade water quality?		X		
h) 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?				X
i) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				X
j) 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?				X
k) Cause inundation by seiche, tsunami, or mudflow?				X
<i>X. LAND USE AND PLANNING-- Would the project:</i>				
a) Physically divide an established community?				X
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?		X		
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				X

ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>XI. MINERAL RESOURCES--Would the project:</i>				
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?				X
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?		X		
<i>XII. NOISE--Would the project result in:</i>				
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?		X		
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			X	
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				X
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?		X		
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?				X
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X
<i>XIII. POPULATION AND HOUSING--Would the project:</i>				
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)?				X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X

ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X
<i><u>XIV. PUBLIC SERVICES--Would the project:</u></i>				
a) 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:				X
Fire protection?		X		
Police protection?				X
Schools?				X
Parks?				X
Other public facilities?				X
<i><u>XV. RECREATION--Would the project:</u></i>				
a) 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?				X
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X
c) Reduce the availability or quality of recreational opportunities?		X		
<i><u>XVI. TRANSPORTATION/TRAFFIC--Would the project:</u></i>				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?				X

ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?			X	
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?				X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
e) Result in inadequate emergency access?				X
f) Result in inadequate parking capacity?				X
g) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?				X
<u>XVII. UTILITIES AND SERVICE SYSTEMS--</u> <i>Would the project:</i>				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?			X	
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?				X
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?				X
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?				X
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?				X

ENVIRONMENTAL IMPACTS:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			X	
g) Comply with federal, state, and local statutes and regulations related to solid waste?				X
<u>XVIII. MANDATORY FINDINGS OF SIGNIFICANCE</u>				
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?			X	
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)?			X	
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?				X
Note: Authority cited: Sections 21083 and 21087, Public Resources Code. Reference: Sections 21080(c), 21080.1, 21080.3, 21082.1, 21083, 21083.3, 21093, 21094, 21151, Public Resources Code; Sundstrom v. County of Mendocino, 202 Cal.App.3d 296 (1988); Leonoff v. Monterey Board of Supervisors, 222 Cal.App.3d 1337 (1990).				

Initial Study Environmental Checklist Discussion

I. AESTHETICS

Portions of this discussion have been summarized from the River West Madera Plan, pages 18 through 32.

Environmental Setting

The Project is located in portions of Madera and Fresno Counties at River Mile 253.5 (see Figure 1). The area is zoned as Planned Open Space (POS) on the Madera County side, and Agriculture Exclusive-5 acres (AE-5) on the Fresno County side. Project construction would occur in the San Joaquin River floodplain on reclaimed gravel mines which have been converted to a recreation area called Sycamore Island and a conservation area called the Van Buren Unit. The surrounding habitat is highly disturbed with some remnant riparian and wetland vegetation.

The area surrounding the project area consists of a relatively flat floodplain surrounded by relatively steep river bluffs. The most prominent landforms within the project area include the steep, north and south facing bluffs, the San Joaquin River main channel, and numerous pits and ponds along the river from previous gravel mining operations. Ground surface levels in the project area and vicinity range from 249 feet at the river low water level to 331 feet at the top of the river bluff south of Children's Hospital Central California (Children's Hospital). Bluff slopes range between a 60 percent and 80 percent grade on both the north and south sides of the river floodplain. Elevations along the bluff in Madera County average 330 feet, and elevations along the river bottom average 250 feet

The project area can be seen from vehicles on SR 41, the Avenue 7 ½ access to Sycamore Island, and the Avenue 9 access near SR 41. The project area can also be seen from the Palm and Nees Avenue access although the entry is currently closed to vehicular access. Open space and trail views of the project area can be seen from the northwest corner of Woodward Park in the City of Fresno and from a trail located along the bluff adjacent to residential communities in the City of Fresno. Other public views of the project area are limited due to obstruction by private residences, office buildings, and limited access due to the bluffs that surround the site. The Project Area is in the direct view of these residences and businesses.

Views from Highway 41 Bridge

Motorists can see the Van Buren Unit looking west of the SR 41 Bridge over the San Joaquin River. Additionally, direct views of the river, views of the River Park Golf Center, and Children's Hospital are available from the highway.

Views from Southeast corner of Gunner Ranch

The southeast corner of the future Gunner Ranch development is situated 90 feet above the project area, and separated by a steep bluff with a greater than 80 percent grade. The bluff top offers uninterrupted views of the Van Buren Unit and the center of the project site. Views looking upriver are also afforded, as well as views of the opposite bluff and the City of Fresno. This area currently is largely undeveloped.

Views from Avenue 7 ½ access to Sycamore Island

All of Sycamore Island is visible from the access from Avenue 7 ½ in Madera County, and nearly all of the open water ponds created by mining activity on the Moen property are visible. Views of the river channel are blocked by sycamore and eucalyptus trees. The southern river bluffs within the City of Fresno are visible, as well as residential and office developments on top of the bluff.

Views from bluff trail at Del Mar Avenue, City of Fresno

A one-half mile public trail follows the southern bluff in the City of Fresno beginning at Del Mar Avenue and ending at Churchill Avenue. The trail offers expansive views of the river bottom. Views are offered east to SR 41 and the Van Buren Unit and westward including Sycamore Island. The entire northern bluff in Madera County is visible as well.

Views from Spano Park, City of Fresno

Spano Park, located at the northern terminus of Palm Avenue in the City of Fresno, offers a bluff-top view of the entire project area. Spano Park offers the highest public vantage point in the vicinity of the project area from which to view the river bottom.

Impact Analysis

In accordance with Appendix G of the CEQA Guidelines, potential Project-related impacts to aesthetics were evaluated as follows:

- a) Would the Project have a substantial adverse effect on a scenic vista?
- b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?
- c) Substantially degrade the existing visual character or quality of the site and its surroundings?
- d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Project construction activities would be visible from the SR 41 Bridge, the Gunner Ranch property, the Avenue 7 ½ access, the bluff trail at Del Mar Avenue, from Spano Park, and the homes and offices on the edge of the bluff in Fresno. Although river views and hiking opportunities are available at Sycamore Island and the bluff trail, there are no designated scenic vistas in the Project vicinity.

Although river views and hiking opportunities are available in the project vicinity, there are no designated scenic resources, historic buildings, or scenic highways in the Project Area (DOT, 2013). Approximately 20 native trees will be removed during project construction; most of these would be along the existing berm. After construction is completed, the berm area would be revegetated as part of the overall floodplain habitat restoration.

While construction equipment and activities would be visible during the six month construction period, once construction is complete, the area disturbed during construction, as well as the created floodplains would be revegetated. Because the habitat currently in the project area is disturbed with only remnants of native vegetation, the Project will ultimately improve the visual character and quality of the site and surroundings.

The Project does not include any features that would involve introducing new sources of light or glare. Work on the Project would begin at 6:00 am and end by 6:00 pm each day. Work at night would not be allowed, and no light sources will be necessary. The Project would not introduce light or glare.

There would be a **less than significant impact** to aesthetics as a result of the Project.

II. AGRICULTURE and FORESTRY RESOURCES

Environmental Setting

The area is zoned as POS on the Madera County side and AE-5 on the Fresno County side. Project construction would occur in the San Joaquin River floodplain on reclaimed gravel mines. The area surrounding the Project consists of a relatively flat floodplain with interspersed pits and ponds surrounded by relatively steep river bluffs. The most prominent landforms within the project area include steep, north and south facing bluffs, the San Joaquin River main channel, and numerous pits and ponds along the river from previous gravel mining operations.

The California Department of Conservation (DOC) administers the Farmland Mapping and Monitoring Program (FMMP), California's statewide agricultural land inventory. Through this mapping effort the DOC classifies farmland under four categories, Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance. Prime Farmland are lands with the best combination of physical and chemical features able to sustain long-term agricultural production; Farmland of Statewide Importance is similar to Prime Farmland but with minor shortcomings, including greater slopes or less ability to store soil moisture; Unique Farmland has lesser quality soils but is still used for the production of the state's leading agricultural crops; Farmland of Local Importance are lands important to the local agricultural economy as determined by the respective county Board of Supervisors and a local advisory committee (DOC, 2013).

Impact Analysis

In accordance with Appendix G of the CEQA Guidelines, potential Project-related impacts to agriculture and forestry resources were evaluated as follows:

Would the Project:

- 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?
- b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?
- c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?
- d) Result in the loss of forest land or conversion of forest land to non-forest use?
- e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Although land in the Fresno County portion of the project area is zoned AE-5, under the FMMP, the project area is designated as Nonagricultural or Natural Vegetation for both Fresno and Madera Counties. Gravel mining was the most recent use of the land in the floodplain adjacent to the project area. According to the California Farmland Finder, in Madera County, the closest Prime Farmland is approximately one mile from the project area, the closest Farmland of Statewide Importance is approximately one-half mile away from the project area, and Unique Farmland is located approximately one-half mile from the project area. The closest mapped farmland in Fresno County is Farmland of Local Importance and is located approximately one-half mile away from the project area (DOC, 2013). All of these mapped farmlands lie outside the project area; the Project would not convert any FMMP farmland to non-agricultural use.

Williamson Act contracts are 10-year agreements between local governments and landowners, and are administered by DOC for the purpose of conserving agricultural land. Recent DOC Williamson Act maps for Fresno and Madera Counties were reviewed to identify active farms closest to the Project. In Madera County, three Williamson Act properties are approximately one and one-half miles away from the Project. In Fresno County, the nearest Williamson Act property to the Project is approximately one-half mile away (DOC, 2013). All of these properties lie outside the project area; no conflicts with zoning for agricultural use or a Williamson Act contract would occur as a result of the Project. The Project will not impact agricultural zoning and will not conflict with Williamson Act contracts.

A review of California Environmental Resources Evaluation System maps, confirmed during field visits, determined that there are no forestry resources adjacent to or located in the project footprint (CNRA, 2013). The Project will not impact zoning of forest land or timberland, and will not result in the loss or conversion of forest land.

According to DOC, the closest FMMP mapped farmland is one-half mile away from the project area, and the closest Williamson Act property lies one-half mile away. Neither of these areas will be converted to non-agricultural or non-forestry use as a result of the Project.

There will be **no impact** to agriculture and forestry resources as a result of the Project.

III. AIR QUALITY

Portions of this discussion have been summarized from the River West Madera Plan, pages 38 through 46.

Environmental Setting

The Project is located in an area zoned as POS and AE-5. Project construction would occur in the San Joaquin River floodplain on reclaimed gravel mines and will involve repair of an existing berm breach, construction of an equalization saddle, strengthening the existing berm, and creating a gravel road on top of the saddle and berm. The Project will also isolate the Pit 46e gravel pond from the river channel, create floodplain habitat, and restore habitat. Two onsite borrow sites may be excavated for fill. The borrow sites would be restored; a portion of the one closest to the river would be restored as floodplain habitat.

The project area is within the San Joaquin Valley Air Pollution Control District (SJVAPCD) which is responsible for air quality management in eight Central Valley counties. Particulate Matter 10 (PM 10), Particulate Matter 2.5 (PM 2.5), and Ozone (as averaged over an 8-hour period) are

the pollutants of greatest concern in the air basin; the basin is designated nonattainment for each of these pollutants (SJVAPCD, 2012). Primary contributors of PM 10 and PM 2.5 are use of heavy duty diesel trucks, use of on- and off-road equipment, agricultural waste burning, and forest management. The largest source of ozone is the use of heavy duty diesel trucks, on- and off-road mobile equipment, and fuel combustion at stationary sources (SJVAPCD, 2012).

The closest sensitive receptors to the Project are residences located north of the Van Buren Unit and southwest of Children's Hospital, residences located north of Sycamore Island along the top of the bluff in Madera County, residences located south of Sycamore Island along the top of the river bluff in Fresno County, and students and staff at the Bluff View Preschool. Staff and customers at the River Park Golf Center, along with patients and staff at the Children's Hospital, both located north of the Van Buren Unit can also be included as sensitive receptors. Sensitive receptors in this case are people that may have health problems. The most common air quality effects from construction sites are dust (PM10) and increased emissions from construction vehicles. These effects can be problematic for the young or the old or those with asthma or emphysema.

Impact Analysis

In accordance with Appendix G of the CEQA Guidelines, potential Project-related impacts to air quality were evaluated as follows:

Would the Project:

- a) Conflict with or obstruct implementation of the applicable air quality plan?
- b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?
- 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)?
- d) Expose sensitive receptors to substantial pollutant concentrations?
- e) Create objectionable odors affecting a substantial number of people?

The SJVAPCD prepares *Guidance for Assessing and Mitigating Air Quality Impacts* (GAMAQI). The GAMAQI includes thresholds for significance for criteria pollutant emissions based on project type and size (SJVAPCD, 2002). The *Small Project Analysis Level* (SPAL) (SJVAPCD, 2012) pre-quantifies emissions and determines a size below which it is reasonable to conclude that a project would not exceed applicable thresholds of significance for criteria pollutants, and are therefore excluded from quantifying criteria pollutants for CEQA purposes. Qualifying projects that generate less than 1,453 vehicle trips per day are excluded from the need to conduct an Ambient Air Quality Analysis (AAQA).

Table 1 in the project description addresses the duration of the Project construction phases, Table 3 lists the types of equipment that would be used during each construction phase, and Appendix B (Inventory and Calculations of Greenhouse Gas Emissions) presents the types and amounts of emissions that would be generated by the Project.

Table 3. Construction Equipment and Phases

Equipment Type	Construction Phase	
Generator	Site Preparation Fill Hauling	Floodplain Construction Miscellaneous
Water Trucks 3600 Gallons	Site Preparation Saddle Construction Fill Hauling	Berm Improvements Floodplain Construction Miscellaneous
Loader	Site Preparation Saddle Construction Fill Hauling	Berm Improvements Floodplain Construction
Bobcats	Floodplain Construction	Fill Hauling
Excavator (325L)	Saddle Construction Floodplain Construction	Berm Improvements Fill Hauling
Compactor (815F Sheepfoot)	Saddle Construction Fill Hauling	Floodplain Construction
12H Motor Grader	Saddle Construction Fill Hauling	Floodplain Construction
140H Motor Grader	Saddle Construction Fill Hauling	Floodplain Construction
D-8N Dozer	Site Preparation Berm Improvements Fill Hauling	Saddle Construction Floodplain Construction Miscellaneous
623F Self Load Scrapers	Floodplain Construction Fill Hauling	Miscellaneous
Compressor 750 CFM	Berm Improvements	
Off Highway Truck 18-22 Ton	Saddle Construction Fill Hauling	Floodplain Construction
Dump Truck	Site Preparation Miscellaneous	Saddle Construction
Flatbed Truck	Mobilization	
4x2 Pick Up	Saddle Construction Fill Hauling	Floodplain Construction
4x4 Pick Up	Saddle Construction Fill Hauling	Floodplain Construction
Foreman Operator 4x2 Pick Up	Saddle Construction Fill Hauling	Floodplain Construction

This project qualifies as a small project and does not require completion of an AAQA, will not conflict with or obstruct implementation of any air quality plan or result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under federal or state ambient air quality standards.

Impact AQ-1: Construction activities could contribute to an existing air quality violation.

Because PM 10, PM 2.5, and Ozone are the pollutants of greatest concern in the air basin and because the basin is designated nonattainment for each of these pollutants (SJVAPCD, 2012), construction activities would temporarily contribute additional particulate matter to an air basin that is already classified as nonattainment.

Mitigation Measure AQ-1:

The SJVAPCD requires that all construction projects comply with Regulation VIII Control Measures. It also requires compliance with additional measures if the construction site is large or in close proximity to sensitive receptors. The following measures will be implemented during Project construction (SJVAPCD, 2002):

- All disturbed areas, including storage piles, which are not being actively used for construction purposes, will be effectively stabilized for dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover.
- All on-site unpaved roads and off-site unpaved access roads will be effectively stabilized for dust emissions using water or chemical stabilizer/suppressant.
- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities will be effectively controlled for fugitive dust emissions by presoaking or water application.
- When materials are transported off-site, all material will be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container will be maintained.
- All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. *(The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions.) (Use of blower devices is expressly forbidden.)*
- Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, the piles will be effectively stabilized for fugitive dust emissions using a sufficient amount of water or chemical stabilizer/suppressant.
- In urban areas, trackout shall be immediately removed when it extends 50 or more feet from the site, and at the end of each workday.
- Any site with 150 or more vehicle trips per day shall prevent carryout and trackout.
- Limit traffic speeds on unpaved roads to 15 mph.
- Suspend excavation and grading activity when winds exceed 20 mph.

Implementation of these measures would make contributions to an existing air quality violation **less than significant with mitigation.**

Impact AQ-2: Construction activities would generate dust and equipment emissions, including carbon monoxide, which could affect sensitive receptors.

Construction-related commuter traffic, operation of construction equipment, and construction activities such as excavation would temporarily generate additional dust and carbon monoxide in the project area. These emissions could affect sensitive receptors. The nearest sensitive receptor to the project area is a residence located approximately 0.26 miles away from the project site, other residences lie within one-half mile of the project area. Children's Hospital is approximately 1.5 miles away from the project area.

Mitigation Measure AQ-2:

In addition to implementation of **Mitigation Measure AQ-1**, the following measures will also be implemented to reduce carbon monoxide emissions:

- Construction equipment will be maintained according to manufacturer's specifications.
- Construction vehicle idling time will be limited.

- To minimize dust emissions on unpaved roads and all project entry points and to increase fuel efficiency of vehicles and reduce emissions; vehicles driven in the construction area will be limited to 15 miles per hour.
- On-road and off-road vehicle tire pressures shall be maintained to manufacturer specifications. Tires shall be checked and re-inflated at regular intervals.

With implementation of these measures, construction-related impacts of dust and equipment emissions on sensitive receptors would be **less than significant with mitigation**.

Operation of construction equipment could generate odors from diesel exhaust which may be noticeable to nearby residents. The nearest sensitive receptor to the project area is a residence located approximately 0.26 miles away from the project site, other residences lie within one-half mile of the Project, and Children's Hospital is approximately 1.5 miles away from the project area. Diesel odors are typical with construction, and would be temporary, dissipating rapidly from the source especially as distance increases. No long-term odors would result from Project construction. Impacts related to objectionable odors would be **less than significant**, and no mitigation is required.

IV. BIOLOGICAL RESOURCES

Portions of this discussion have been summarized from the River West Madera Plan, pages 47 through 87.

The following biological information concerns federally and California State listed, proposed and candidate species that could potentially occur in the project area. It was obtained from a nine USGS quadrangle search of the USFWS Database, the California Department of Fish and Wildlife (DFW) California Natural Diversity Database/Rarefind (CNDDDB) and the California Native Plant Society (CNPS) database. The vegetative, wildlife, and aquatic species lists are based on CNPS, and United States Fish and Wildlife Service (USFWS) (document number 141017062808) and CNDDDB searches for the Friant (378B), Clovis (378C), Lanes Bridge (379A), Gregg (379B), Herndon (379C), Fresno North (379D), Millerton Lake West 398C), Daulton (399C), and Little Table Mountain (399D) quadrangles.

Environmental Setting

The Project is located within three reclaimed gravel mines on the San Joaquin River; Friant Dam is located approximately 10 miles upstream. Mining operations left behind an extensively modified channel. Past mining operations may have impacted the historical flow paths in this part of the river, and the flows in this section of the river are further affected by releases from the dam. River flows in the project area fluctuate from season to season, but generally have a low flow of 350 cfs and a high flow of 8,000 cfs. Low flow conditions typically occur in the summer and fall; high flow conditions are typically in the spring.

The Project is located in a disturbed area with little to no remaining natural topography. The riparian area adjacent to the river is fragmented. Wetland areas at the site are primarily associated with created water features such as excavated quarry ponds. There are only small bands of habitat that are relatively native in the project area, but the Project is not considered to be located in native wetland, riparian, woodland, or mixed

chaparral habitat. The pond and river harbor a warm-water fishery, detrimental to future reintroduction of cold- water species, such as salmon.

Vegetation and Habitat

Habitat Types

These classifications were derived using a literal description of the habitat or by combining habitat categories from various sources since the use of a single descriptor method did not adequately portray the site's biological condition.

Non-sensitive habitats present in the project area are described below.

Annual Grassland with Scattered Elderberry Shrubs

Grassland species includes numerous ruderal and invasive noxious plants. Grasslands are the primary vegetation type in the project area and make up the understory in the scattered remaining riparian and woodland habitats. Non-native annual grass species dominate the annual grassland habitat in the project area. Non-native grasses observed include soft chess (*Bromus hordeaceus*), foxtail chess (*Bromus madritensis*), and ripgut brome (*Bromus diandrus*). Coastal heron's bill (*Erodium cicutarium*) and black mustard (*Brassica nigra*) are common forbs in the annual grasslands of the Project Area, and in some areas vinegar weed (*Trichostema lanceolatum*) also occurs.

Elderberry bushes (*Sambucus spp.*), are scattered throughout the Project Area, primarily in the grassland habitat, but also along the river banks. Density and maturity of the elderberry varies throughout the Project Area.

Mixed Fremont Cottonwood Woodland

Cottonwood woodland is found in the Project Area along drainages and near the water banks. Vegetation in the Mixed Willow/Fremont cottonwood woodland is dominated by Fremont cottonwood (*Populus fremontii*), Gooding's willow (*Salix gooddingii*), and California ash (*Fraxinus dipetala*). Buttonbush (*Cephalanthus occidentalis*) and white alder (*Alnus rhombifolia*) are common understory species.

Willow Riparian/Riparian Scrub

The willow riparian community consists primarily of homogenous stands of narrowleaf willow (*Salix exigua*) with little to no understory. Riparian Scrub is dominated by wild rose (*Rosa sp.*), California/Himalayan blackberry (*Rubus armenicus x ursinus*), and scarlet wisteria (*Sesbania punicea*). Other scattered trees and shrubs are present in the riparian scrub community, such as valley oak (*Quercus lobata*), California ash (*Fraxinus dipetala*), white alder, Fremont cottonwood, and buttonbush. Scarlet wisteria, a highly invasive non-native species, dominates many of the banks, and is particularly prominent on the Pit 46e berm.

Sycamore Woodland

Sycamore Woodland consists of scattered sycamore trees (*Platanus occidentalis*), elderberry, narrow leaf willow, and Gooding's willow. Only small patches of Sycamore Woodland are present in the Project Area. Scattered trees are found in Borrow Site 2.

Sixteen special-status plant species were recorded within the quadrangle searches; none of these species occur in the Project Area.

Eight special status habitat types were recorded within the quadrangles, the following three have been identified in the Project Area:

Lake

This type of lacustrine habitat refers to the ponded area near the berm breach where water in the reclaimed gravel pit can mix with river flows. Construction of the strengthened berm, saddle, and floodplain will occur in lake habitat.

Riverine

Riverine habitat is characterized by unidirectional flow from upstream to downstream within a channel. It includes all wetlands and deep water habitats contained within a channel, with the exception of wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens and habitats containing ocean derived salts in excess of 0.5 parts per thousand (Cowardin 1979).

Riverine habitat is typically associated with intermittent or continually running rivers and streams. In the case of this Project, riverine habitat exists within the river channel, where the flow is largely controlled by releases from Friant Dam. Project construction will occur in riverine habitat.

Wetlands

The United States Army Corps of Engineers (USACE) and the Environmental Protection Agency (EPA) regulate the discharge of dredged and fill material into "waters of the United States" (waters of the U.S.) under Section 404 of the Clean Water Act (CWA). USACE jurisdiction over non-tidal waters of the U.S. extends to the "ordinary high water mark," provided the jurisdiction is not extended by the presence of "wetlands" (33 CFR, Section 328.4). Project elements that will require the discharge of dredged or fill material into waters of the United States (U.S.) at the project site will require a Section 404 permit.

The USACE and the EPA jointly define wetlands as:

"...those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

Waters of the U.S. are defined by as:

"(1) All waters which are currently used, or were used in the past or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (2) All interstate waters including interstate wetlands; (3) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use,

degradation or destruction of which could affect interstate or foreign commerce..." (33 CFR, Section 328.3(a))

A preliminary delineation of waters of the U.S., including wetlands, was prepared for the Project in July 2013. On September 15, 2014, and October 22, 2014, additional delineations were conducted and other waters of the U.S. were identified. A supplemental preliminary delineation of waters of the U.S. will be submitted to the USACE.

The wetlands delineated for the Project are considered freshwater emergent wetlands and are classified under Cowardin's Classifications as part of a Riverine system. However, only one of the delineated wetlands, approximately 0.01 acres, would potentially be impacted by the Project.

Invasive Species

The two dominant invasive plant species in the Project Area are described below.

Scarlet wisteria is native to South America and is displacing native plants in aquatic habitats. It grows along the berm separating Pit 46e from the river and on other river and pond banks in the vicinity.

Yellow-star thistle (*Centaurea solstitialis*) is a spiny, thistle-like, annual herb that blooms May to June. The species grows to about two feet. Yellow-star thistle lines the top of the berm at Pit 46e amid invasive grasses and is scattered throughout grassland areas.

Impact Analysis

Potential project-related impacts to vegetation were evaluated using the following questions from the Biological Resources portion of the CEQA Guidelines Appendix G:

Would the Project:

- 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 Wildlife or U.S. Fish and Wildlife Service?
- 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 Wildlife or U.S. Fish and Wildlife Service?
- 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?
- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No sensitive plant species occur in the Project Area. There are no local ordinances protecting plant species or Habitat Conservation Plans or Natural Community Conservation Plans that apply to the Project Area.

Construction of floodplain habitat in Borrow Site 1 would not cause a loss of other waters of the U.S. since floodplain in that area would be created through excavation and recontouring of existing borrow site soils, and not by placing fill in the river. In this area, ordinary high water mark levels would remain the same. Although the temporary crossing abuts Borrow Site 1, construction of the crossing is not a component of the floodplain that will be created on Borrow Site 1.

Impact VEG-1: Removal of native vegetation

Native trees and shrubs would be removed along the embankment of the berm breach, and possibly in other areas where construction would occur. Up to 20 trees would be removed. All of these trees have a diameter at breast height (DBH) of greater than four inches, but less than 24 inches. The trees include valley oak, California ash, white alder, and narrowleaf willows.

Elderberry shrubs or stems that overhang the haul roads may be removed. In riparian areas, these plants may provide habitat to the Valley Elderberry Longhorn Beetle (VELB), a special status species. VELB and elderberry shrub or stem removal are addressed in **Mitigation Measure WLD-2** in the Wildlife discussion, below.

Mitigation VEG-1:

Implementation of these measures will reduce impacts due to removal of native vegetation.

- Trees and other vegetation will be removed only if necessary; vegetation outside the construction areas will not be removed.
- Replacement trees would be grown from on-site cuttings, or if obtained from a native plant nursery, will be locally adapted ecotypes of native tree or shrub species.
- The Revegetation Plan will be implemented (Appendix A).
- Mitigation replacement ratios, and other conditions established during permitting, will be complied with.

Implementation of these measures will reduce the impact of native vegetation removal to **less than significant with mitigation**.

Impact VEG-2: Potential loss of wetlands

Construction of the temporary crossing near Borrow Site 1 may directly impact a jurisdictional wetland. The wetland is in Riverine habitat and is approximately 0.01 acres in size. Once the crossing is removed, all fill discharged during construction of the crossing would be removed to restore the topography in the area to pre-project conditions.

Mitigation VEG-2:

Implementation of the following measures will reduce wetland impacts:

- Wetlands will be avoided during construction to the extent possible.
- If the wetlands cannot be avoided, impact will be minimized by covering the wetlands with visqueen before fill is deposited. Once construction is complete, the fill would be excavated down to the visqueen, and the visqueen would be removed from the wetland. Alternatively, one or more bottomless culverts would be used as part of the temporary

crossing to cover and protect the wetlands. The bottomless culverts and temporary crossing would be removed when construction is complete.

- Measures in the Revegetation Plan will be implemented (Appendix A).
- Coordination with the USACE and DFW will occur, and all permit requirements will be implemented.

Implementation of these measures will reduce the impact of potential loss of wetlands to **less than significant with mitigation**.

Impact VEG-3: Permanent fill of other waters of the U.S.

Approximately 30,000 cy of fill will be used to create up to two acres of floodplain along the strengthened berm on the Madera County side of the river. This is beneficial effect of the Project. Fill will also be used to repair the berm breach and to repair a road crossing near the northeast side of Borrow Site 1. Riverine and Willow Riparian/Riparian scrub habitat would be impacted during construction activities in these areas. These activities would permanently fill other waters of the U.S.

Mitigation VEG-3:

Implementation of the following measures will reduce impacts associated with permanent fill of other waters of the U.S.:

- Top soils from these construction areas will be excavated and stockpiled separately from upland borrow site topsoil. Excavation of topsoil will be monitored by a qualified geologist to ensure that the soil is excavated and stockpiled correctly, and that the soil horizons are preserved.
- Topsoil will be protected by implementing **Mitigation Measure GS-2** in the Geology and Soils section.
- After construction is complete, under the direction of a qualified geologist, the topsoil will be replaced using a minimum number of machine passes to reduce disturbance to micro-organisms. Topsoil originally excavated from other waters of the U.S. will be placed in the areas from which it was taken to rehabilitate the other waters of the U.S. habitat.
- Measures in the Revegetation Plan will be implemented (Appendix A).
- Coordination with the USACE and DFW will occur, and all permit requirements will be implemented.

Implementation of these measures will reduce the impact of permanent fill of other waters of the U.S. to **less than significant with mitigation**.

Impact VEG-4: Construction impacts to other sensitive areas

Sensitive areas, such as those near delineated wetlands or areas near jurisdictional waters, may be impacted by construction activities.

Mitigation VEG-4:

Implementation of the following measures will reduce impacts to other sensitive areas:

- During the site preparation phase prior to construction, sensitive resources near the construction area will be segregated and protected from construction activities. Segregation measures may include erosion control devices, high visibility temporary fencing, and temporary chain-link fencing.

- Erosion control measures in **Mitigation Measure HWQ-1** in the Hydrology and Water Quality section and **Mitigation Measure GS-1** in the Geology and Soils section will be implemented.
- Qualified biological monitors will be used to ensure the protection of sensitive areas.
- Measures in the Revegetation Plan will be implemented (Appendix A).
- Coordination with the USACE and DFW will occur, and all permit requirements will be implemented.

Implementation of these measures will reduce the construction impacts to other sensitive area to **less than significant with mitigation**.

Impact VEG-5: Potential spread of invasive species

Construction in areas with scarlet wisteria and star thistle could inadvertently spread these invasive species.

Mitigation VEG-5:

Implementation of the following measures will reduce the potential to spread invasive species:

- Any excavated soils containing scarlet wisteria or star thistle will be placed upon a tarp or visqueen and will not be placed in the water. Invasive species control will be coordinated with DFW.
- Invasive species will not be used in mulching, composting, or otherwise placed in or around the project site, nor will they be stockpiled in the riverbed or on the bank.
- Control of invasive species will be coordinated with DFW; permit conditions will be implemented.

Implementation of these measures will reduce the impacts related to the potential spread of invasive species to **less than significant with mitigation**.

Wildlife Resources

According to the CNDD and USFWS databases, nine special-status species potentially occur within 10 miles of the Project Area. However, only four of these species have the potential to occur in the Project Area. These species include:

San Joaquin kit fox (SJKF) (*Vulpes macrotis mutica*)

This animal is fully protected under the federal Endangered Species Act (ESA), as amended (16 U.S.C. 1531 et seq.). The SJKF prefers loose textured soils for creation or modification of dens for shelter, protection, and reproduction. The SJKF are nocturnal and very mobile, they can use small remnants of native habitat interspersed with development, provided there is a sufficient prey base, dispersal corridors, and minimal disturbance (EPA 2010). They are known to occur in agricultural areas where there is uncultivated land.

Valley elderberry longhorn beetle (VELB) (*Desmocerus californicus dimorphus*)

This invertebrate is fully protected under ESA. The VELB is completely dependent on its host plant, elderberry (*Sambucus* sp.), which is a common component of the remaining riparian forests and adjacent upland habitats in California's Central Valley. Use of the elderberry by the VELB, a wood borer, is rarely apparent. Frequently, the only exterior evidence of the elderberry's use by the VELB is an exit hole created by the larva just prior to the pupal stage. The life cycle takes one or two years to complete. The animal spends most of its life in the larval stage, living in the stems of an elderberry plant. The beetle is found most often in stems measuring one inch or greater diameter at ground level. Adult emergence is from late March through June, about the same time the elderberry produces flowers. The adult stage is short-lived (USFWS 1999).

The beetle is most likely to occur where plants are not isolated from one another, and are often found in unevenly distributed clusters of available elderberry shrubs. Although VELB inhabits various sizes, ages, and growth forms, its exit holes are most often found in large, mature shrubs. Shrubs used by the beetle usually show evidence of repeated use over a period of several years (Barr 1991).

Swainson's hawk (*Buteo swainsonii*)

Swainson's hawk is listed as a State Threatened species and is also protected by the federal Migratory Bird Treaty Act (MBTA). This species is typically found in open country such as grassland, shrubland, and agricultural areas.

Osprey (*Pandion haliaetus*)

This species is protected by the MBTA. Osprey's are typically found near any expanse of shallow, fish-filled water, including lakes, rivers, reservoirs, lagoons, swamps, and marshes. They readily build nests on artificial structures.

Under the MBTA it is unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in Section 50 of the Code of Federal Regulations (CFR) Part 10, including feathers or other parts, nests, eggs or products, except as allowed by implementing regulations (50 CFR 21). Title 16 §703 of the United States Code further protects migratory birds native to the United States making it unlawful to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, possess, any migratory bird, any part, nest, or egg of any such bird (U.S. Code, 2014). The MBTA and the U.S. Code apply to both Swainson's hawk and Osprey.

Section 2080 of the Fish and Game Code defines "take" as loss or alteration of foraging habitat or nest site disturbance which results in nest abandonment, loss of young, reduced health and vigor of eggs and/or nestlings. Take of Swainson's hawk and other species of nesting birds in this manner can be a violation of the Fish and Game Code.

Bald eagle (*Haliaeetus leucocephalus*)

The bald eagle is listed as a State Endangered species and also protected under the MBTA and Bald and Golden Eagle Protection Act. This bird of prey is typically found near fish-filled water, such as seacoasts, lakes, rivers, reservoirs or other large bodies of open water. There are no CNDDDB records within the 10-mile occurrence radius, however bald eagle have been seen in the Project Area.

Bald eagle are protected under the MBTA and under Title 16 §668 of the United States Code also known as the Bald and Golden Eagle Protection Act. This Act makes it unlawful to take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, any live or dead bald and golden eagle, including any part, nest, or egg of bald and golden eagle (U.S. GPO, 2015). This protection act only applies to bald and golden eagle. However, the Secretary of the Interior under §668a can authorize the taking, possession, and transportation of bald and golden eagle for scientific and exhibition purposes, and removal of nests.

Impact Analysis

Potential project-related impacts to aquatic resources were evaluated using the following questions from the Biological Resources portion of the CEQA Guidelines Appendix G:

Would the Project:

- 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 Wildlife or the U.S. Fish and Wildlife Service?

- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?

- 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?

There are no local ordinances protecting wildlife species or Habitat Conservation Plans or Natural Community Conservation Plans that apply to the Project Area.

Impact WLD-1: Potential construction-related impacts to SJKF

The nearest CNDDDB record of SJKF is for an area of fallow agricultural land near SR 99, approximately seven miles southwest of the Project Area. Another record is for an area 12.5 miles away near the foothills in the vicinity of Friant Dam. Both sightings were recorded in the early 1990's. The area near SR 99 was dominated by agriculture at the time the record was made.

It is unlikely that SJKF reside in the Project Area because of habitat conditions, however, construction activities could potentially impact SJKF if they enter the construction area.

Mitigation Measure WLD-1:

The following measures were summarized from the *USFWS Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFSW, 2011). Implementation of these measures will reduce impacts to SJKF entering the area during construction:

- An employee education program will be conducted. The program will consist of a brief presentation by a qualified wildlife biologist. The program will include the following: A description of the SJKF and its habitat needs; a report of SJKF occurrence in the Project Area; an explanation of the status of the species and its protection under ESA; and a list of measures being taken to reduce impacts to the species during project construction. A

fact sheet conveying this information will be prepared for distribution to construction personnel.

- A representative will be appointed who will be the contact 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 will be provided to the USFWS and CDFW.
- Project-related vehicles will observe a daytime speed limit of 15-mph throughout the site in all Project Areas, except on state and federal highways; after dark, the speed limit will be reduced to 10-mph. Off-road traffic outside of designated Project Areas will be prohibited.
- Work at night will not be allowed.
- To prevent inadvertent entrapment of kit foxes or other animals during construction, all excavated, steep-walled holes or trenches more than 2 feet deep will be covered plywood or similar materials at the end of each work day. If the trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks shall be installed. Before such holes or trenches are filled, they will be inspected for trapped animals.
- All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored at a construction site for one or more overnight periods should be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is discovered inside a pipe, that section of pipe should not be moved until the USFWS or CDFW have been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped.
- Holes or trenches more than eight feet deep will be covered or fenced at the end of the day.
- All food-related trash items such as wrappers, cans, bottles, and food scraps will be disposed of in securely closed containers and removed at least once a week from the project site.
- No firearms will be allowed on the project site.
- No pets will be permitted on the project site to prevent harassment, mortality of kit foxes, or destruction of dens.
- Use of rodenticides and herbicides in Project Area will not be allowed except for control of invasive plant species.
- Upon completion of the project, all areas subject to temporary ground disturbances, including staging areas, temporary roads, and borrow sites will be re-contoured if necessary, and revegetated to promote restoration of the area to pre-project conditions.
- Death, injury, or entrapment of SJKF will immediately be reported to USFWS and CDFW staff. Written reports will be submitted within three working days of the event.
- Sightings of SJKF will be reported to the CNDDDB.

Implementation of these measures will reduce impacts to SJKF to **less than significant with mitigation**.

Impact WLD-2: Potential impacts to VELB

A CNDDDB record of a VELB population in the northern most portion of the Project Area, near SR 41, was recorded in 1992. A large group of elderberry shrubs is situated between the San Joaquin River and the haul road. Although construction will not occur in this location, the road

may be used throughout construction. This group of elderberry shrubs does not overhang the road and damage to this VELB habitat will be avoided.

A single elderberry shrub located approximately one mile south of the CNDDDB record, is in the proposed haul road. This elderberry has about six branches over one inch in diameter, and is partially located on the haul road. No exit holes were observed on any of the branches during a biological survey conducted in June, 2013.

The USFWS conservation protocol assumes complete avoidance of VELB when a buffer is established around elderberry shrubs with stems one inch or greater in diameter at ground level (USFWS 1999).

Construction use of the haul road may impact the elderberry and VELB.

Mitigation Measure WLD-2:

Implementation of these measures will reduce impacts to VELB:

- The USFWS and DFW will be consulted before any work begins; permit conditions will be implemented.
- An environmental tailgate will be provided to all construction personnel concerning VELB and the need to protect elderberry.
- Elderberry will be avoided to the extent possible.
- Vehicle speed will be limited to 15 miles per hour in the Project Area.
- If mitigation plantings are required, the number and location of plantings will be determined through consultation with the USFWS and DFW.

Implementation of these measures will reduce potential impacts to VELB to **less than significant with mitigation.**

Impact WLD-3: Potential Project construction impacts to nesting Swainson's hawk, osprey, bald eagle, and other birds protected by the MBTA

Although the Swainson's hawk commonly forages in agricultural areas, the species could use habitat in the Project Area for foraging and nesting. Swainson's hawks are known to occur in the project vicinity, however, neither birds nor nests were observed during biological surveys and site visits conducted in 2013 or 2014.

An occupied osprey nest located on a telephone pole was observed in June 2013 during a biological survey. The pole is located near the dirt road proposed as a haul route for the Project.

Bald eagles have been recorded wintering in the Millerton Lake area, which is above the 10-mile CNDDDB search. Occasional bald eagles have been sighted foraging and flying in the Project Area, however, no bird or nests have been found during the biological surveys and site visits conducted in 2013 or 2014.

Construction activities could occur during the breeding and nesting season (March 1 to August 31) and potentially cause impacts to nesting birds.

Mitigation Measure WLD-3:

Implementation of these measures will reduce nesting impacts:

- The DFW and USFWS will be consulted before any work begins; permit conditions will be implemented.
- Bird and nest surveys will be conducted at least two weeks prior to the beginning of construction.
- Nests observed during pre-construction surveys will be avoided to the greatest extent possible.
- If an active Swainson's hawk nest is located within a quarter mile radius of the Project Area, DFW and USFWS will be consulted.
- If required by DFW or USFWS, project-related disturbances near active Swainson's hawk and Osprey nests will be reduced or eliminated during the critical phase of the nesting cycle (March 1 –September 15).
- Monitoring and mitigation will occur in coordination with DFW and USFWS.

Implementation of these measures will reduce nesting impacts to **less than significant level with mitigation**.

Aquatic Resources

According to the CNDDDB and USFWS quadrangle search, the following special-status aquatic species were documented as occurring within a 10-mile radius of the Project Area:

Western pond turtle (*Actinemys marmorata*)--State Species of Special Concern
Hardhead (*Mylopharodon conocephalus*)--State Species of Special Concern

The San Joaquin River is considered an anadromous stream. Implementation of the San Joaquin River Restoration Program (SJRRP) includes introducing spring-run Chinook salmon (*Oncorhynchus tshawytscha*) into the river. Spring-run Chinook are a federally and state listed Threatened species. However, because of the recent drought, spring-run Chinook have not yet been reintroduced into the river. If drought conditions have lifted, spring-run Chinook may be released into the river between March and June of 2015. However, under most conditions, these salmon would not be expected to occur in the Project Area because the National Marine Fisheries Service (NMFS) permit requires releasing spring-run Chinook downstream of the most downstream fish passage barrier, which would be downstream of SR 165 (pers. comm., E. Meyers 2014).

Since 2012, test populations of fall-run Chinook salmon (*Oncorhynchus tshawytscha*), a federal Species of Concern, have been released into the river. Salmon redds for this species have been found about one mile up- and downstream of Pit 46e (pers. comm., E. Meyers 2014).

The Project will isolate the warm water Pit 46e gravel pond from the river channel, create floodplain habitat, and will restore fisheries as feasible. Isolation of the gravel pond will benefit SJRRP salmon reintroduction objectives by reducing opportunities for the warm water species in the pond to prey on salmon eggs and young in the river; creation of floodplain habitat will lead to natural development of improved fisheries habitat in the Project Area, which will also benefit SJRRP objectives.

Impact Analysis

Potential project-related impacts to aquatic resources were evaluated using the following questions from the Biological Resources portion of the CEQA Guidelines Appendix G:

Would the project:

- 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 Wildlife or the U.S. Fish and Wildlife Service?

- 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?

There are no local ordinances protecting wildlife species or Habitat Conservation Plans or Natural Community Conservation Plans that apply to the Project Area.

The Project includes construction near and in the river that could potentially impact aquatic species. This work includes installation of a temporary crossing between Borrow Site 1 and Staging Area 1; construction of an equalization saddle in the berm breach; strengthening the existing berm; creating a floodplain along the river side of the strengthened berm; creating a gravel road on top of the berm and saddle to facilitate access between the Conservancy's Sycamore Island recreation area and the Van Buren Unit; constructing up to two acres of lower and upper floodplain along the river side of the strengthened berm and up to two and one-half acres of lower and upper floodplain along the river in Borrow Site 1; restoring the borrow sites, including backfilling the road breach on Borrow Site 1; and revegetating the floodplains and borrow sites.

Impact AQU-1: Construction activities could impact special-status aquatic species.

Use of construction equipment in the water and along the river banks and berms could potentially impact special-status species in the construction area.

Mitigation Measure AQU-1:

The average width of the river channel in the Project Area is 350 feet, and the average width of the in-channel construction footprint would be 50 feet. If a turbidity curtain is used, it would extend the width of the channel, but would not extend all the way down to the river bed. Because only 50 of the 350 feet in-water channel would be involved in construction activities, and because a turbidity curtain would be open at the bottom, any fish in the Project Area, including hardhead, could swim free of construction activities and equipment. The Project would not substantially interfere with the movement of any native resident or migratory fish species.

However, western pond turtles are less likely to be able to quickly move out of the construction area.

The following measures would reduce construction-related impacts to western pond turtles:

- Preconstruction surveys would be conducted for western pond turtles according to protocols established by DFW.

- A qualified biologist with a scientific collecting permit will monitor construction activities and look for western pond turtle during construction.
- Additional mitigation measures, including the possibility of moving western pond turtles out of the construction area, will be coordinated with DFW.
- Measures specified in permits will be complied with as part of the Project.

Implementation of these measures will reduce construction-related impacts to special-status species to **less than significant level with mitigation**.

Impact AQU-2: Construction activities could increase turbidity and impact special-status species.

Turbidity generated during project construction could potentially impact special-status aquatic species located up- and downstream of the Project Area.

Mitigation Measure AQU-2:

Implementation of a combination of the following BMPs would reduce turbidity impacts to sensitive species:

- Stockpiles will be located at least 50 feet away from drainage courses and sediment control measures will be installed around them.
- Silt Fences will be installed at bottoms of slopes, stockpiles of fill material and other exposed sites. Sand bags could be placed to control sediment, runoff, or dissipate runoff energy.
- Earthen dikes and drainage swales will be installed, as necessary to control runoff.
- Vegetation in the staging areas, in the borrow site, and in other construction areas will only be removed if necessary; vegetation outside of the construction areas will not be removed.
- Turbidity curtain(s) may be installed in the water around fill areas or downstream of fill areas to reduce turbidity. If turbidity curtains are used, they will be inspected and adjusted to meet turbidity levels.
- Turbidity will be monitored upstream and downstream of project site as specified by the Regional Board, DFW, and the USACE permit conditions.
- If water sensors are used they will be inspected as specified by the manufacturer recommendations.
- The Revegetation Plan (Appendix A) will be implemented.

Implementation of a combination of these measures will reduce construction-related turbidity impacts on special-status species to **less than significant with mitigation**.

V. CULTURAL RESOURCES

Environmental Setting

The study area lies in Madera and Fresno Counties, adjacent to the San Joaquin River approximately 1.6 miles downstream of the SR 41 Bridge. The Area of Potential Effect (APE) is shown on the Fresno North 7.5' United States Geological Survey (USGS) topographic quadrangle in Sections 20, 21, and 29 of Township 12 South, Range 20 East (Figure 6).

The APE covers approximately 51 acres and is located within, and bordered by, the remains of a reclaimed gravel mining operation to the north, east, and west, and by the San Joaquin River to the south. As a result of the gravel mining operations, which took place as recently as 2005, the APE is located in a very disturbed context, with little to no natural topography remaining.

Impact Analysis

CEQA Guidelines §15064.5 defines historical cultural and archaeological resources. Based on CCR Section 15064.5, and Appendix G of the CEQA Guidelines, potential Project-related impacts to cultural resources were evaluated as follows:

Would the Project:

- a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?
- b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?
- c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?
- d) Disturb any human remains, including those interred outside of formal cemeteries?

An evaluation of the APE was conducted by DWR archaeologists. The evaluation included a record search, archival research, a geoarchaeological study, tribal outreach, and a pedestrian cultural resources survey. The pedestrian cultural resources survey was conducted in the APE on July 16, 2013 by DWR archaeologists. A record search was also conducted on July 16, 2013 by staff of the Southern San Joaquin Valley Information Center (SSJVIC) at California State University, Bakersfield. To accommodate project changes proposed since the 2013 survey, DWR archeologists performed an additional pedestrian survey on June 24, 2014 and another SSJVIC archival record search on July 24, 2014 (Kress, 2014).

Both pedestrian surveys and record searches encompassed land within one-quarter mile of the Project Area. No cultural resources were identified during the July 16, 2013 or the June 24, 2014 pedestrian surveys, nor in the July 16, 2013 or the July 24, 2014 record searches (Kress, 2014).

Based on the results of the archaeological surveys and record searches, no identifiable cultural resources exist in the Project area, therefore, the Project is not expected to impact historical resources, cause a substantial adverse change in the significance of an archaeological resource, directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, nor disturb any human remains, including those interred outside of formal cemeteries.

Additional archaeological surveys will be needed if project limits are extended beyond the present survey limits.

Impact CUL-1: Construction activities could unearth previously unidentified cultural resources.

Although results of the archaeological surveys and record searches did not identify cultural resources in the Project Area, and although the site has been highly disturbed, Project

construction, especially during excavation, could potentially expose cultural resources, including paleontological resources, unique geologic features, or human remains, not identified during the archaeological evaluations.

Mitigation Measure CUL-1:

If previously unidentified cultural materials are unearthed during construction, work will immediately be stopped in the area where the cultural materials are found until a qualified archaeologist can assess the significance of the find.

If human remains are uncovered, all work must stop immediately and the County coroner must be contacted pursuant to California Health and Human Safety Code 7050.5(b).

Implementation of these measures will reduce impacts to previously unidentified cultural resources to **less than significant with mitigation**.

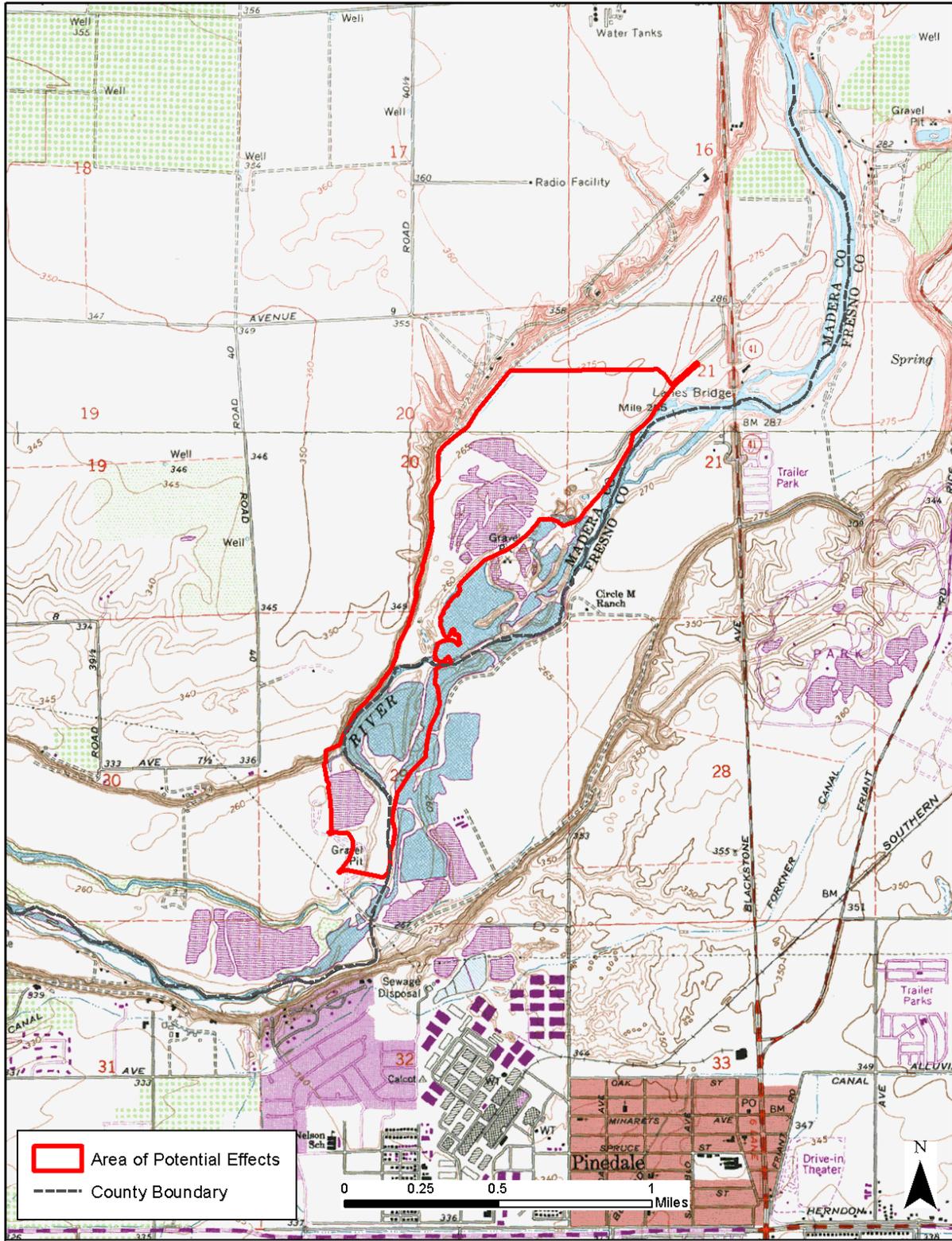


Figure 6: Cultural Area of Potential Effects

VI. GEOLOGY AND SOILS

Portions of this discussion have been summarized from the River West Madera Plan, pages 94 through 100.

Environmental Setting

The Project lies in the San Joaquin Valley, a flat expanse between the Sierra Nevada and Coast Ranges consisting of sediments that have deposited over time. On the eastern side of the valley, the soil is composed predominantly of soils derived from a granitic parent material originating from the Sierra Nevada. Over its geologic history, rivers have moved back and forth over the valley, depositing sediment worn from the mountains above, and fanning out into large alluvial floodplains.

The most prominent landforms within the Project Area include the following:

- San Joaquin River main channel running from east to west through the Project Area;
- Steep, north and south facing bluffs creating the boundaries of the river floodplain; and
- Numerous man-made pits and ponds interrupting the otherwise relatively flat topography of the floodplain.

Ground surface levels within the Project Area and vicinity range from 249 feet at the river low flow channel to 331 feet at the top of the river bluff south of Children's Hospital. Bluff slopes range between a 60 percent and 80 percent grade on both the north and south sides of the river floodplain.

The Project is located in a region of low seismicity, mainly due to the significant distance of the project site to active faults in the region. The Project is not located within an Alquist-Priolo Earthquake Fault Zone. The California Building Code categorizes the Project Area as being located in Seismic Zone 3, which is generally considered to be one of the least seismically active areas in California (California Geologic Survey, 2013).

The alluvial deposits present at the project site extend to approximately 1,200 feet below ground surface. Where they have not been extracted due to mining, the near surface soils that underlie the project site consist of a mix of Hanford Series, Grangeville Series, Cajon Series, Tujunga Series, Visalia Series, and Riverwash. Some of the Grangeville Series soils are saline-alkali soils. With the exception of Riverwash, soils onsite are generally characterized as having good drainage, high internal drainage, and severe erosion hazard.

In general, the project site exhibits a high potential for erodibility. Slopes adjacent to former sand and gravel pits are high-energy environments for erosion processes. Rilling and gullying are currently evidenced onsite at the edge of former sand and gravel pits. However, landslides and slumping are not expected adjacent to former gravel pits due to the low slopes.

Impact Analysis

In accordance with Appendix G of the CEQA Guidelines, potential Project-related impacts to geology and soils were evaluated as follows:

Would the Project:

- a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

- 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?
 - iii) Seismic-related ground failure, including liquefaction?
 - iv) Landslides?
- b) Result in substantial soil erosion or the loss of topsoil?
- 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?
- d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?
- 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?

The Project is located in a low-severity earthquake zone, and no active faults are known to occur in the project site. The nearest faults to the project site are the Ortigalita Fault Zone and the San Andreas (Creep) Fault Zone, approximately 47 miles southwest and 67 miles southwest of the project site, respectively. The Project will have no earthquake or seismic-related impacts (California Geologic Survey, 2013).

Project construction would occur in a reclaimed gravel pit on the San Joaquin River just downstream of the Conservancy's Van Buren Unit, and upstream of the Conservancy-owned Sycamore Island recreation area. All construction activities would occur in the river bottom and in areas with shallow slopes where landslides and land slumping are unlikely to occur. Consequently, the Project will have no impacts associated with landslides.

Collapsible soils undergo a volume reduction when the pore spaces become saturated, causing loss of grain-to-grain contact and possibly dissolving of interstitial cement holding the grains apart, potentially causing instability. The Project is not located in an area with collapsible soils.

The Project will construct an equalization saddle in the area of the berm breach, and will strengthen the existing berm to create access between Sycamore Island and the Van Buren Unit. The saddle will be constructed with large boulders, river cobble, and fill material. The fill material used in the saddle, to strengthen the berm, and to create floodplain will comply with requirements of the California Buildings Standards Code (SC 8). Vehicles will be able to drive over the berm and saddle once construction is complete, however no structures will be constructed as part of the Project. Project construction will not cause soil to become unstable or collapse nor will the Project cause geologic or soil impacts related to landslide, lateral spreading, subsidence, liquefaction or collapse. The Project will not create a substantial risk to life or property.

The Project does not involve construction of housing or any structures and will not involve any wastewater disposal systems.

Impact GS-1: Excavation and floodplain construction could result in substantial soil erosion.

Excavation and construction of the floodplains would expose soils to erosion. Increased erosion could occur during clearing of the staging areas for use, excavating material from the borrow site, when stockpiling fill material and topsoil, and when constructing the floodplains.

Mitigation Measure GS-1:

As discussed in the Hydrology and Water Quality section, projects that involve ground disturbance of one acre or more require a National Pollutant Discharge Elimination System (NPDES) General Construction Permit (State Water Resources Control Board, 2014). Construction and post-construction Best Management Practices (BMPs) must be implemented on the project site as identified in an approved Storm Water Pollution Prevention Program (SWPPP) to minimize erosion in accordance with NPDES requirements.

Although the SWPPP is typically developed by the contractor with approval of by the State Regional Water Quality Control Board (Regional Board), a combination of the following BMPs would be applied to reduce soil erosion.

- Vegetation in any Project Area will only be removed if necessary; vegetation outside of the construction areas will not be removed.
- Matting or netting will be placed on exposed soil surfaces to control erosion.
- Fiber rolls will be used on steep slopes at appropriate intervals.
- Sand bags will be placed, as necessary, to control sediment, runoff, or dissipate runoff energy.
- Mulch will be applied to disturbed soils to minimize wind and rain effects.
- Haul trucks carrying soil, and stockpiles will be covered to control soil loss and dust.
- The haul routes, borrow site, and excavation areas will be watered to prevent dust and soil loss; soil stabilizers may be used.
- Stockpiles will be located at least 50 feet away from drainage courses and sediment control measures will be installed around them.
- Silt Fences will be installed at bottoms of slopes, stockpiles of fill material and other exposed sites.
- Earth dikes and drainage swales will be installed, as necessary to control runoff.
- The Revegetation plan (Appendix A) will be implemented.
- An NPDES permit will be obtained from the Regional Board; measures specified in the permit will be implemented.

With implementation of these measures, impacts associated with soil erosion will be reduced to **less than significant with mitigation.**

Impact GS-2: Loss of Topsoil

Excavation during Project construction requires removal of topsoil in the staging areas, in the borrow area, and during construction of the floodplains.

Mitigation Measure GS-2:

The following measures will be implemented to reduce the loss of topsoil:

- Since the depth of topsoil varies in the Project Area, removal of it will be supervised by a qualified geologist.
- Stockpiling of the topsoil will also be supervised by a qualified geologist to ensure that the soil horizons are preserved, especially soils excavated from wetland and other waters of the U.S. areas.
- Stockpiled topsoils will be covered to protect them from wind and rain.
- Stockpiles will be placed at least 50 feet from drainage courses.
- Sediment control measures will be installed around the stockpiles as needed.
- When construction is complete, the floodplains, borrow sites, and staging areas will be restored. Under the supervision of a qualified geologist, the topsoil will be replaced in the correct order of the soil horizons. Topsoil excavated from wetlands and other waters of the U.S areas will be returned to those areas.

With implementation of these measures, impacts associated with loss of top soil will be reduced to **less than significant with mitigation.**

VII. GREENHOUSE GAS EMISSIONS

Environmental Setting

Warming of the climate system is now considered to be unequivocal (IPCC, 2007). Global average surface temperature has increased approximately 1.33 °F over the last one hundred years, with the most severe warming occurring in recent decades. Eleven of the years between 1995 and 2006 rank among the warmest years in the instrumental record of global average surface temperature (going back to 1850). Continued warming is projected to increase global average temperatures between two and 11 degrees Fahrenheit over the next one hundred years (IPCC, 2007).

The causes of this warming have been identified as both natural processes and as the result of human actions. Increases in greenhouse gas (GHG) concentrations in the Earth's atmosphere are thought to be the main cause of human-induced climate change. GHGs naturally trap heat by impeding the exit of solar radiation that has hit the Earth and is reflected back into space. The six principal GHGs of concern are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbons, and perfluorocarbons.

In 2005, California Governor Arnold Schwarzenegger issued Executive Order (EO) S-3-05 (Office of the Governor 2005), making California the first state to formally establish GHG emissions reduction goals. In 2006, California passed the California Global Warming Solutions Act (also known as Assembly Bill Number 32 [AB 32]). AB 32 legally adopted the 2020 GHG emissions reduction target established in EO S-3-05, and identified the California Air Resources Board (CARB) as the state agency responsible for designing and implementing emissions limits, regulations, and other measures to meet the target. In December 2007, CARB approved the 2020 emissions limit of 427 million metric tons (MT) CO₂ equivalents of GHGs. In 2008, CARB adopted the AB 32 Climate Change Scoping Plan which outlined regulations, market mechanisms, and other actions that would be undertaken to meet the 2020 emissions target.

CEQA requires that lead agencies consider the reasonably foreseeable adverse environmental effects of projects they are considering for approval. CEQA requires that the cumulative impacts of GHG, even additions that are relatively small on a global basis, need to be considered.

Impact Analysis

It is unlikely that a single project by itself could have a significant impact on the environment. However, the cumulative effect of human activities has been clearly linked to quantifiable changes in the composition of the atmosphere, which in turn have been shown to be the main cause of global climate change (IPCC, 2007). Therefore, the analysis of the environmental effects of GHG emissions from this project will be addressed as a cumulative impact analysis.

Although it is also unlikely that individual projects would have a significant positive impact, cumulatively, projects that protect or restore woodlands help sequester carbon, and help connect habitats to facilitate climate change adaptation for wildlife. This is a beneficial impact of the project.

A quantitative significance threshold for GHG emissions has not been established; instead each project is evaluated on a case by case basis using the most up to date calculations and analysis methods. In accordance with Appendix G of the CEQA Guidelines, potential Project-related impacts to greenhouse gas emissions were evaluated as follows:

Would the Project:

- a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
- b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Project construction would occur in the San Joaquin River floodplain in a reclaimed gravel mine which has been converted to a recreation area called Sycamore Island. The surrounding habitat is highly disturbed with some remnant riparian and wetland vegetation. The purpose of the Project is to restore alternate vehicle access to the Sycamore Island recreation area by repairing the berm breach, isolating Pit 46e from the river channel, and restoring habitat. This Project is consistent with the Parkway Plan and the River West Madera Plan.

Project activities would involve use of various types of equipment and machinery, transport of the workforce to the project site, and transport and deliveries of materials. These three Project components have associated GHG emissions.

Table 4 includes the results from the Inventory and Calculations of Greenhouse Gas Emissions (Appendix B). GHG emissions generated by the proposed project would be primarily in the form of CO₂ from construction equipment exhaust. The majority of the GHG emissions would be from operation of construction equipment, which accounts for 1,001 MT of CO₂e. Emissions from worker transportation to and from the work site accounts for 25 MT of CO₂e. Transportation of materials, including spoils and deliveries, will produce 124.37 MT of CO₂e.

The total calculated amount of GHG emissions associated with the entire Project would be 1,150.2 MT of CO₂e, or 23.00 CO₂e per year over the 50 year Project life.

Table 4. Summary of GHG Emissions Analysis

Emissions from Equipment	1,001 total CO ₂ equivalents (metric tons)
Emissions from Worker Transportation	25 total CO ₂ equivalents (metric tons)
Emissions from Materials Transportation	124.37 total CO ₂ equivalents (metric tons)
Total Project Activity Emissions	1150.2 total CO ₂ equivalents (metric tons)
Average Annual Total GHG Emissions (over the 50-year project life)	23.00 CO ₂ equivalents (metric tons)

In 2005, the following GHG emission reduction targets were established for California (EO S-3-05):

- By 2010, GHG emissions were to be reduced to 2000 levels;
- By 2020, GHG emissions are to be reduced to 1990 levels;
- By 2050, GHG emissions are to be reduced to a level 80 percent below the 1990 levels.

The emissions calculated for this Project will occur only during the six month construction period. The amount of GHG emissions will not conflict with the reduction targets of AB-32. However, implementation of the following measures would further reduce Project-related GHG emissions.

Mitigation GHG-1:

- Construction equipment will be maintained according to manufacturer’s specifications.
- Construction vehicle idling time will be limited.
- To minimize dust emissions on unpaved roads and all project entry points, and to increase fuel efficiency of vehicles and reduce emissions, all vehicles driven in the construction area will be limited to 15 miles per hour.
- On-road and off-road vehicle tire pressures shall be maintained to manufacturer specifications. Tires shall be checked and re-inflated at regular intervals.

These measures are consistent with measures suggested in the manual, *Quantifying Greenhouse Gas Mitigation Measures* (Governor’s Office of Planning and Research, 2010).

Because this Project is consistent with the long-term implementation of plans that will restore river habitat, changing its recent gravel mining history to open space and recreational use, and because implementation of the mitigation measures will further reduce GHG emissions, the Project’s incremental contribution to the cumulative impact of increasing atmospheric levels of GHGs is less than cumulatively considerable and is, therefore, **less than significant with mitigation**.

VIII. HAZARDS AND HAZARDOUS MATERIALS

Environmental Setting

The Project is located in a rural area approximately one and one-half miles from Children’s Hospital in Madera County and one mile from the nearest school. Although Children’s Hospital operates a helicopter pad, there are no public or private airstrips within 2 miles of the Project.

There is a residential area in the Project vicinity; the closest residence to the Project Area is located approximately 0.26 miles away.

The Project Area does not have any record of historic hazardous materials from previous land uses as designated under Government Code Section 65962.5, as shown on the Hazardous Waste and Substances Sites "Cortese" List (California Department of Toxic Substances Control, 2007). The County of Madera inspected and ensured the proper reclamation of the Calaveras Materials and San Joaquin Sand and Gravel mining operations, including proper cleanup of surface spills, removal of tanks and stored materials, etc. The County released the performance bonds the companies had posted to guarantee required reclamation and cleanup. However, two abandoned vehicles are located near Borrow Site 1 in the area proposed for backfilling of a road breach.

Impact Analysis

In accordance with Appendix G of the CEQA Guidelines, potential Project-related impacts to hazards and hazardous materials were evaluated as follows:

Would the Project:

- a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
- 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?
- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
- 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?
- 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?
- 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?
- g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
- 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?

Construction materials such as boulders, fill, and topsoil will be transported to the project area, but hazardous materials will not be transported into the Project Area. The project will not impair implementation of either the Fresno County or Madera County emergency response plans (Madera County, 2014; Fresno County, 2014).

Potentially hazardous materials such as gasoline, oil, and other lubricants necessary for operation of construction equipment would be present at the project site and could accidentally be released into the environment.

Impact HAZ-1: Accidental spill or discharge of hazardous material during construction

Operation and refueling of construction equipment can accidentally release fuel, oil, and lubricants into the soil and water.

Mitigation HAZ-1:

The following measures will be implemented to reduce the impacts of accidental spill or discharge:

- Equipment fueling and maintenance will only occur in the staging areas and away from the water.
- All employees will be trained in the handling and storage of potentially hazardous materials. All applicable federal and state regulations will be followed.
- Construction equipment will be properly maintained and cleaned, especially when working in or near the water.
- The contractor will develop a Spill Prevention and Clean-up Plan and will ensure that all employees understand and comply with it.
- Spill containment and clean-up supplies will be available on all construction vehicles and in the staging areas and borrow sites.
- Accidental spills and discharges, whether to soil or water, will be immediately contained and cleaned up.
- Spills and discharges will immediately be reported to the Regional Board.

Implementation of these measures will reduce impacts associated with accidental spill or discharge of hazardous materials to **less than significant with mitigation**.

Impact HAZ-2: Accidental spill or discharge due to vehicle removal

Removal of the existing abandoned vehicles may also accidentally discharge hazardous material to soil or water.

The Regional Board has enforced a clean-up program to limit the spread of contamination in the area pursuant to California Government Code Section 65962.5. The two abandoned vehicles near the proposed road breach area near Borrow Site 1 will need to be removed before fill is placed to repair the road breach. Contamination of the soil beneath the vehicles may have already occurred, further contamination could occur when removing these vehicles.

Mitigation HAZ-2:

Implementation of the following measures will reduce the impacts of accidental spill or discharge during vehicle removal:

- Spill containment materials will be placed in and under the vehicles prior to moving them to prevent automotive fluids from contaminating soil or water.
- The vehicles will be moved in a way that minimizes the possibility of leaking or spilling fluids.
- The vehicles will be disposed of per Regional Board and county regulations.

Impact HAZ-3: Accidental contamination of soil or water due to previously discharged materials

Backfilling of the breach road on Borrow Site 1 will require grading and placement of fill. If the soil contains contaminants from the abandoned vehicles, these substances could further contaminate soil and water during construction. Soil with significant petroleum and/or volatile organic compounds (VOC) when exposed to the atmosphere can also affect air quality and San Joaquin Valley Air Pollution Control District's Rule 4651: "Volatile Organic Compound Emissions from Decontamination of Soil" shall be implemented if contaminated soil is found (SJVAPCD 2007). Rule 4651 is a set of guidelines, with the purpose of limiting VOC emissions from excavation and treatment of soil that has been contaminated by organic fluid from spills, leakage from storage, or other types of leakage.

Mitigation HAZ-3:

Implementation of the following measures before fill is placed will reduce the potential impacts of contamination of soil and water:

- The soil beneath the abandoned vehicles will be tested.
- If VOCs are identified, the SJVAPCD Rule 4651 will be implemented and the soil will be disposed of pursuant to applicable local, state, and federal laws and regulations.

Impact HAZ-4: Construction activities could increase fire risk.

The project area is located in a floodplain composed of rural grassland. The closest residence is approximately 0.26 miles away. During the summer, the landscape becomes dry and the fire danger increases.

Operation of construction vehicles and tools could increase fire risk especially in areas with dry grass.

Mitigation Measure HAZ-4:

Implementation of the following measures will reduce the construction-related fire risk:

- The contractor will implement a fire prevention and suppression plan and will ensure all employees understand and comply with it.
- Construction crews will be given contact information for the nearest fire stations
 - Madera County Fire Department Station (559) 435-5658
 - Fresno City Fire Department Station (559) 621-4199
- Dry brush and vegetation will be removed from access roads, shoulders, and work areas to reduce fire hazards.
- All equipment and vehicles in the project area will be equipped with spark arrestors, fire extinguishers, and shovels.

Implementation of these measures will reduce construction-related fire risk to **less than significant with mitigation**.

Impact HAZ-5: Presence of a construction site, and construction activities could pose public health and safety hazards.

Presence of a construction site in a recreation area could pose a public health and safety hazard.

Public safety could be impacted if the public accesses the construction area, the borrow sites, or if people in boats or kayaks unexpectedly come across the temporary crossing or turbidity curtain (if one is used).

Mitigation Measure HAZ-5:

The following measures will be implemented to restrict public access throughout the construction period:

- As part of the site preparation phase at least two weeks before equipment mobilization, signs will be posted at access roads and in recreational areas up and downstream of the construction area to notify recreationists of project area restrictions.
- Fencing will be installed, where feasible, to restrict public access to the construction area and borrow sites.

Implementation of these measures will reduce public health and safety hazards to **less than significant with mitigation**.

IX. HYDROLOGY AND WATER QUALITY

Environmental Setting

The proposed project is located in a reclaimed gravel mine on the San Joaquin River; Friant Dam is located approximately 10 miles upstream. Mining operations left behind an extensively modified channel and have impacted the historical flow paths in this part of the river. Further, breached ponds and excavated portions of the river channel have slowed flows and increased water temperatures. Flows in this section of the river are further affected by releases from the dam. River flows in the project area fluctuate from season to season, but generally have a low flow of 350 cfs and a high flow of 8,000 cfs. Low flow conditions typically occur in the summer and fall; high flow conditions are typically in the spring. The project area has been designated by the Federal Emergency Management Agency (FEMA) to be within a 100-year flood zone (FEMA, 2014).

The San Joaquin River is considered an anadromous fishery, and water quality is an essential component of maintaining this function of the river. Until the 1940s, the river sustained large populations of Chinook salmon, but salmon populations have become extirpated in the project area. Recently the California Department of Fish and Wildlife (DFW), as part of the San Joaquin River Restoration Program, released fall-run Chinook salmon, a federal Species of Concern, as a test. Salmon redds for this species have been found about one mile up- and downstream of Pit 46e (pers. comm., E. Meyers 2014).

Background turbidity levels were collected from two sites in the project area by the Regional Board as part of the Surface Water Ambient Monitoring Program (SWAMP). The Wildwood Native Park sampling location is approximately one mile upstream of the berm breach and the Palm and Nees sampling location is approximately one mile downstream of the breach. Average turbidity measured in Nephelometric Turbidity Units (NTUs) at Wildwood Native Park is 0.74 NTUs, and at Palm and Nees is 1.03 NTUs (CEDEN, 2012).

Impact Analysis

In accordance with Appendix G of the CEQA Guidelines, potential Project-related impacts to hydrology and water quality were evaluated as follows:

Would the Project:

- a) Violate any water quality standards or waste discharge requirements?
- 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)?
- 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?
- 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?
- 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?
- f) Otherwise substantially degrade water quality?
- 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?
- h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?
- 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?
- j) Cause inundation by seiche, tsunami, or mudflow?

Approximately 30,000 cy of fill will be needed to create the floodplains. Fill would be extracted from the borrow sites, although additional material would be imported if needed. Approximately 4.5 acres of upper and lower floodplain would be created as part of the Project. Up to two acres would be created along the strengthened berm on the Madera County side of the river, and approximately 2.5 acres would be created on the river edge of Borrow Site 1 on the Fresno County side. See Figure 5 for a conceptual diagram of floodplain design.

A non-potable well exists in the Sycamore Island recreation area and may be used for dust control during construction and for irrigation during revegetation of the Project. However, use of the well will not exceed well capacity, and the construction contractor will bring in additional water for dust control if needed to augment the well water supply. Project construction will have a less than significant impact on groundwater supplies.

The project will not substantially alter existing drainage patterns of the site. However, once the berm breach is repaired, water from the pit 46e will no longer be able to directly mix with the river under low water conditions; however during high flows, water will seep through pores in the

berm, and some direct some mixing will occur. Flows in the reclaimed gravel pit next to Borrow Site 1 would no longer be able to mix with river water once the breached road is backfilled. Isolation of pit 46e will beneficially affect the flows and temperatures in the river relative to the reintroduction of salmon.

Floodplains created during the Project would reduce high flow velocities in the river through the site, which would have the net effect of reduced erosion potential. No additional erosion or siltation is expected as a result of changes to the drainage pattern due to the project.

Floodwaters in the project area are dominated by Friant Dam releases; runoff from local precipitation events is relatively minor. Based on DWR HEC-RAS hydraulic models, creation of the strengthened berm and floodplains will have negligible effects on low flow velocities and water surface elevations through the project site. At high flows, the project will slightly reduce water surface elevations and slightly increase velocities. Consequently, the project will not substantially alter the existing drainage patterns of the site or increase surface runoff in a manner which would result in increased flooding.

The Fourth Edition of the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (Basin Plan) provides turbidity limits for the proposed project (Regional Board, 2011). The Basin Plan states:

“Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases in turbidity attributable to controllable water quality factors shall not exceed the following limits:

- Where natural turbidity is less than 1 Nephelometric Turbidity Unit (NTU), controllable factors shall not cause downstream turbidity to exceed 2 NTUs.
- Where natural turbidity is between 1 and 5 NTUs, increases shall not exceed 1 NTU.
- Where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent.
- Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs.
- Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.”

Projects that involve ground disturbance of one acre or more require a NPDES General Construction Permit (State Water Resources Control Board, 2014). Construction and post-construction BMPs must be implemented on the project site as identified in an approved SWPPP to minimize erosion in accordance with NPDES requirements.

The proposed project has several components, and each component subsequently has the potential for different impacts. Although the SWPPP is typically developed by the contractor with approval by the Regional Board, BMPs that would reduce Project impacts are included below.

Impact HWQ-1: Excavation, soil stockpiling, and creation of floodplains could increase erosion and introduce sediment into the river.

Earth moving and associated work will result in exposing soils to erosion. Activities include clearing brush and establishing staging areas, excavating the borrow sites, creating floodplains, and applying gravel to the berm road.

Mitigation Measure HWQ-1:

Implementation of a combination of the following BMPs would reduce erosion and introduction of sediment into the river.

- An NPDES permit will be obtained from the Regional Board; measures specified in the permit will be implemented.
- Vegetation will only be removed if necessary; vegetation outside of the construction areas will not be removed.
- Matting or netting will be placed on exposed soil surfaces to control erosion.
- Fiber rolls will be used on steep slopes at appropriate intervals.
- Sand bags will be placed, as necessary, to control sediment, runoff, or dissipate runoff energy.
- Mulch will be applied to disturbed soils to minimize wind and rain effects.
- Haul trucks carrying soil, and stockpiles will be covered to control soil loss and dust.
- The haul routes, borrow site, and excavation areas will be watered to prevent dust and soil loss; soil stabilizers may be used.
- Stockpiles will be located at least 50 feet away from drainage courses and sediment control measures will be installed around them.
- Silt Fences will be installed at bottoms of slopes, stockpiles of fill material and other exposed sites.
- Earthen dikes and drainage swales will be installed, as necessary to control runoff.
- Turbidity will be monitored upstream and downstream of project site as specified by the Regional Board, DFW, and the USACE permit conditions.
- If water sensors are used they will be inspected as specified by the manufacturer recommendations.
- The Revegetation Plan (Appendix A) will be implemented.

Implementation of a combination of these measures will reduce the potential for increased erosion and introduction of sediment into the river to **less than significant with mitigation.**

Impact HWQ-2: Increased erosion and sediment transport due to in-water construction activities will increase turbidity.

Portions of the haul roads and the road constructed over the strengthened berm and saddle will need to be graded and topped with gravel. The construction of Project features in the water, such as the saddle, strengthened berm and floodplains will introduce approximately 30,000 cy of fill into the river. These activities would temporarily increase turbidity.

Mitigation Measure HWQ-2:

Implementation of a combination of the following BMPs would reduce turbidity impacts.

- An NPDES permit will be obtained from the Regional Board; measures specified in the permit will be implemented.
- Install silt fences at bottoms of slopes and exposed surfaces. Silt fence will be

- accompanied with ponding area sufficient to prevent over topping.
- Install earthen dikes and drainage swales to control runoff to channels and divert to sediment basins.
- Vegetation will only be removed if necessary; vegetation outside of the construction areas will not be removed.
- The haul routes, borrow site, and excavation areas will be watered to prevent dust and soil loss; soil stabilizers may be used.
- Matting or netting will be placed on exposed soil surfaces to control erosion.
- Sand bags will be placed, as necessary, to control sediment, runoff, or dissipate runoff energy.
- Turbidity curtain(s) may be installed in the water around fill areas or downstream of fill areas to reduce turbidity. If turbidity curtains are used, they will be inspected and adjusted to meet turbidity levels.
- Turbidity will be monitored upstream and downstream of project site as specified by the Regional Board, DFW, and the USACE permit conditions.
- If water sensors are used they will be inspected as specified by the manufacturer recommendations.
- The Revegetation Plan (Appendix A) will be implemented.

Implementation of a combination of these measures will reduce the impact of erosion and sediment transport associated with in-water construction to **less than significant with mitigation**.

Impact HWQ-3: Accidental leaks, spills, or discharges of contaminants during construction

Operation and refueling of construction equipment can accidentally release fuel, oil, and lubricants into the water.

Mitigation Measure HWQ-3:

Implementation of the following measure along with implementation of **Mitigation Measure HAZ-1** in the Hazards and Hazardous Materials section will reduce impacts associated with accidental leaks, spills, or discharges.

- Construction vehicles will be cleaned at a cleaning station before being used for construction work in or near the water.

Implementation of **Mitigation Measure HWQ-3** and **HAZ-1** will reduce impacts associated with accidental leaks, spills, and discharges to **less than significant with mitigation**.

X. LAND USE AND PLANNING

Portions of this discussion have been summarized from the River West Madera Plan, pages 126 through 133.

Environmental Setting

The project area and its immediate surrounding consists of a relatively flat floodplain with interspersed pits and ponds, as well as interspersed dirt roads, trails, and park facilities such as shade structures, picnic tables, and wildlife viewing sites. The area is surrounded by relatively

steep river bluffs; land use on the bluffs consists of agriculture, rural residences, and planned residential and commercial development. Two private residences and two small ponds owned by the Fresno Metropolitan Flood Control District are situated below the bluffs and in the floodplain on the Fresno County side. The River Park Golf Center is located below the bluffs on the Madera County side.

The Conservancy was established in January 1993 by the state legislature to develop and manage the San Joaquin River Parkway, which will eventually consist of 5,900 acres of land on both sides of the river. The Parkway Plan applies to the entire project site and establishes Conservancy plans and policies for developing conservation areas, recreational and educational facilities, and river trails. The Parkway Plan envisions 22 miles of regional greenspace and wildlife corridors extending from Friant Dam to SR 99, and includes a trail system, recreational opportunities and educational features. The Conservancy adopted the Parkway Plan in 1997 for development and management of the San Joaquin River Parkway.

The area is zoned POS on the Madera County side, and AE-5 on the Fresno County side.

Impact Analysis

In accordance with Appendix G of the CEQA Guidelines, potential Project-related impacts to land use and planning were evaluated as follows:

Would the Project:

- a) Physically divide an established community?
- 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?
- c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

Land uses surrounding the Project consist of agriculture, rural residences, Children's Hospital, planned residential and commercial development, SR 41, and the Parkway's recreation areas. Because of the berm breach, there is currently no direct land access between Sycamore Island and the Van Buren Unit. The Project would repair the berm breach at Pit 46e, and would restore access between these areas.

The Project Area is owned by the Conservancy and lies within the San Joaquin River Parkway. The Project is consistent with the Parkway Plan and River West Madera Plan and will not conflict with county zoning or jurisdiction of the project area. Currently, no Habitat Conservation Plans or Natural Community Conservation Plans exist in the project area. The project does not involve construction of roads or structures and will not divide an established community.

Removal of approximately 50,000 cy from borrow sites (see Figure 2) is proposed as part of the Project; this may constitute a land use conflict.

Impact LU-1: Removal of material from the borrow sites may conflict with applicable land use policies.

The project area is designated as Planned Open Space on the Madera County side of the Project, and Agriculture Exclusive-5 acres on the Fresno County side. Removal of material for construction use may constitute surface mining as defined by Surface Mining Reclamation Act (SMARA) (California State Mining and Geology Board, 2013) and could conflict with land use policies.

Mitigation Measure LU-1:

Removal of materials from the borrow sites will be coordinated with the DOC and other appropriate agencies. If material removal constitutes a conflict in land use policies, a SMARA permit, or other appropriate permits will be obtained. Even if permits are not required, the borrow sites will be restored as follows:

- Topsoil will be excavated and segregated from other soils for later use.
- Stockpiled soil will be covered to prevent loss due to wind and rain.
- Stockpiles of material not needed for project construction will be spread to conform with the surrounding topography.
- All backfilled areas will be compacted as appropriate for the final use of the area.
- Topsoil will be replaced on the borrow sites.
- The borrow sites will be revegetated with native species that will be self-sustaining after irrigation and maintenance during the first few growing seasons according to the Revegetation Plan (Appendix A).

Implementation of these measures will reduce land use and planning impacts related to material extraction to **less than significant with mitigation.**

XI. MINERAL RESOURCES

Portions of this discussion have been summarized from the River West Madera Plan, pages 134 through 136.

Environmental Setting

Land now owned by the Conservancy has a long history of sand and gravel mining. This land provided roughly one million tons of sand and gravel, annually, beginning in the early 1960s and ending in the 2005. Approximately 40 million tons of sand and gravel are estimated to have been extracted from the area.

SMARA provides a comprehensive surface mining and reclamation policy for the regulation of surface mining operations to assure that adverse environmental impacts are minimized and mined lands are reclaimed to a usable condition. SMARA also encourages the production, conservation, and protection of the State's mineral resources.

Impact Analysis

In accordance with Appendix G of the CEQA Guidelines, potential Project-related impacts to mineral resources were evaluated as follows:

Would the Project:

- 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?

- 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?

While the Project proposes to remove approximately 50,000 cy from borrow sites (see Figure 2), the material will be used as fill for floodplain creation in the same geographical area. Borrow material extracted from Borrow Site 1 would be used to create floodplain in the river less than one mile away from the borrow site. Material in Borrow Site 2, if used, would be transported approximately one mile south to the project area to create the floodplain habitat. Since the borrowed materials would be used as fill in the same locale, the Project will not result in the loss of availability of any regionally or locally important mineral resources. However, loss of topsoil and other potential impacts associated with excavation of the borrow sites could occur.

Impact MR-1: Loss of topsoil, increased erosion, and topography changes associated with borrow site excavation

If reclamation of the borrow sites is not implemented upon construction completion, impacts associated with excavation of the borrow sites could occur.

Mitigation Measure MR-1:

Implementation of **Mitigation Measure GS-2** in the Geology and Soils section, and **Mitigation Measure LU-1** in the Land Use and Planning section would reduce impacts associated with excavation of the borrow sites to **less than significant with mitigation**.

XII. NOISE

Environmental Setting

There is a residential area in the Project vicinity. The closest residence to the construction area is located approximately 0.26 miles away. West Riverview Drive, a possible route for construction equipment, materials, and personnel, is located in the approximate center of the residential area and lies about 0.60 miles from the construction area. The Project is located in a rural area with ambient noises attributed to small amounts of traffic and operation of agricultural equipment. The Project is not located near an airstrip.

Impact Analysis

In accordance with Appendix G of the CEQA Guidelines, potential Project-related impacts to noise were evaluated as follows:

Would the Project result in:

- 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?
- b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?
- c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?
- d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

- 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?
- f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

Table 6 identifies typical noise levels for common residential activities. Table 7 identifies typical construction equipment noise levels. Project-related construction equipment would include graders, dozers, and excavators. Noise levels for construction equipment can range from 79 to 101 dBA at 50 feet, which is similar to the noise level produced by a gas lawn mower (Table 6).

Table 6. Typical Residential Noise Levels

Noise Level (dBA)	Outdoor Activity	Indoor Activity
90+	Gas lawn mower at 3 feet, jet flyover at 1,000	Rock Band
80-90	Diesel truck at 50 feet	Loud television at 3 feet
70-80	Gas lawn mower at 100 feet, noisy urban area	Garbage disposal at 3 feet, vacuum cleaner at 10 feet
60-70	Commercial area	Normal speech at 3 feet
40-60	Quiet urban daytime, traffic at 300 feet	Large business office, dishwasher next room
20-40	Quiet rural suburban nighttime	Concert hall (background), library, bedroom at night
10 – 20		Broadcast/ recording studio
0	Lowest threshold of human hearing	Lowest threshold of human hearing

Source: modified from Caltrans Technical Noise Supplement, 1998

Table 7. Typical Construction Equipment Noise Levels

Type of Equipment	Noise Level in dBA at 50 feet	
	Without Feasible Noise Control	With Feasible Noise Control ¹
Pile Driver	101	95
Dozer or Tractor	80	75
Excavator	88	80
Scraper	88	80
Front-end Loader	79	75
Loader	85	75
Grader	85	75
Crane	83	75
Truck	91	75

¹ Feasible noise control includes the use of intake mufflers, exhaust mufflers, and engine shrouds in accordance with manufacturers' specifications. Sources: EPA 1971, Federal Transportation Administration (FTA) 2006

Local noise ordinances generally consider noise in the 50 to 70 decibel range above acceptable limits for prolonged exposure. However, Fresno County Ordinance Code Title 8.40.060 has set aside the hours from 6:00 a.m. to 9 p.m. Monday through Friday, and 7:00 a.m. to 5:00 p.m. Saturday and Sunday as exempted times for construction noise (Municode 2014a). Madera County Ordinance Code Title 9.58.020 has set aside the hours from 7:00 a.m. to 7:00 p.m. Monday through Friday, and 9:00 a.m. to 5:00 p.m. Saturday as exempted time for construction noise (Municode 2014b).

While the Project will not cause a substantial permanent increase in ambient noise levels, it could expose people to noise levels in excess of standards established in the local noise ordinance, and could cause a temporary increase in ambient noise levels in the project vicinity.

Impact NOI-1: Project construction could expose people to an increase in ambient noise levels.

Although the nearest residence to the construction area is about 0.26 miles away, noise levels for construction equipment could exceed the 50 to 70 dBA limits set by local ordinances especially if people are near the construction area. Project construction equipment would temporarily increase the ambient noise levels.

Mitigation Measure NOI-1:

The following measures will be implemented to reduce ambient noise levels:

- Vehicles and equipment will be equipped with noise suppressing mufflers and exhaust systems and will be maintained to manufacturer's specifications.
- Machinery will be shut off when not in use.
- Construction activities will be limited to hours designated by Fresno and Madera County construction noise ordinances.

Implementation of these measures will reduce ambient noise impacts to **less than significant with mitigation.**

XIII. POPULATION AND HOUSING

Environmental Setting

The Project is located in both Fresno and Madera Counties. Project land in Fresno County is designated as Agriculture Exclusive-5 acres; Project land in Madera County is designated as Planned Open Space. While there is no housing in the project area, the closest residence is about 0.26 miles away.

Impact Analysis

In accordance with Appendix G of the CEQA Guidelines, potential Project-related impacts to population and housing were evaluated as follows:

Would the Project:

- 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)?

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

There are isolated houses near the Project Area, and a residential area on the Fresno County side of the Project. The closest residence in the residential area is located approximately 0.50 miles from the from the construction area. However, the Project will not involve construction of new roads, housing, or any other structures. The Project will not involve activities that would displace people or housing and will not directly or indirectly induce population growth.

The Project will have **no impact** on population and housing.

XIV. PUBLIC SERVICES

Portions of this discussion have been summarized from the River West Madera Plan, pages 152 through 161.

Environmental Setting

The Project is located in both Fresno and Madera Counties, in the southeast section of the Sycamore Island recreation area. Project land in Fresno County is designated as Agriculture Exclusive-5 acres; Project land in Madera County is designated as Planned Open Space. While there are no houses, schools, or government facilities in the immediate construction area, there are two residences on the Madera County side located approximately 0.55 miles and 0.26 miles away from the construction area. The closest schools, parks, and emergency providers are listed below:

- Madera County Eastin-Arcola Elementary School is located 11 miles east of the project area;
- Fresno County Bluff View Preschool is located approximately 1.0 mile southeast of the project area;
- Madera County Fire Department Station 9 is about 3.3 miles from the project area;
- Fresno City Fire Department Station 2 is about 1.7 miles from the project area;
- Madera County Sheriff's office is located approximately 14 miles from the project area;
- Fresno County Sheriff's office is located approximately 5.5 miles from the project area;
- Spano Park is located in Fresno County about 0.6 miles from the project area.
- Children's Hospital is approximately 1.5 miles away from the project area

Impact Analysis

In accordance with Appendix G of the CEQA Guidelines, potential Project-related impacts to public services were evaluated as follows:

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:

Fire protection?

Police protection?
Schools?
Parks?
Other public facilities?

The purpose of the Project is to repair the breached berm to provide recreational and emergency access between Sycamore Island and the Van Buren Unit. The Project would also construct an equalization saddle, strengthen the existing berm, and create a gravel road on top of the saddle and berm. The Project will create floodplain habitat, and will restore habitat. The Project will require six months to construct, and will not result in the need for new or altered government services or facilities, including any of the services and facilities listed above.

The Project will, however, be located in the San Joaquin River floodplain, and construction may occur during the summer. The surrounding area will be dry during that time and the possibility of fire would be increased.

Impact PS-1: Construction activities could increase fire risk.

Operation of construction vehicles and tools could temporarily increase fire risk especially in areas with dry grass. If this occurred, fire protection would be required.

Mitigation Measure PS-1:

Implementation of **Mitigation Measure HAZ-4** from the Hazards and Hazardous Materials section will reduce impacts associated with increased fire risk to **less than significant with mitigation**.

XV. RECREATION

Environmental Setting

Project construction would occur in the San Joaquin River floodplain in a reclaimed gravel mine which has been converted to a recreation area called Sycamore Island and a conservation area and future recreation area called the Van Buren Unit. The surrounding habitat is highly disturbed with some remnant riparian and wetland vegetation.

Picnicking and hiking opportunities exist near the construction area as well as a boat ramp located approximately 280 feet from the Project's proposed temporary crossing. Two other boat ramps are located approximately one-half mile west of the project area. Implementation of the project would provide access continuity in the area designated in the 1995 *San Joaquin River Parkway Interim Master Plan*, including approximately 800 acres of publicly accessible park and recreation land. The Project will provide for secondary, emergency egress from Sycamore Island, and improve access for emergency response and public safety agencies.

Impact Analysis

In accordance with Appendix G of the CEQA Guidelines, potential Project-related impacts to recreation were evaluated as follows:

- 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?

Due to public safety concerns, visitors to the adjacent recreation area will be restricted from entering the construction area.

Impact REC-1: Restricting recreation access could limit recreational opportunities.

Public access in the construction area would pose a safety hazard; consequently access to some picnicking, hiking, kayaking, canoeing, rafting, and boating areas will be restricted throughout Project construction.

Mitigation Measure REC-1:

The following measures would be implemented to minimize the temporary loss of recreational opportunities in the project area:

- As part of the site preparation phase, and at least two weeks prior to equipment mobilization, signs will be posted at access roads and in recreational areas up and downstream of the construction area to notify recreationists of project area restrictions.
- As part of the site preparation phase, and at least two weeks prior to equipment mobilization, signs redirecting boaters, to boat ramps, picnic areas, trails, and river access points outside of the construction area will be posted.

The Project will only require six months to construct. The temporary nature of Project construction and implementation of these mitigation measures will reduce impacts to lost recreational opportunities. The Project will not increase the use of Parkway facilities to the point that accelerated deterioration facilities would occur.

Implementation of these measures would reduce impacts to recreation to **less than significant with mitigation.**

XVI. TRANSPORTATION AND TRAFFIC

Portions of this discussion have been summarized from the River West Madera Plan, pages 162 through 168.

Environmental Setting

The Project would be constructed on the river about 1.6 miles downstream of the SR 41 Bridge in Madera and Fresno Counties (Figure 1).

Roads are classified by the purpose of the road and by the road's level of service (LOS). The LOS describes the flow of traffic during particular times of use and varies depending on the type of road (Table 8). The LOS can change due to increases or decreases in traffic, and can increase in severity during road blockages and maintenance projects. In general, an increase of approximately 400 vehicles per hour on a major road segment is needed to increase the severity of the LOS (pers. comm., J. Carter 2014).

Table 8. Capacity per Hour per Lane for Various Highway Facilities

Level of Service	Freeways	Two-lane Rural Highway	Multi-lane Rural Highway	Expressway	Arterial	Collector
A	700	120	470	720	450	300
B	1,100	240	945	840	525	350
C	1,550	395	1,285	960	600	400
D	1,850	675	1,585	1,080	675	450
E	2,000	1,145	1,800	1,200	750	500

Source: Madera County Resource Agency, 2010.

The roads that will potentially be used during Project construction are identified in Table 9.

Table 9. Project Road Use

Road Name	Classification	Jurisdiction
SR 41	Freeway	Caltrans
SR 99	Freeway	Caltrans
Avenue 9	Expressway	Madera County
Children's Boulevard	Arterial	Madera County
Friant Road	Arterial	Fresno City
Road 40	Local	Madera County
Avenue 7 ½	Local	Madera County
Audubon Drive	Local	Fresno City
North Del Mar Avenue	Local	Fresno City
West Riverview Drive	Local	Fresno City

All of the roads and intersections that will potentially be used during Project construction are classified with an LOS of C or better (Table 10). The current LOS for the intersections that will potentially be used during Project construction are also classified at LOS C or better, even during the worst peak hours (Table 11) (pers. comm., J. Gomley 2014).

Table 10. Existing Level of Service, All project roads

Road	Segment	Worst Peak Hour Level of Service
SR 41	Friant Road to Children's Blvd.	C
SR 99	Ave 7 to Children's Blvd.	B
Avenue 9	Road 36 to Road 40 ½	C
Children's Boulevard	Road 40 ½ to SR 41	B
Road 40	Avenue 9 to Avenue 7 ½	A
Avenue 7 ½	Road 40 to Road 39 ½	A
Audubon Drive	Friant Road to N. Del Mar Ave.	C
North Del Mar Avenue	Audubon Dr. to West Riverview Dr.	C
West Riverview Drive	From North Del Mar Avenue	A

Sources: Madera County Resource Agency, 2010; (pers. comm., J. Gomley 2014).

Table 11. Existing Level of Service, Project Intersections

Intersection	Worst Peak Hour Level of Service
Children's Blvd./SR 41	C
Avenue 9/Road 40	B
Audubon/SR 41	C
Audubon/N. Del Mar Ave.	C
N. Del Mar Ave./West Riverview Dr.	A
Palm and Nees	B

Source: (pers. comm., J. Gomley 2014)

Impact Analysis

In accordance with Appendix G of the CEQA Guidelines, potential Project-related impacts to transportation and traffic were evaluated as follows:

Would the Project:

- a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?
- b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?
- 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?
- d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
- e) Result in inadequate emergency access?
- f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Various state, county, and local roads could be used for project access. Highway 41, SR 99 and Madera County roads Avenue 9, Avenue 7 ½, Road 40, and Children's Boulevard could be used to transport equipment and crews to and from the project area. The following City of Fresno roads could also be used to transport equipment and crews: Herndon Avenue, Blackstone Avenue, Friant Road, Audubon Drive, North Del Mar Avenue, West Riverview Drive, Nees Avenue, and with the City of Fresno and landowners' permission, the intersection of Palm and Nees Avenues.

Equipment would be brought into the project on flatbed trucks as needed for each construction phase, but would not exceed 20 trips throughout Project construction. Approximately 850 truck trips will be needed to import Project materials. Construction crews would use established roads to access the project area five days each week throughout the construction period. Construction staff is expected to travel to the construction site in vehicles no larger than light

duty pick-up trucks; the number of crew vehicle round trips would be approximately 15 per day. The Project will not conflict with the traffic or public transit plans, ordinances, or policies. Because of the small number of vehicles required for Project construction, there will be no increase in LOS on any of the access roads. Project equipment deliveries will avoid peak hours (7:00 to 9:00 AM and 4:00 to 6:00 PM) and the Project will not conflict with congestion management programs.

The Project will not construct new access roads, or alter any existing roads. The Project will not obstruct emergency access; in fact, once the berm breach is repaired, emergency access between Sycamore Island and the Van Buren Unit will be improved.

The Project would have a **less than significant impact** on traffic and transportation.

XVII. UTILITIES AND SERVICE SYSTEMS

Portions of this discussion have been summarized from the River West Madera Plan, pages 169 through 172.

Environmental Setting

The Project is located in Madera and Fresno Counties. The area is zoned as POS on the Madera County side and AE-5 on the Fresno County side. Project construction would occur in the San Joaquin River floodplain in a reclaimed gravel mine which has been converted to a recreation area called Sycamore Island. The surrounding habitat is highly disturbed with some remnant riparian and wetland vegetation.

A vault toilet is located on Sycamore Island south of Staging Area 1 and close to the bait and tackle shop. A well remaining from former sand and gravel operations at Sycamore Island provides a source of non-potable water in the area. Madera Disposal Systems, Inc. currently provides solid waste disposal service for the waste generated by recreational use on Sycamore Island. There are no public utilities or services within the Van Buren Unit or the Fresno County side of the Project.

Impact Analysis

In accordance with Appendix G of the CEQA Guidelines, potential Project-related impacts to utilities and service systems were evaluated as follows:

Would the Project:

- a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

- 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?

- 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?

- d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?
- 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?
- f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?
- g) Comply with federal, state, and local statutes and regulations related to solid waste?

The Project will not require construction or use of wastewater treatment or stormwater drainage facilities. Construction crews would not use the existing vault toilet; instead, the Project would use portable toilets that would be supplied by a contractor. The contractor would be responsible for the installation, maintenance, and removal of the portable toilets and will also be responsible for disposal of the waste. Portable toilets would be located in one of the staging areas near the construction office and away from water.

A water supply would be needed for dust control during construction, and for irrigation of the revegetation plantings. The non-potable well could be used for dust control and for irrigation. The construction contractor will bring in additional water for dust control if needed to augment the well water supply. The Project will not require new or expanded water requirements.

Construction activities, and the construction crew would generate some solid waste, however the Project will not entail demolition, and will not need to dispose of large quantities of construction materials. Trash and other waste generated during construction will be picked up, daily, and properly contained. The contractor will be responsible for removing all trash from the construction site and properly disposing of it. The closest landfill is the Fairmead Landfill. This landfill is used by Madera Disposal Systems, Inc., and has the capacity to accommodate the waste generated during Project construction. All federal, state, and local statutes and regulations related to the collection of solid waste and service of portable toilets will be adhered to.

The Project would have a **less than significant impact** on utilities and service systems.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

In accordance with Appendix G of the CEQA Guidelines, potential Project-related impacts to mandatory findings of significance were evaluated as follows:

- 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?

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)?

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

Project construction could potentially impact special-status habitats, species, and cultural resources, however, these impacts will be mitigated to less than significant and will not substantially reduce the amount of available habitat, cause a drop in species populations, nor eliminate plant or animal communities. The project will create 4.5 acres of floodplain habitat.

Project construction will be short-term requiring a total of six months of work. However, in the event of permit restrictions, increases in river flows, or other unforeseen circumstances, the six months of construction work may take place over two construction seasons.

The Project would potentially have impacts associated with Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services, and Recreation. Impacts to these resources will be mitigated to less than significant, and none of the impacts would be cumulatively considerable, including impacts to Greenhouse Gas Emissions.

Although the proposed project will have impacts on resources considered to more directly affect human beings, all of the impacts are either less than significant or will become less than significant with mitigation. Such impacts would be associated with Aesthetics, Air Quality, Greenhouse Gas Emissions, Hazards and Hazardous materials, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Noise, Public Services, Recreation, Transportation and Traffic, and Utilities and Service Systems. None of the impacts would have a substantial direct or indirect effect on human beings.

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Appendix A

Revegetation Plan

Sycamore Island Pond Isolation Project (Pit 46e)
Madera and Fresno Counties

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Purpose

The San Joaquin River Conservancy (Conservancy) proposes to restore road connectivity at a berm breach within the San Joaquin River near River Mile (253.5), isolate an old gravel pond, and create floodplain habitat. The proposed project will impact wetlands, native trees, and native riparian vegetation during construction. This revegetation plan has been prepared to identify the project impacts and address mitigation for those impacts, and to incorporate habitat restoration elements into the project.

Site Location

The proposed features would be constructed in Reach 1A of the San Joaquin River near River Mile (RM) 253.5 on the north and south banks in both Fresno and Madera Counties, and approximately 1.6 miles downstream of the Highway 41 Bridge (Figure 1).

Coordinates: Latitude 36° 51' 40.76" N, Longitude 119° 48' 38.04" W, Township 12S, Range 20E, U.S. Geological Survey quadrangle Fresno North.

Project Background

Pit 46e was originally created during sand and gravel mining operations. The earthen berm that previously separated the gravel pit pond and river channel, and provided a vehicle access road between Sycamore Island and the Van Buren Unit was breached in the 2005 flood event, eliminating the vehicle access route, and directly connecting the waters of the pond and river.

Specific objectives of the project include:

- Restoring alternate and emergency response access by connecting Sycamore Island to the Van Buren Unit by creating an equalization saddle and re-connecting roads on the right (north) bank of the river channel.
- Strengthening the berm through construction of floodplain habitat on the left bank of the river channel.
- Isolating the gravel pond from the river.
- Restoring and enhancing habitat through the creation of other floodplain habitat on the left bank of the river channel.

Site Description

The site is located on State property owned by the Conservancy and the river channel under the jurisdiction of the State Lands Commission. The site is situated north of the city of Fresno, and is located where the San Joaquin River has emerged from the foothills and has cut through the topography, creating tall, steep bluffs that confine the riparian zone and floodplain. Proposed features will primarily occur within Lacustrine, Riverine, Wetland, and Grassland habitat communities. The near surface soils that underlie the project site consist of a mix of Hanford Series, Grangeville Series, Cajon Series, Tujunga Series, Visalia Series, and Riverwash, and water. The Map Unit Descriptions indicate that all the soils are composed of sandy textures (USDA 2010).

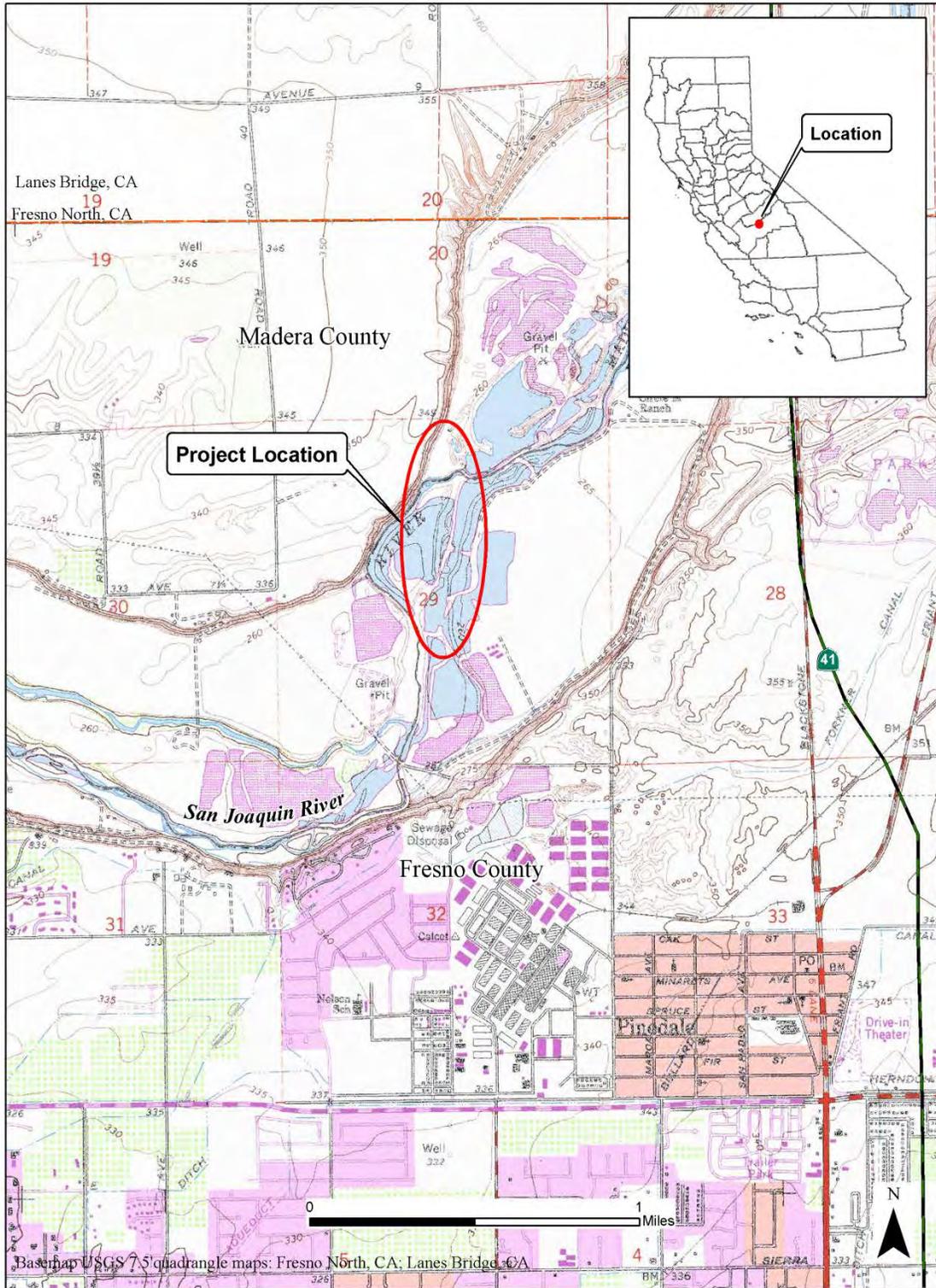


Figure 1: Project Location

The site is considered a Designated Floodway of the State (100-year flood zone) (CVFPB 2011). The channel width averages 350 feet and a small island sits within the San Joaquin River. River flows in the project area fluctuate from season to season, but generally have a low flow of 350 cfs and a high flow of 8,000 cfs.

Jurisdictional Waters/Wetlands

Waters of the U.S. were delineated within the proposed project area for a total of 8.06 acres. Four components of the proposed project have potential to impact these waters: Pit 46e breach repair, floodplain creation, re-establishment of the road over a Lake area, and a temporary crossing. Approximately 2 acres of waters of the U.S. will be filled.

There were four locations that were delineated as wetlands for a total of 0.45 acres. These wetlands were characterized as Freshwater Emergent wetlands. Within the preliminary delineation of waters of the U.S., including wetlands, report(s) submitted to the U.S. Army Corps of Engineers these were more specifically classified using the U.S. Fish and Wildlife Service system as intermittent riverine, if inundated for part of the year, or as a lower perennial riverine system, if the gradient was low and water flowed throughout the year (Cowardin 1979).

One delineated intermittent riverine wetland will be directly impacted. This wetland is approximately 0.01 acres. The other three wetlands will be avoided. Protection of these will minimize or eliminate any indirect impacts that could occur.

The delineated wetland that would be impacted is primarily made up of two species: broadleaf cattail (*Typha latifolia*) and mosquito fern (*Azolla* sp.). Floating water primrose (*Ludwigia peploides*) is also present. The wetland sits at the bottom of a U-shaped cove and does provide some stabilization to the bank. However, its diminutive size puts constraints on the quality of function. Given its location (fishing location along the river) and potential for impact from recreation, minimal recreational/educational value, minimal pollutant removal/water quality function, lack of species richness, low capacity for supporting a diverse biological community, and minimal water storage function it could be considered a low functioning wetland with minimal value (WSDOT 2000) (NJDEP 2004).

Native Trees

Proposed project activities are expected to result in the removal of approximately 20 native trees along the banks of the San Joaquin River Lake habitat where the embankments are to be cleared, or where existing vegetation will be covered by fill. These trees have a diameter at breast height (DBH) equal to or greater than 4 inches, but less than 24 inches DBH.

Avoidance and Mitigation of Impacts

Where possible, wetland habitat and removal of native tree species will be avoided during construction activities. If avoidance is not possible, then other measures would be conducted to mitigate the loss of vegetation to the area.

A combination of hydroseed mix and cuttings will be planted (Tables 1 and 2). Seed mix may vary depending on availability.

Table 1. Potential Pole cutting species.

Species	Common Name
<i>Quercus lobata</i>	Valley Oak
<i>Plantanus racemosa</i>	Sycamore
<i>Populus fremontii</i>	Fremont cottonwood
<i>Salix exigua</i>	Narrow leaf willow
<i>Salix lasiolepis</i>	Arroyo willow

Table 2. Potential Riparian Community Seed Mix

Species	Common Name	Lbs per acre
<i>Elymus glaucus</i>	Western ryegrass	8.0
<i>Eschschilzia californica</i>	California poppy	2.0
<i>Leymus triticoides</i>	Creeping wild rye	2.0
<i>Mimulus cardinalis</i>	Scarlet monkey flower	1.0
<i>Nasella cernua</i>	Nodding needlegrass	3.0
<i>Vulpia microstachys</i>	Fescue	5.0

Tree Planting

The main source for willow or cottonwood trees will be pole cuttings taken from young branches from vigorous trees on site to the extent practicable. Spacing will comply with the Central Valley Flood Protection Board's Barclays California code of Regulations requirements (Title 23, Division 1, Section 131). Additional permit conditions will also be implemented.

The following willow and cottonwood cutting techniques were excerpted from:

- 1) Lezberg, A., J. Giordanengo. 2008 [winter]. A Guide for Harvesting, Storing, and Planting Dormant Willow Cuttings. The Greenline: The Newsletter of the Colorado Riparian Association. Volume 19, Number 3. Wildlands Restoration Volunteers.
- 2) United States Department of Agriculture. TN-Plant Materials No. 23. 2007 rev. How to Plant Willows and Cottonwoods for Riparian Restoration. Technical Notes. The Natural Resources Conservation Service. Boise, Idaho.
- 3) Schalau, Jeff. 2010. Planting Pole Cuttings in Riparian Ecosystems. URL = <http://cals.arizona.edu/pubs/atresources/az1191.pdf>. Arizona Cooperative Extension, University of Arizona. Accessed: October 23, 2013.
- 4) Dreesen, D.R., G. Fenchel. 2010. Deep-planting Techniques to Establish Riparian Vegetation in Arid and Semiarid regions. Native Plants Journal. Volume 11, Number 3.

- All cuttings will be cut at the base with a clean diagonal angle (approximately 45⁰) with a hand saw or lops. Apical buds, along with all the side branches will be removed.(1)(2)(3)
- Willow cuttings will be, in general, 3/4 of an inch to 1 ¼ inch in diameter and 5 to 10 feet long; cottonwood cuttings will be, in general, 2 to 3 inches in diameter, and at least 12 feet long.(1)(2)(4)
- Cuttings will be soaked 5 to 14 days prior to planting with 60 to 100% of the length of the cuttings in contact with water while soaking.(1)(2)
- Cuttings will be installed before bud break. If installed in the fall or early winter, they will be installed deep enough to avoid being dislodged out of the ground by water flows. Cuttings will be installed no more than 3 feet above the lowest water table level of the year. (1)
- Cuttings will be spaced 12 feet apart and rows will be a minimum of 16 feet apart beginning at least 16 feet away from the overflow bank (CVFPB, 2009).

Hydro seeding

Hydro seeding will occur in areas where vegetation is removed. Hydroseeding techniques were excerpted from a non-submitted, draft revegetation plan (DWR 2013).

- Prior to hydro seeding, both disturbed and undisturbed areas will have a seed bed prepared by mechanical or hand scarification to provide a roughened soil surface for seed attachment.
- At least 75% of the slurry will be locally adapted native plant ecotypes. Non-native supplements will be known not to be invasive or persistent.
- After the seed slurry has been applied, straw mulch will be applied uniformly by hand, blower, or other suitable equipment within 24 hours after the application of seed. A layer of fiber and tack, or hydro mulch, will be added on top of the straw mulch on that same day to anchor the straw mulch in.

Site Preparation

Various site preparation techniques were excerpted from the following:

- 5) Apostol, D., M. Sinclair (Eds). 2006. Restoring the Pacific Northwest: The Art and Science of Ecological Restoration in Cascadia. Washington, D.C. Island Press. pp 160.
 - 6) Urban Drainage and Flood Control District [UDFCD]. 2012 [Revision]. Urban Drainage and Flood Control District: Standard Specifications Division 2 through Division 33. By CH2MHill. URL = http://www.udfcd.org/downloads/pdf/dist_specifications/UDFCD_Standard_Specifications_March_2012_Revision.pdf. Accessed: October 31, 2014.
- Any topsoil excavated will be separated and stockpiled and clearly labeled. Depths will be dependent on habitat and soil types, but should range from 4 to 6 inches. However, delineated wetland topsoil will be excavated a minimum of 18 inches. (5)(6)
 - All stockpiles will be protected and covered from wind or water erosion.
 - Rough grading for most areas will proceed to 4 to 6 inches below the final grade, again dependent on habitat. Wetland area grading will proceed to approximately 18 inches below final grade.

- Surface of subsoil will be scarified before soils are introduced to permit bonding with the subsoil.
- Supplemental soils will be introduced into sensitive areas below the topsoil, or as topsoil where needed.
- Topsoil will be introduced during final stage of soil transfer to top-dress the appropriate habitat types, as assigned by labels. Topsoil from wetlands will be placed within 24 hours of excavation and will be replaced with a minimum number of machine passes to reduce disturbance to micro-organisms.(6)

Additional Measures if Removal of Wetland Can Be Prevented:

- Visqueen or plastic sheeting of a thickness of 10 ml's or higher (or whatever USACE deems suitable), may be laid out over the wetland, as well as on the surrounding riparian or floodplain area that would be disturbed.
- Fasteners would be installed at overlapping seems and the perimeter will be fastened down by stakes or other means before any fill or the temporary crossing is introduced to the area.
- When the temporary crossing is removed, the fill material will be removed until the visqueen is reached.
- The visqueen would then be removed to expose the protected soils.
- One or more bottomless culverts may be installed over the jurisdictional wetland to minimize damage from the creation of the temporary crossing (Dadey 2014).
- The bottomless culvert(s) will be set over the wetland, which will protect the wetland from the fill and construction.
- Once the project is completed, the fill and culvert(s) will be removed, re-exposing the wetland.

Supplemental Soils

- Topsoils not directly coming from Riverine habitat may be supplemented.
- Supplemental sub- and topsoil will possess a similar silt loam or sandy loam of sensitive soils specifications with the following average texture class percentages (Osman 2013):
 - sand – 25% to 65%
 - silt – 25% to 75%
 - clay – 0 to 20%
 Or the following minimum organic material requirement will be utilized to supplement sandy materials:
 - 30% Compost (Caltrans 2014)
- Supplemental sub- or topsoil must be free of PCB's or in concentrations of less than 0.1 mg/kg (RiverWorks 2009).

Weed Control

- Scarlet wisteria will be removed following eradication and control protocols.

- Scarlet wisteria will be removed by hand before October 15th and herbicides will be applied (May 2005).
 - If scarlet wisteria is treated with herbicides, it will be treated with chemical approved for use near water and follow anadromous fish guidelines from the Environmental Protection Agency (May 2005).
 - Any spoil piles containing wisteria or associated soils will be placed upon a tarp or visqueen.
 - Scarlet wisteria and soils associated with it will be removed and taken offsite to the appropriate disposal facility by November to protect fish and to project floodway conveyance from seed dispersion.
- Any spoil piles containing yellow star thistle (*Centaurea solstitialis*) and associated soils will be placed upon a tarp or visqueen. The material will be taken offsite to the appropriate disposal facility.

Performance Criteria

Regulatory agencies require avoidance, minimization, or compensatory mitigation for all activities that could impact aquatic resources. Compensatory mitigation could include mitigation monitoring, mitigation banking, or in-lieu fee programs. Any habitat improvement occurring within the floodway must follow the Central Valley Flood Protection Board's Code of Regulations (2009).

The project will improve habitat conditions through floodplain creation, thus, final mitigation requirements will be determined in consultation with the appropriate regulatory agencies. Other compensatory mitigation may be required or preferred for different components of the Project.

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Appendix B

Inventory and Calculation of Greenhouse Gas Emissions

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Table A-1. Emissions from Construction Equipment

Type of Equipment	Maximum Number per Day	Total Operation Days	Total Operation Hours ¹	Fuel Consumption (gal/hr) ²	Total Fuel Consumption (gal. diesel)	CO ₂ e/gal diesel ³	Total CO ₂ Equivalent Emissions (metric tons)
Generators	5	80	3200	9.94	31,808	0.010	331
Water Trucks 3600 Gal	2	120	1920	6	11,520	0.010	120
Backhoes	3	45	1080	2.7	2,916	0.010	30
Loaders	3	45	1080	2.7	2,916	0.010	30
Bobcats	2	20	320	1.41	451	0.010	5
Excavator (325L)	3	80	1920	5.12	9,830	0.010	102
Compactor (815F Sheepfoot)	2	20	320	6.95	2,224	0.010	23
12H Motor Grader	2	20	320	3.44	1,101	0.010	11
140H Motor Grader	2	20	320	5.66	1,811	0.010	19
D-8N Dozer	3	60	1440	7	10,080	0.010	105
623 F Self Load Scrapers	2	30	480	9.52	4,570	0.010	47
Compressor 750 cfm	2	5	80	5.6	448	0.010	5
4x2 Pick up	2	20	320	4	1,280	0.010	13
4x4 Pick up	2	120	1920	4	7,680	0.010	80
Foreman Operator 4x2	2	120	1920	4	7,680	0.010	80
TOTAL							1,001

¹ An 8-hour work day is assumed.

² California Air Resource Board Off-road 2007 Emissions Inventory fuel consumption factors.

³ World Resources Institute-Mobile combustion CO₂ emissions tool, June 2003 Version 1.2.

Table A-2. Emissions from Transportation of Construction Workforce

Avg. Number of Workers per Day	Total Number of Workdays	Avg. Round Trip Distance (miles)	Total Miles Traveled	Avg. Passenger Vehicle Fuel Efficiency ¹ (mi/gal)	Total Fuel Consumed (gasoline gallons)	CO ₂ e/gal Gasoline ²	Total CO ₂ Equivalent Emissions (metric tons)
15	120	32	57,600	20.8	2769.2	0.009	25

¹ United States Environmental Protection Agency. 2008. Light-Duty Automotive Technology and Fuel Economy Trends: 1975 through 2008. [EPA420-R-08-015].

² World Resources Institute-Mobile combustion CO₂ emissions tool, June 2003 Version 1.2.

Table A-3. Emissions from Transportation of Construction Materials

Trip Type	Total Number of Trips	Avg. Round Trip Distance (miles)	Total Miles Traveled	Avg. Semi-truck Fuel Efficiency (mi/gal) ¹	Total Fuel Consumed (diesel gallons)	CO ₂ e/gal Diesel ²	Total CO ₂ Equivalent Emissions (metric tons)
Delivery	870	72	62,640	6.2	10,103.2	0.010	101
Spoils	1,556	9	14,004	6	2,334	0.010	23.3
TOTAL							124.3

¹ United States Environmental Protection Agency. 2008. Light-Duty Automotive Technology and Fuel Economy Trends: 1975 through 2008. [EPA420-R-08-015].

² World Resources Institute-Mobile combustion CO₂ emissions tool, June 2003 Version 1.2.

Table A-4. Construction Electricity Emissions

	MWh of electricity	mtCO ₂ e / MWh ¹	CO ₂ e emissions
Electricity Needed	0	0.310	0

¹ eGRID2010 Version 1.0, February 2011 (Year 2007 data) CAMX-WECC sub-region.

Table A-5. Construction Emissions Summary

Annual Total Construction Activity Emissions	23.0
Total Years of Construction	0.5
Expected Start Date of Construction	
Estimated Project Useful life	50 Years
Total GHG Emissions¹	1,150.2 metric ton CO₂ equivalents

¹short-term construction emissions amortized over life of project