UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
MID-PACIFIC REGION
SACRAMENTO, CALIFORNIA

FINDING OF NO SIGNIFICANT IMPACT

ARROYO CANAL FISH SCREEN AND SACK DAM FISH PASSAGE PROJECT

Recommended: _____ **Date:** 9/4/13

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Proposed Action

The U.S. Department of the Interior, Bureau of Reclamation (Reclamation) in cooperation with the Henry Miller Reclamation District #2131 (HMRD), proposes to replace Sack Dam and install a new fish screen structure in Arroyo Canal to accommodate fish passage in the San Joaquin River, in accordance with the Stipulation of Settlement (Settlement) in *NRDC, et al., v. Rodgers, et al*. Federal authorization for implementing the Settlement is provided in the San Joaquin River Restoration Settlement Act (Public Law 111-11).

The Proposed Action includes the following key components:

- Construct a new Sack Dam to accommodate fish passage and improve operational control under the scheduled Restoration Flow regime.
- Demolish the existing Sack Dam structure, and recontour the resulting disturbed channel. Provide stabilization improvements to the east side of the San Joaquin River channel between the east abutment of Sack Dam and the adjacent levee.
- Construct a new 700-cubic-foot-per-second positive barrier fish screen structure within the Arroyo Canal in a single vee configuration with profile bar screens. The fish screen would be designed to meet the criteria and guidelines issued by California Department of Fish and Wildlife (DFW; previously California Department of Fish and Game) and National Marine Fisheries Service (NMFS), which are generally supported by U.S. Fish and Wildlife Service (USFWS).
- Construct a new trash-rack structure at the head of the Arroyo Canal, upstream of the new fish screen structure, with an automated raking mechanism.
- Construct a new transport channel/fish ladder, beginning at the downstream end of the vee screen and terminating at the west abutment of Sack Dam. The transport channel/fish ladder would convey downstream migrating fish and accommodate upstream migrating fish past Sack Dam.
- Construct a defined work bench area adjacent to the west abutment of Sack Dam to facilitate operation and maintenance access to the dam and the Arroyo Canal approach channel.
- Construct a new control building to accommodate mechanical, electrical, and instrumentation and control equipment related to Proposed Action improvements.
- Construct a new equipment storage building to accommodate maintenance equipment related to Proposed Action improvements.
- Replace an existing bridge across the Poso Canal (located immediately north of the Arroyo Canal) to accommodate project operation and maintenance equipment access needs.

- Construct a new bridge across the Poso Canal to facilitate site access from Valeria Avenue during inclement weather conditions. This bridge would also be designed to accommodate project operation and maintenance equipment.
- Employ all stipulated environmental commitments that were explained in the EA. These commitments are reiterated at Attachment 1 to the FONSI.

Reclamation posted the draft EA/FONSI for public review and comment on Reclamation's website and through a press release that was distributed on June 1, 2012. The public review period began on June 1, 2012 and ended on July 2, 2012. Comments were received from one federal, two state, and one local agency and one individual. The Final EA was released on May 17, 2013 and was associated by a public press release.

Findings

In accordance with Section 102(2)(c) of the National Environmental Policy Act of 1969, as amended, and the Council on Environmental Quality's Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act of 1969 (40 Code of Federal Regulations Parts 1500-1508), the Mid-Pacific Region of Reclamation finds that the Proposed Action is not a major federal action that would significantly affect the quality of the human environment. This Finding of No Significant Impact is supported by the Environmental Assessment/Initial Study, *Arroyo Canal Fish Screen and Sack Dam Fish Passage Project*.

The following factors support this determination, including the implementation of several environmental commitments that are identified below and would be incorporated into the Proposed Action:

1. The Proposed Action would not result in adverse impacts to aesthetics. Construction of the Proposed Action would potentially create short-term and temporary changes in views within the project area. Heavy equipment and machinery is a common visual element in the landscape due to intensive surrounding agricultural operations, and the existence of equipment for construction is not anticipated to significantly affect aesthetics. Aesthetic impacts associated with vegetation removal would be temporary, and a restoration plan would be developed and implemented to revegetate disturbed areas through the implementation of environmental commitment VEG-1, which would help to reduce or eliminate aesthetic impacts. Periodic inspection and maintenance of the fish screen and dam would be similar to existing maintenance activities and would not change the aesthetic characteristics of the area. Equipment storage areas and work areas may be lit for safety purposes and security. Additionally, as described in environmental commitment AES-1, lights would be installed at the lowest allowable height and wattage, and would be screened or directed downward from residences. Therefore, the Proposed Action would have no effect on scenic resources, nor would it create any substantial source of light or glare.

2. The Proposed Action would not adversely impact air quality. No applicable air quality plan or air quality standard would be violated. The Proposed Action would also not create, exacerbate, or change existing objectionable odors that would affect a substantial number of people. Construction emissions would be below San Joaquin Valley Air Pollution Control District emissions thresholds and are not expected to cause new violations to National Ambient Air Quality Standards (NAAQS), California Air Quality Standards (CAAQS), or contribute substantially to an existing or projected air quality violation. Long-term operation of the facilities proposed would require minimal trips and use of equipment. Therefore, operation emissions are expected to be minimal and below San Joaquin Valley Air Pollution Control District thresholds, would not result in a violation of NAAQS or CAAQS, and would not contribute substantially to an existing or projected air quality violation.

3. The Proposed Action would result in a beneficial impact on a variety of fish species by allowing uninhibited passage upstream and downstream of Sack Dam. Temporary construction actions would not result in adverse impacts to fish species. Sedimentation and turbidity from project construction would be temporary and limited to a small portion of the river during installation and removal of a temporary cofferdam. Implementation of environmental commitments such as those indentified in FSH-5, GEO-1, HM/PH-2, and WR-2, which include the development and implementation of a stormwater pollution and prevention plan, would minimize potential sediment impacts. Pile driving associated with the Proposed Action would occur within dewatered areas within the cofferdam; and therefore, noise levels are anticipated to be below accepted thresholds for fish species. Temporary and short-term impacts on aquatic and riparian habitat would be short-term in nature; and a revegetation plan, specified as the environmental commitment presented in VEG-1, would reduce and offset potential impacts on aquatic and riparian habitat. No hazardous material impacts on fish species would occur due to the implementation of HM/PM-2, which would include the implementation of a stormwater pollution and prevention plan to address potential spill response. The implementation of measures to reduce or avoid turbidity, noise, and vegetation impacts would also result in no adverse impacts on fish related to potential predation from construction or operational activities. Overall, the completion and operation of the project would be beneficial in the long term in serving to provide passage for salmon and other native fish to upstream areas of the San Joaquin River.

4. The Proposed Action would not result in an adverse impact on terrestrial and avian special-status species within the project area. No significant adverse impacts on special-status species are anticipated given the implementation of environmental commitments TER-1 through TER-6. These measures include avoidance and minimization measures that would help to avoid adverse effects on these species. Additionally, the Proposed Action has been developed in such a way that would minimize potential impacts on these species.

5. The Proposed Action would not significantly impact vegetation and wetland resources. Up to 2.4 acres of *Populus fremontii* and *Salix gooddingii* woodland alliances, which are identified as rare natural communities on DFW's (2010) List of California Terrestrial Natural Communities could be removed during construction of the Proposed Action. However, this impact would be lessened given the potential for natural regeneration and the implementation of environmental commitment VEG-1. Additionally, potential impacts related to nonnative invasive plant species would be avoided by the implementation of environmental commitments VEG-1 and VEG-3, which include a restoration plan for disturbed portions of the San Joaquin River floodplain. Details of the restoration plan, such as seed mix composition, planting areas, and planting densities, would be developed and implemented. Additionally, up to 1.3 acres of jurisdictional waters and wetlands would be permanently removed from the placement of concrete, fill, and metal materials within the ordinary high water mark of the San Joaquin River and Arroyo Canal. Impacts and restoration, including the implementation of VEG-2, would be addressed through the Section 404 and Section 401 permit acquisition process to avoid adverse impacts to wetland resources.

6. The Proposed Action is a federal undertaking triggering the need for compliance with Section 106 of the National Historic Preservation Act. A records search, cultural resources survey, and Tribal consultation resulted in the identification of four architectural resources that are recommended as eligible for listing in the National Register of Historic Places or the California Register of Historic Places. These resources include the Arroyo Canal, Poso Canal, Poso Flume, and a storage building. The Proposed Action would have no adverse impact on the two conveyance system segments and flume structure because the bridge replacement, and the installation of the fish screen cofferdam and the fish ladder/transport channel would not modify these historic resources to the extent that they would no longer continue to function as they have since their original construction – as structures that convey and distribute water. Additionally, the Proposed Action would not have an adverse impact on the storage building because none of the Proposed Action components would require the relocation, alteration, or destruction of the building, nor would the Proposed Action damage those architectural character-defining features that render the building eligible. Reclamation has complete Section 106 compliance for all areas of disturbance within the project area and has ensured historic properties are not adversely affected under the National Historic Preservation Act (36 Code of Federal Regulations Part 800).

7. The Proposed Action would not disproportionately burden minority groups, low-income populations, or Native American Tribes. Potential impacts on minority and low-income populations resulting from implementation of the Proposed Action have been reviewed, and no population, including minority

or low-income populations, would bear a disproportionate environmental or human-health effect as a result of the Proposed Action.

8. The Proposed Action would not adversely impact soils and geologic resources. The Proposed Action would involve substantial earth moving and in-water work to completely remove the existing Sack Dam, regrade approximately 100 feet of river channel between the existing and new dams, and construct the new Sack Dam and associated facilities. Construction of the Proposed Action would also entail the permanent placement of fill material including the new dam, access road and embankment on the east floodplain, work bench between the new Sack Dam and Poso Canal, and streambank revetments along 25 feet to 100 feet upstream and downstream of the new Sack Dam. The placement of fill material and installation of infrastructure would not affect the quality or functioning of this federally and State-jurisdictional water with the implementation of WR-1. Additionally, best management practices and environmental commitment GEO-1, which have been incorporated into the Proposed Action, would prevent potential adverse soil loss impacts during construction of the Proposed Action.

9. The Proposed Action would not result in a demand for new housing or cause adverse growth-inducing effects. Construction would result in a temporary demand for workers and related support services, but demand for construction labor is expected to be met by the local labor pool.

10. The Proposed Action will not result in adverse impacts to global climate change. The Proposed Action would generate short-term greenhouse gas emissions, which are primarily the result of diesel-powered construction equipment and heavy-duty haul trucks. These emissions are considered short term, because they cease once construction is complete. The estimated emissions range from 396 to 574 metric tons of carbon dioxide equivalent per year and are well below the threshold of 25,000 metric tons of carbon dioxide equivalent per year from construction activities. Also, project operations and maintenance emissions that are primarily the result of electricity usage would result in the generation of very low greenhouse gas emissions. Therefore, the Proposed Action would not create an adverse effect on global climate change.

11. The Proposed Action would not significantly affect known hazards and hazardous material sites, public health, or result in the creation of hazardous materials. Accidental spills of hazardous materials and waste have the potential to occur during construction during routine transportation and use of these materials. Implementation of environmental commitments HM/PH-1 through HM/PH-4 would ensure no adverse impacts associated with hazardous materials. Implementation of environmental commitments HM/PH-5 and HM/PH-6 would ensure no adverse impacts on public health.

12. The Proposed Action would not adversely impact any Indian Trust Assets as it is outside of the range of Tribal lands held in trust. The nearest Indian Trust Asset is Table Mountain Rancheria, which is approximately 63 miles east of the project area.

13. The Proposed Action would not adversely impact land use or agricultural resources. The Proposed Action would temporarily impact approximately 3.4 acres of prime farmland in Fresno County, which accounts for less than 1 percent of the total prime farmland in the county. Additionally, Reclamation and HMRD are working with willing landowners. Once the project has been constructed, all affected farmlands would be restored to their original use; therefore, there would be no adverse impacts on land use as a result of the Proposed Action.

14. The Proposed Action would not result in adverse noise-related impacts. Noise impacts associated with project construction would be short term and would occur only during daylight hours. Fresno County maintains noise standard exemptions for construction noise. Additionally, once constructed, the Proposed Action would not create a substantial permanent increase in ambient noise levels.

15. The Proposed Action would not adversely impact paleontological resources. It is not expected that in-river construction would encounter paleontological resources, because disturbance would largely be limited to recently deposited sediments. The borrow materials would be expected to be previously disturbed or imported materials. Recent sediments along the river channel have a low potential to contain paleontological resources. Though there is a low potential for paleontological resources to occur, environmental commitment PAL-1 has been incorporated as part of the Proposed Action to ensure no adverse impacts occur to paleontological resources.

16. The Proposed Action would not adversely impact public services and utilities. There would be no disruption to existing services, nor would the Proposed Action create a significant impact related to power resources necessary to operate the project features. Additionally, environmental commitments PUB-1 and PUB-2 that have been incorporated into the Proposed Action include measures that would ensure that waste generated from project construction activities would not adversely impact local landfills.

17. The Proposed Action would not adversely impact recreation, nor would the Proposed Action cause a substantial increase in the demand for recreational facilities. The Proposed Action would potentially increase fish populations upstream of Sack Dam in the San Joaquin River; however, any increase to recreational fishing would occur in pre-project locations and would not result in the expansion or require the construction of recreational facilities.

18. The Proposed Action would not adversely impact socioeconomic resources. The Proposed Action is anticipated to provide a temporary beneficial impact on the local economy through the creation of construction-associated jobs. Existing population and housing trends, employment and labor force trends, prominent business and industry types, and government and finance conditions within the study area would not be impacted by the Proposed Action.

19. The Proposed Action would not adversely impact transportation and traffic. During construction there would be a slight increase in traffic to local roadways, with intermittent increases of up to 30 truck trips per day travelling to and from the construction site; however, the increased levels of traffic would be temporary, lasting only during the construction period. Additionally, the Proposed Action incorporates environmental commitments TRAN-1 and TRAN-2, which would ensure that increases in traffic to and from the construction site would not affect current level of service to local roadways, nor would the Proposed Action create adverse impacts on local traffic and transportation routes.

20. The Proposed Action would not adversely impact water resources, nor violate water quality standards or waste discharge requirements; nor would the Proposed Action result in disruptions to water deliveries, including wildlife refuges. Environmental commitments WR-1 through WR-3 would minimize potential impacts to water resources.

Attachment 1: Environmental Commitments

(From Section 2.8 of the Arroyo Canal Fish Screen and Sack Dam Fish Passage Project Environmental Assessment/Initial Study)

Air Quality

The following environmental commitments have been incorporated to avoid and minimize potential effects on air quality. Additionally, Mitigation Measure AIR-1 from the San Joaquin River Restoration Program Draft Environmental Impact Statement/Environmental Impact Report (SJRRP Draft PEIS/R) is incorporated by reference into this analysis, which includes the preparation of a quantitative analysis for construction of related emissions and the implementation of measures to minimize emissions:

- **AQ-1** – The Proposed Action is subject to SJVAPCD Rule 9510 for compliance with the emission reduction requirements set forth in this rule. Compliance with SJVAPCD's Rule 9510 would result in a minimum 20 percent reduction in nitrogen oxide (NO_x) emissions from heavy-duty diesel equipment, compared to statewide average emissions. Implementing the SJVAPCO Rule 9510 would also reduce emissions of reactive organic gas (ROG) and particulate matter less than 10 micrometers in aerodynamic diameter (PM_{10}) exhaust from heavy-duty diesel equipment by 5 percent and 45 percent, respectively. All or part of the reductions may be based on the selection of onsite equipment and fuels. The remainder would result from offsite reductions achieved by paying fees that would be applied to other SJVAPCD programs that reduce the same pollutants, but at other sources. The actual amount of emissions subject to offsite emission reduction fee will be determined based on the procedures and fee rates in Rule 9510, when detailed construction equipment and onsite mitigation measure information becomes available.

- **AQ-2** – The Proposed Action would comply with required fugitive dust control measures listed in SJVAPCD Regulation VIII: *Fugitive Dust PM_{10} 4 Prohibitions*, to minimize the fugitive dust emissions from construction activities.

- **AQ-3** – The demolition of asbestos-containing materials is subject to the limitations of the National Emissions Standards for Hazardous Air Pollutants regulations and would require an asbestos inspection. The SJVAPCD's Compliance Division would be consulted before demolition begins; however, no asbestos removal is anticipated for the project.

Biological Resources – Fish Species

The following environmental commitments have been incorporated to avoid and minimize potential effects on fish species. Additionally, Conservation Measures as listed in Table 2-7 of the SJRRP Draft PEIS/R are incorporated in this analysis, where appropriate:

- **FSH-1** – A qualified biologist who possesses a valid recovery permit for species handling will conduct preconstruction and construction monitoring activities throughout project implementation, inclusive of all construction phases, and as

needed during all facets of the project construction. The biological monitor would also conduct worker awareness training as necessary prior to and during project construction.

- **FSH-2** – Riparian vegetation removed or damaged would be replaced or allowed an opportunity for natural recruitment, coordinated with USFWS, NMFS, or DFG, as appropriate, within the immediate area of the disturbance to maintain habitat quality. Additionally, work within areas of riparian habitats would comply with the following measures as identified in Table 2-7 of the SJRRP Draft PEIS/R (RHSNC -1):
    - Biological surveys would be conducted to identify, map, and quantify riparian and other sensitive habitats in potential construction areas.
    - If effects occur on riparian habitat, emergent wetland, or other sensitive natural communities, as associated with streams, the State lead agency would comply with Section 1602 of the California Fish and Game Code.
- **FSH-3** – Prior to implementation of the project, HMRD/Reclamation would conduct an education program for all site workers relative to protected species that may be encountered within the project area, and required practices for their avoidance and protection, as included in Conservation Measure CVS-1 in Table 2-7 of the SJRRP Draft PEIS/R.
- **FSH-4** – Stockpiling of materials, including portable equipment, and vehicles and supplies, including chemicals, would be restricted to the designated construction staging areas, exclusive of any riparian and wetland areas outside the construction area.
- **FSH-5** – Sedimentation and turbidity would be avoided and minimized by implementing construction BMPs and preparing a Stormwater Pollution and Prevention Plan (SWPPP) acceptable to the Regional Water Quality Control Board (Water Board). Additionally, in-channel work would comply with appropriate measures identified in Mitigation Measure SWQ-1A as included in Chapter 14 – Hydrology of the SJRRP Draft PEIS/R (p. 14-19). See also Environmental Commitments GEO-1, HM/PM-2, and WR-2.
- **FSH-6** – If individuals of listed species are observed present within a project area, then NMFS, USFWS, or DFG, as appropriate, would be notified. NMFS, USFWS, or DFG personnel would have access to construction sites during construction and following completion to evaluate species presence and condition and habitat conditions, as included in Conservation Measure CVS-2 in Table 2-7 of the SJRRP Draft PEIS/R.
- **FSH-7** – Potential injury and mortality associated within water pile driving would be avoided or minimized by implementing the following noise-reduction measures:
    - A cofferdam would be installed around the in-channel construction area, which would be dewatered before additional pile-driving and construction activities. Fish would not have access to the construction site, and underwater sounds produced by pile driving would be attenuated. The number and size of

piles would be limited to the minimum necessary to meet the engineering and design requirements of the Proposed Action.

  - A Fish Rescue Plan would be prepared and implemented during any dewatering activities that may entrain fish. The plan would include using a qualified biologist(s) to capture, remove, and relocate fish using areas to be dewatered. The plan would be provided to NMFS for approval prior to the onset of construction activities.

  - Vibratory hammers would be used whenever feasible, with the exception of impact testing for H-piles.

- **FSH-8** – The number and size of piles would be limited to the minimum necessary to meet the engineering and design requirements of the Proposed Action.

- **FSH-9** – The performance of the newly constructed fish screen would be evaluated to make sure that the fish screen is operated and maintained in accordance with acceptable fish screen performance criteria established during consultation with USFWS, NMFS, and DFG. A hydraulic monitoring plan would be submitted to NMFS before completion of the Proposed Action.

Biological Resources – Terrestrial Species

The following environmental commitments have been incorporated to avoid and minimize potential effects on terrestrial wildlife species. Additionally, the Conservation Measures as listed in Table 2-7 of the SJRRP Draft PEIS/R are incorporated in this analysis, where appropriate:

- **TER-1** – As described in Conservation Measure WPT-1 in Table 2-7 of the SJRRP Draft PEIS/R: to avoid and/or minimize effects on Pacific pond turtle, a qualified biologist would conduct surveys in aquatic habitats to be dewatered prior to dewatering and/or filling during project construction. Surveys would be conducted immediately after dewatering and before fill of aquatic habitat suitable for western pond turtles. If pond turtles are found, the biologist would capture them and move them to nearby agency-approved areas of suitable habitat that would not be disturbed by project construction, as included in Conservation Measure WPT-1.

- **TER-2** – Conservation Measure SWH-1 in Table 2-7 of the SJRRP Draft PEIS/R is incorporated into this analysis, as appropriate, to avoid and minimize impacts on Swainson's hawk:

  - Project mobilization and construction would commence prior to the Swainson's hawk nesting season (March 1 through September 15).

  - Given construction activities would occur during the Swainson's hawk nesting season (from March 1 through September 15), a qualified biologist would conduct preconstruction surveys in and around all potential nest trees within a 0.5-mile radius of the project footprint, including haul routes. At least one survey would be conducted no more than 2 weeks prior to the initiation of construction activities. Surveys for Swainson's hawk and other special-status raptors would be conducted in accordance with the *Swainson's Hawk*

Technical Advisory Committee's Recommended Timing and Methodology for SWHA Nesting Surveys (DFG 2000).

- Trees containing known raptor nests would not be removed and would be visibly marked for protection. Nests would not be disturbed, removed, and otherwise tampered with.
- If determined necessary, HMRD would obtain an incidental take permit from DFG under Section 2081, and would comply with the terms of the permit.

- **TER-3** – Conservation Measures BRO-1 and BRO-2 in Table 2-7 of the SJRRP Draft PEIS/R are incorporated by reference into this analysis, where appropriate, to avoid and minimize impacts on western burrowing owl:
  - Preconstruction surveys for burrowing owls would be conducted in areas supporting potentially suitable habitat within 30 days prior to the start of project construction. Areas with potentially suitable burrowing owl habitat have been identified as the concrete debris piles adjacent to the southern Arroyo Canal levee road, just west of the intersection with Poso Canal, and at the upper margins of the ditch adjacent to Arroyo Canal (near where borrow material may be excavated). If ground-disturbing activities are delayed or suspended for more than 30 days after the survey, the site would be resurveyed.
  - Occupied burrows would not be disturbed during the breeding season (February 1 through August 31) or a method developed in coordination with DFG to minimize disturbance would be implemented. A 160-foot buffer would be incorporated around occupied burrows during the non-breeding season (September 1 through January 31), and a 250-foot buffer would be incorporated around occupied burrows during the breeding season. Ground-disturbing activities would not occur within the buffers.
  - If occupied burrows are documented and the recommended buffer distances cannot be adequately incorporated, passive owl relocation techniques (for example, installing one-way doors in burrow entrances to temporarily or permanently evict burrowing owls and prevent burrow re-occupation) would be implemented in coordination with DFG.
- **TER-4** – Conservation Measure MBTA-1 in Table 2-7 of the SJRRP Draft PEIS/R is incorporated as appropriate into this analysis, which includes the measures to avoid and minimize impacts on other migratory nesting birds. Such measures would also minimize impacts on white-tailed kite, a non-migratory, California fully protected species. To avoid and/or minimize effects on other migratory nesting birds (including northern harrier and loggerhead shrike):
  - Tree and vegetation removal is scheduled to occur prior to the nesting season. Clearing and grubbing activities are anticipated to remove most or all potential nesting areas prior to the nesting season with the exception of trees containing known raptor nests. Tree or vegetation removal activities would be

avoided to the extent practicable during the nesting season for migratory birds (from February 1 to September 1).

- If tree or vegetation removal is to occur during the nesting season, a qualified biologist would conduct a preconstruction survey within the construction area to determine the presence and absence of nesting birds. At least one survey would be conducted no more than 2 weeks prior to the onset of any construction activity. If no active nests are located, no further mitigation is necessary.
- If active nests (nests containing eggs or young) are identified within the survey area, a no-disturbance buffer zone would be established around the nest site. The width of the buffer zone would be determined by a qualified biologist in coordination with USFWS and DFG. For white-tailed kite, the width of the buffer zone would be 0.5 mile. No construction activities would occur within the buffer zone. The buffer zone would be maintained until the young have fledged (as determined by a qualified biologist). The buffer zone would be delineated with exclusionary fencing and flagging and/or signage as appropriate.

- **TER-5** – To avoid and/or minimize effects on western red bat:
  - If feasible, large riparian trees on the east side of SJR would not be removed during the western red bat maternity season (May 1 through August 31).
  - If large riparian trees on the east side of SJR are to be removed during the western red bat maternity season (May 1 through August 31), a roost assessment and/or surveys for roosting western red bats on the project site would be conducted by a qualified bat biologist prior to tree removal. The type of survey would depend on the condition of the potential roosting habitat, and may include the use of acoustic detectors. If no bat roosts are found, then no further study is required.
  - If evidence of western red bat use is observed, the number of bats using the roost would be determined. If active western red bat maternity roosts are determined to be present, the trees occupied by the roost would be avoided (not removed), if feasible.
  - If active maternity roosts are determined to be present and the trees occupied by the roost must be removed, the tree removal would be timed to avoid the maternity season (May 1 through August 31). A mitigation program addressing compensation and roost removal procedures would be developed in consultation with DFG prior to implementation.

Biological Resources – Vegetation and Wetland Species

The following environmental commitments have been incorporated to prevent and minimize potential effects on vegetation and wetland species. Additionally, the Conservation Measures as listed in Table 2-7 of the SJRRP Draft PEIS/R are incorporated in this analysis, where appropriate:

- **VEG-1** – A restoration plan would be developed for disturbed portions of the SJR floodplain within the study area. Disturbed portions of the river floodplain would be seeded with a mix of native grasses and forbs to prevent the establishment of nonnative invasive plant species in coordination with DFG and USFWS. Details of the restoration plan, such as seed mix composition, planting areas, and planting densities, would be developed and implemented in coordination with DFG, and would also serve to facilitate compliance with Section 1602 of the California Fish and Game Code (which may include measures to protect and/or restore affected riparian habitat), and the project's SWPPP.

- **VEG-2** – Conservation Measures WUS-1 and WUS-2 in Table 2-7 of the SJRRP Draft PEIS/R are incorporated as appropriate into this analysis, which includes measures to avoid and minimize impacts on waters of the United States. Where project effects on waters of the United States and State cannot be avoided (an estimated 0.6 acre), the lead agencies would obtain Section 404, Section 401, and Section 1602 permits and comply with permit terms.

- **VEG-3** – To prevent the introduction and spread of nonnative invasive plant species during project construction, vehicles and machinery wheels and tires would be sprayed down before entering the study area. Erosion control materials used during construction of the Proposed Action would be certified as weed-free, and only native grasses and forbs would be used for erosion control or revegetation purposes.

Cultural Resources

The following environmental commitments have been incorporated to avoid and minimize potential impacts on cultural resources:

- **CUL-1** – Prior to construction, any previously unexamined areas of the area of potential effect (APE) will undergo additional cultural resources investigations consistent with the Section 106 regulations at 36 CFR Sections 800.4 through 800.6. If cultural resources are determined eligible for inclusion in the National Register of Historic Places (NRHP), and it is determined that the Proposed Action would adversely affect them, the adverse effects would be resolved by avoiding them, modifying the project, or mitigation. All cultural resources investigations would be conducted by cultural resources staff meeting the Secretary of Interior Standards and Guidelines of Archaeology and Historic Preservation (48 Federal Register 447161 as amended).

- **CUL-2** – If archaeological resources are inadvertently discovered during earthmoving activities, the construction crew would immediately cease work near the find (recommended 100-foot radius, no less than 50-foot radius from location of discovery) and Reclamation's Mid-Pacific Regional Archaeologist would be called and consulted on how to proceed. There may be additional Section 106 follow-up actions as outlined in the regulations at Section 800.13.

- **CUL-3** – In the event that human remains are discovered, the discovery would be treated in accordance with the requirements of Section 750.5(b) of the California Health and Safety Code. Pursuant to Section 7050.5(c) of the California Health and Safety Code, if the county coroner determines that the human remains are of Native American origin, then the land owner, project proponent, or authorizing entity would ensure that the discovery would be treated in accordance with the provisions of Section 5097.98(a)-(d) of the California Public Resources Code.

Geology and Soils

The following environmental commitments have been incorporated to avoid and minimize potential effects on geology and soils. Additionally, in-channel work would comply with and incorporates Mitigation Measure GEO-1 as identified in Chapter 10 – Geology and Soils of the SJRRP Draft PEIS/R (p. 10-32):

- **GEO-1** – To minimize the potential release of fine sediment originating from earthmoving activities during project construction, including potential soil loss induced by streambank erosion into surface waters, an SWPPP would be prepared and implemented during project construction. The SWPPP would comply with applicable federal and State regulations concerning construction activities. See also Environmental Commitments FSH-5, HM/PH-2, and WR-2.

Global Climate Change

The following environmental commitments have been incorporated to avoid and minimize potential effects on global climate change. Compliance with Mitigation Measure CLM-1 as identified in Chapter 7 – Climate Change and Greenhouse Gas Emissions of the SJRRP Draft PEIS/R (p. 7-22) would be accomplished with the following best available information as listed below:

- **CC-1** – The following measures would be considered to lower greenhouse gas (GHG) emissions during construction. These measures combine the currently proposed mitigation measures published by Sacramento Metropolitan Air Quality Management District (2011) and Bay Area Air Quality Management District (2011):
    - Maximize fuel efficiency of construction equipment.
    - Perform onsite material hauling with trucks equipped with on-road engines (if determined to be less emissive than the off-road engines) to the extent possible.
    - Use electricity from utility power lines rather than fossil fuel, where appropriate.

- Encourage construction workers to carpool.
- Reduce electricity use in the construction office by using compact fluorescent bulbs, powering off computers every day, and replacing heating and cooling units with more efficient ones as appropriate.
- Recycle construction waste and demolition debris to the maximum extent possible.
- Use locally sourced or recycled materials for construction materials to the maximum extent possible.
- Efficiently use water for adequate dust control.
- Comply with applicable future GHG regulations at the time of project-level permitting and construction.

Hazardous Materials and Public Health Hazards

The following environmental commitments have been incorporated to avoid and minimize potential effects on hazardous materials and public health hazards:

- **HM/PH-1** – Hazardous materials and waste would be handled in compliance with applicable federal, State, and local laws and regulations, including licensing, training of personnel, accumulation limits and times, prevention and response to spills and releases, and reporting and recordkeeping.
- **HM/PH-2** – A SWPPP would be developed to include BMPs for the storage and use of hazardous materials and waste, and spill response procedures. Hazardous materials and waste would be stored in containers that prevent the release of material or hazardous content and within secondary containment, and spill kits would be placed throughout the study area for immediate response to spills, such as those that might occur during onsite refueling. Following initial response, follow-on investigation and cleanup to any spill would be performed in accordance with the SWPPP.

  The SWPPP would include BMPs for the handling of contaminated soil. Operators and construction personnel would be asked to report unusual conditions to the appropriate personnel. If contaminated soil is encountered during construction, the area and/or material would be properly contained during investigative actions. If soils require temporary stockpiling, piles would be placed on and covered with plastic sheeting or tarps that are secured safely with sand bags and bermed with fiber rolls or silt fencing to prevent runoff from leaving the area. Samples would be collected and sent to a certified analytical laboratory for characterization. If contamination is detected, the waste would be handled and properly disposed of in an authorized waste management facility. In addition, the appropriate local, State, and federal agencies would be notified. See also Environmental Commitments FSH-5, GEO-1, and WR-2.
- **HM/PH-3** – Hazardous materials would be stored and used in accordance with the Proposed Action's Health and Safety Plan during project operation and maintenance activities. The Health and Safety Plan would include guidelines on the storage and

use of hazardous materials and spill response measures. Hazardous materials would be stored in containers that prevent the release of material or hazardous content and within secondary containment, and spill kits would be maintained throughout the project site for immediate response to spills.

- **HM/PH-4** – Transportation of hazardous materials and hazardous waste would comply with California Department of Transportation and California Highway Patrol regulations. Additionally, hazardous materials and wastes would only be transported along approved transportation routes. In the event of a vehicle accident, first responders would be notified immediately to direct emergency response requirements appropriate for the situation. Following initial emergency response, cleanup would be performed with agency oversight in accordance with applicable regulations.

- **HM/PH-5** – Before initiating ground-disturbing activities, the project proponent would survey the project site for unknown and abandoned wells. If the survey discovers an idle or abandoned well, ground-disturbing activities would not occur within 100 feet of the well, if feasible. If ground-disturbing activities need to occur within 100 feet of the abandoned well, the project proponent would either cover, fence, or otherwise clearly mark the well location and take measures to reduce hazards to workers and/or make sure that the well has been abandoned in accordance with State and local regulations, whichever is appropriate for the site. Madera County Department of Environmental Health or Fresno County Department of Public Health, Environmental Health Division would be notified, as appropriate.

- **HM/PH-6** – HMRD/Reclamation would comply with Mitigation Measure PHH-4 as identified in Chapter 20 – Hydrology of the SJRRP Draft PEIS/R (p. 20-21), that includes workplace precautions against West Nile Virus (WNV) and Valley Fever at construction sites as follows:

    - Inspect work areas and eliminate sources of standing water that could potentially provide breeding habitat for mosquitoes. For example, eliminate uncovered upright containers that could accumulate water and fill or drain potholes and other areas where water is likely to accumulate.

    - Conduct employee training that covers the potential hazards and risks of WNV and Valley Fever exposure and protection, including proper construction apparel. Employees would be instructed not to touch any dead birds with their bare hands.

    - Provide dust masks for worker use at construction sites during ground-disturbing activities.

    - Recommend workers use insect repellant at construction sites with a minimum of 23.8 percent diethyl-meta-toluamide.

    - Notify the appropriate county health department of dead birds seen on the construction site.

Paleontological Resources

The following environmental commitment has been incorporated to avoid and minimize potential effects on paleontological resources, as included in Mitigation Measure PAL-1 in Chapter 18 – Paleontological Resources of the SJRRP Draft PEIS/R (p. 18-11):

- **PAL-1** – If paleontological resources are discovered during earthmoving activities, the construction crew would immediately cease work near the find. In accordance with Society of Vertebrate Paleontology guidelines (Society of Vertebrate Paleontology 2010), a qualified paleontologist would assess the nature and importance of the find and recommend appropriate salvage, treatment, and future monitoring and mitigation.

Public Services and Utilities

The following environmental commitments have been incorporated to avoid and minimize potential impacts on public utilities:

- **PUB-1** – To the extent practicable, demolished concrete would be used in conjunction with imported riprap for bank stabilization around the proposed dam. This measure would limit the amount of construction-generated waste material needing to be hauled offsite.

- **PUB-2** – To ensure that remaining waste does not exceed the permitted capacity of landfills, the proponent would implement the following, as included in Mitigation Measure UTL-4 in Chapter 24 – Utilities and Service Systems of the SJRRP Draft PEIS/R (p. 24-22):

    - Prepare an estimate of solid waste that would be generated by the action(s).

    - Maximize the recycling and/or composting of solid waste generated by the action at appropriate locations.

    - Identify appropriate recycling and/or disposal locations in accordance with applicable federal, State, and local regulations pertaining to solid waste.

    - Notify the operator of the recycling and/or disposal location and obtain approval for the type and amount of solid waste that would be generated by the action(s).

    - If sufficient capacity is unavailable at the identified location, identify and obtain approval for disposal at another location or multiple locations.

Transportation and Traffic

The following environmental commitments have been to avoid and minimize potential impacts on transportation and traffic:

- **TRAN-1** – Prior to construction commencing, HMRD would work with local transportation planning agencies to assure cooperation with local policies regarding transportation infrastructure within the study area as required.

- **TRAN-2** – To minimize impacts on local traffic, HMRD would limit truck trips to less than 50 per hour on any affected roadway during morning and afternoon or

evening peak-hour periods, as included in Mitigation Measure TRN-1 in Chapter 23 – Transportation and Traffic of the SJRRP Draft PEIS/R (p. 23-19):

Water Resources

The following environmental commitments have been incorporated to avoid and minimize potential impacts on water resources:

- **WR-1** – Conservation Measures WUS-1 and WUS-2 in Table 2-7 of the SJRRP Draft PEIS/R are incorporated as appropriate into this analysis, which includes measures to avoid and minimize impacts on waters of the United States. Additionally, as described in Environmental Commitment VEG-2, the lead agencies would obtain Section 404, Section 401, and Section 1602 permits and comply with permit terms.
- **WR-2** – Construction and operations and maintenance activities associated with action alternatives would be subject to construction-related stormwater and other water quality-related permit requirements. The lead agencies would obtain any required permits before any ground-disturbing activities. The contractor, Reclamation, and HMRD would confirm that the SWPPP is kept on the project site and that water quality standards are followed. Following the completion of construction activities, disturbed areas would be stabilized and revegetated as required. See also Environmental Commitments FSH-5, GEO-1, and HM/PH-2.
- **WR-3** – To maintain continuous irrigation service to Arroyo Canal, a temporary bypass system or alternate method (such as gravity flow using cofferdams to confine the project area) would be installed to maintain flow in the canal. Additionally, if construction occurs outside of the scheduled maintenance period for Poso Canal, it is anticipated that a temporary diversion would be used during construction of the crossing to maintain continuous irrigation service.