Salado Creek Channel Maintenance Project

Initial Study/Proposed Mitigated Negative Declaration

November 2015

California Department of Water Resources

1416 Ninth Street

Sacramento, CA 95814

Initial Study

Salado Creek Channel Maintenance Project

1. Project Title	Salado Creek Channel Maintenance Project
2. Lead Agency Name and Address	California Department of Water Resources 1416 Ninth Street Sacramento, California 95814
3. Contact Person and Phone Number	Anthony Chu Program Manager II (916) 653-9978 Anthony.Chu@water.ca.gov
4. Project Location	Approximately 3 miles southwest of the city of Patterson, longitude 121° 9' 6.868"W, latitude 37° 25' 35.673"N, in Stanislaus County, Patterson 7.5 minute USGS Quadrangle, Section 12, Township 6.0 South, Range 7.0 East
5. Project Sponsor's Name	California Department of Water Resources
6. General Plan Designation	Agriculture
7. Zoning	A-2-40, General Agricultural District
8. Description of Project	DWR proposes to remove accumulated silt and vegetation, including willow trees, from the Salado Creek concrete overchute and adjacent portions of Salado Creek.
9. Surrounding Land Uses and Setting	Lands surrounding and including the project area are comprised of agricultural land, the Interstate 5 Freeway, and the California Aqueduct.
10. Other Public Agencies Whose Approval is Required	U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, CA Department of Fish and Wildlife, Central Valley Regional Water Quality Control Board, State Historic Preservation Officer

PROPOSED MITIGATED NEGATIVE DECLARATION

PROJECT: Salado Creek Channel Maintenance Project

LEAD AGENCY: California Department of Water Resources

PROJECT LOCATION: Approximately 3 miles southwest of the city of Patterson, longitude 121° 9' 6.868"W, latitude 37° 25' 35.673"N, in Stanislaus County, Patterson 7.5 minute USGS Quadrangle, Section 12, Township 6.0 South, Range 7.0 East

PROJECT DESCRIPTION: Maintenance of the Salado Creek overchute and adjacent portions of Salado Creek has not been undertaken for approximately a decade, resulting in growth of vegetation and an accumulation of sediment above the level of the concrete structure on the upstream side. Accumulation of sediment and vegetation within and adjacent to the overchute increases the potential for water in Salado Creek to back up behind the aqueduct embankment during a storm event. Excess sediment, vegetation, and debris combined with high streamflow can lead to increased pressure on the California Aqueduct's earthen embankment, threatening its integrity, which can lead to a leak or in a worst case scenario, complete structural failure.

DWR's Delta Field Division (DFD) proposes to remove the sediment and vegetation that has grown in and along the channel in order to return the overchute structure and adjacent portions of Salado Creek to as-built conditions and restore the capacity of the overchute to convey the natural streamflow unimpeded downstream.

DETERMINATION: An initial study (IS) was prepared to assess the project's potential effects on the environment and the significance of those effects. Based on the analysis conducted in the IS, it has been determined that implementing the proposed project would not have any significant adverse effects on the environment after adoption and implementation of mitigation measures.

MITIGATION MEASURES: The majority of potentially significant effects that could result from the proposed project have been addressed with the incorporation of Environmental Commitments which were included in the project description. The following mitigation measures will be implemented to avoid, minimize, rectify, reduce or eliminate, or compensate for any potentially significant environmental impacts. Implementation of these mitigation measures would reduce the potentially significant environmental impacts of the proposed project to less-than-significant levels:

Mitigation Measure BIO-1 Minimize and mitigate impacts to the riparian natural community

- Impacts to the riparian natural community and other naturalized areas will be minimized and restricted to the minimum necessary to accomplish the project goals of restoring and maintaining the overchute structure to as-built conditions.

- Removal of riparian habitat will be mitigated by purchasing credits at an offsite mitigation bank at a ratio deemed appropriate by CDFW to fully mitigate the impacts of the habitat removal pursuant to the Streambed Alteration Agreement.

Mitigation Measure BIO-2: Minimize and mitigate impacts to jurisdictional waters of the United States

- All construction activities that take place within aquatic areas will be conducted under low flow conditions to minimize water quality impacts, and in compliance with sections 401 and 404 of the federal Clean Water Act.
- All staging areas, parking areas, equipment, and storage areas for fuel, lubricants, and solvents will be located in areas away from waters of the United States.
- Impacts to jurisdictional waters resulting from fill or dredging will be minimized by the incorporation of measures required in a Water Quality Certification issued by the Regional Water Quality Control Board under section 401 of the Clean Water Act. If required, mitigation for impacts to waters of the US will be achieved by purchasing credits at an offsite mitigation bank as directed by the Army Corps of Engineers under Section 404 of the Clean Water Act.

Anthony Chu
California Department of Water Resources
Division of Operations and Maintenance

11-25-15
Date

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1.0 Introduction

The California Department of Water Resources is proposing a maintenance project to remove sediment and accumulated debris from within the Salado Creek overchute of the California Aqueduct (Aqueduct) and adjacent portions of Salado Creek. This document represents DWR's evaluation of the potential environmental effects of the proposed project under the California Environmental Quality Act (CEQA), and is intended to satisfy the responsibilities of the lead agency under CEQA for a Mitigated Negative Declaration.

2.0 Project Background

DWR is responsible for the operation and maintenance of the State Water Project (SWP), an extensive system of water storage, pumping, and conveyance facilities. A major facility of the SWP, the California Aqueduct, is a 40 foot wide open canal over the majority of its length and runs from Clifton Court Forebay near Tracy in the Sacramento-San Joaquin Delta in the north to the Tehachapi Mountains in the south.

The construction of the California Aqueduct divided numerous waterways along its length, so tunnels, culverts, or overchutes were built to maintain downstream connections in many cases. The Salado Creek overchute, which is positioned at longitude 121° 9' 6.868"W, latitude 37° 25' 35.673"N, in Stanislaus County, Patterson 7.5 minute USGS Quadrangle, Section 12, Township 6.0 South, Range 7.0 East, is one of these (see Figure 1 for Project Vicinity Map). Maintenance of the concrete overchute and adjacent portions of Salado Creek has not been undertaken for approximately a decade, resulting in growth of vegetation and an accumulation of sediment above the level of the concrete structure on the upstream side. Specifically, several large red willow trees (*Salix laevigata*) have grown in the past ten years. Accumulation of sediment and vegetation within and adjacent to the overchute increases the potential for water in Salado Creek to back up behind the aqueduct embankment during a storm event. Excess sediment, vegetation, and debris combined with high streamflow can lead to increased pressure on the aqueduct's earthen embankment, threatening its integrity, which can lead to a leak or in a worst case scenario, complete structural failure.

DWR's Delta Field Division (DFD) proposes to remove the sediment and vegetation that has grown in and along the channel in order to return the overchute structure and adjacent portions of Salado Creek to as-built conditions and restore the capacity of the overchute to convey the natural streamflow unimpeded downstream.

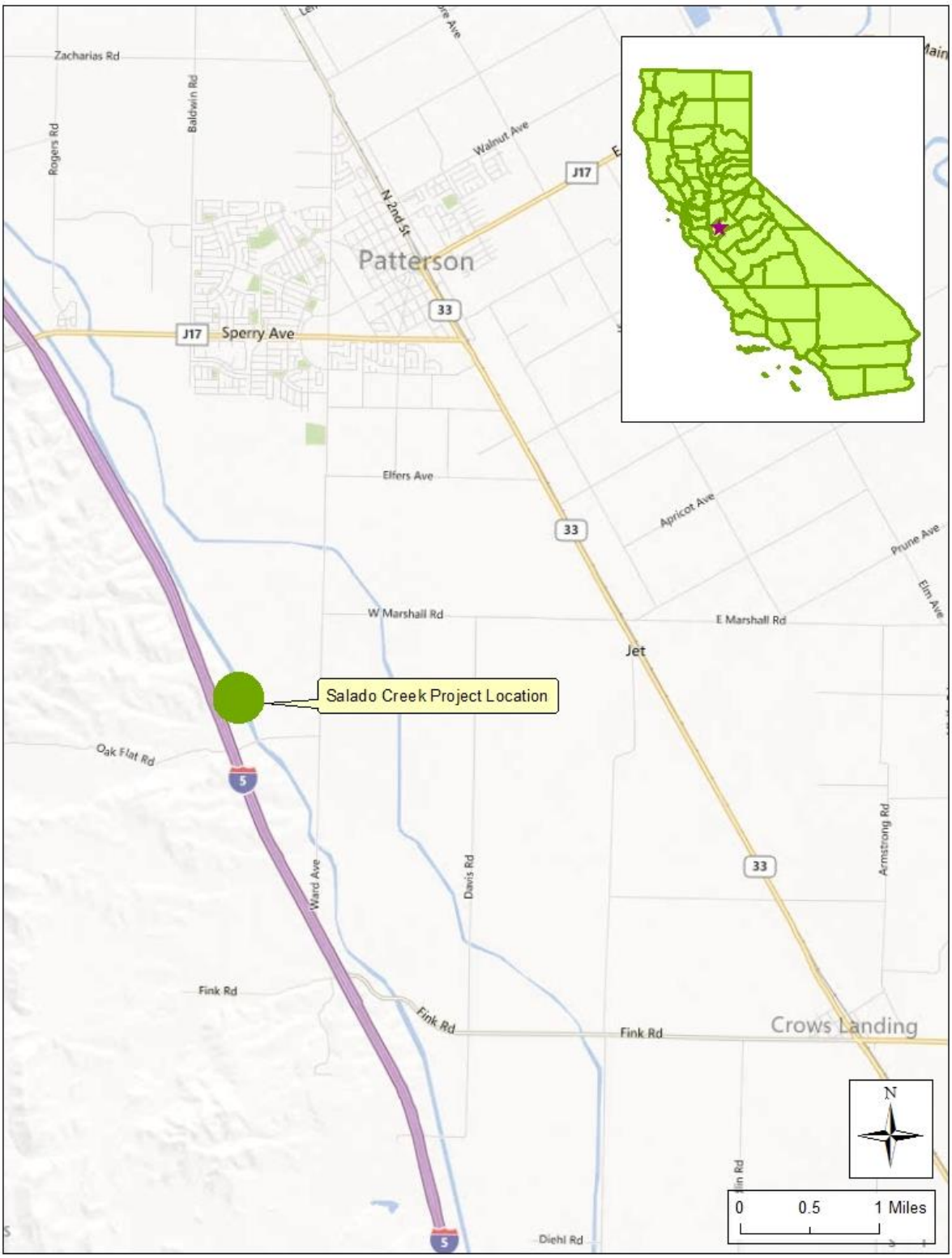

Figure 1- Project Vicinity Map

3.0 Project Description

DFD proposes to remove the accumulated silt and vegetation, including the willow trees, from the creek over a distance of 200 linear feet immediately upstream of the overchute to the level of the concrete structure at the base of the overchute; clean out sediment and forb vegetation which has accumulated within the concrete overchute itself; and remove a debris barrier comprised of rooted cattails (*Typha angustifolia*), tules (*Schoenoplectus acutus*), red willow, and accumulated woody debris on the downstream portion of the structure (See Figure 2 for Project Footprint Map). Willow tree stumps and root wads of cattail and tules will be removed, if possible, to reduce future maintenance within the channel.

Additional bank stabilization, such as placement of rip rap along the recontoured channel slopes adjacent to the overchute structure, may be necessary after the sediment and vegetation removal is complete. If stabilization is determined to be needed, the minimum amount of riprap necessary to prevent erosion and slumping will be utilized. The maximum volume of riprap is estimated to be 150 cubic yards.

DFD would conduct channel maintenance activities in summer, when flows within the channel are low. If slowly flowing or standing water is present within the channel or overchute at the time of construction, generator-powered pumps and sand-bag coffer dams may be employed to contain and pump water outside of the active footprint.

Access roads will need to be re-established in order to gain equipment access to the work sites, and upland staging areas will be created for heavy equipment placement (see Figure 2 for Project Footprint Map). Access roads will be approximately 12 feet wide with an overlay of ¾” compacted aggregate base. The staging areas on the upstream and downstream ends will each be 50’x60’, also with aggregate base overlay. Roads and staging areas will be located in upland habitat only and will impact the minimum area necessary to provide access. Heavy equipment vehicles, such as a skid steer loader or backhoe, may be required to enter the stream channel and overchute structure in order to access accumulated sediment and debris. In-channel travel will be minimized to the extent practicable and will be limited to within 200 feet of the overchute structure.

Sediment that is removed from the channel and overchute will be transported by dump trucks directly to one of three established spoil locations. Spoil Site #1, which is located just south of the overchute on the primary (east) side of the California Aqueduct, will be the main location used for this project, and Sites #2 and #3, located upstream of the overchute on the primary side of the Aqueduct, may be used as necessary (see Figure 3 for Spoil Site Location Map). Transportation of spoil material and vegetation from the maintenance sites to the spoil sites will be on established, paved service roads which run alongside the Aqueduct.

Woody debris from large trees will be cut into manageable lengths using a chainsaw, loaded into dump trucks and hauled to one of the spoil locations until the channel work is complete, and will then be hauled to a green waste recycling facility. Smaller branches may be chipped on site and placed in an upland area around the perimeter of the staging area.

The project area, including all potential spoil sites, covers approximately 2.2 acres. The affected area within the channel is approximately 0.4 acres, with 0.3 acres of tree and vegetation removal beyond the concrete lined portion of the overchute. Approximately 350 cubic yards of sediment will be removed as a result of the channel maintenance.

Equipment to be utilized for this project will include a front end loader, back hoe, skid-steer, low boy truck/trailer, excavator, three 10-ton dump trucks, dozer, compactor/roller, water truck, wood chipper, chain saws, and hand tools. Equipment and material will be stored on site in upland areas along the re-established roadways and staging areas.

It is estimated that this maintenance effort will take 4-6 weeks and will recur every 2 years for the length of the permitted period. Work is anticipated to start in summer of 2016.

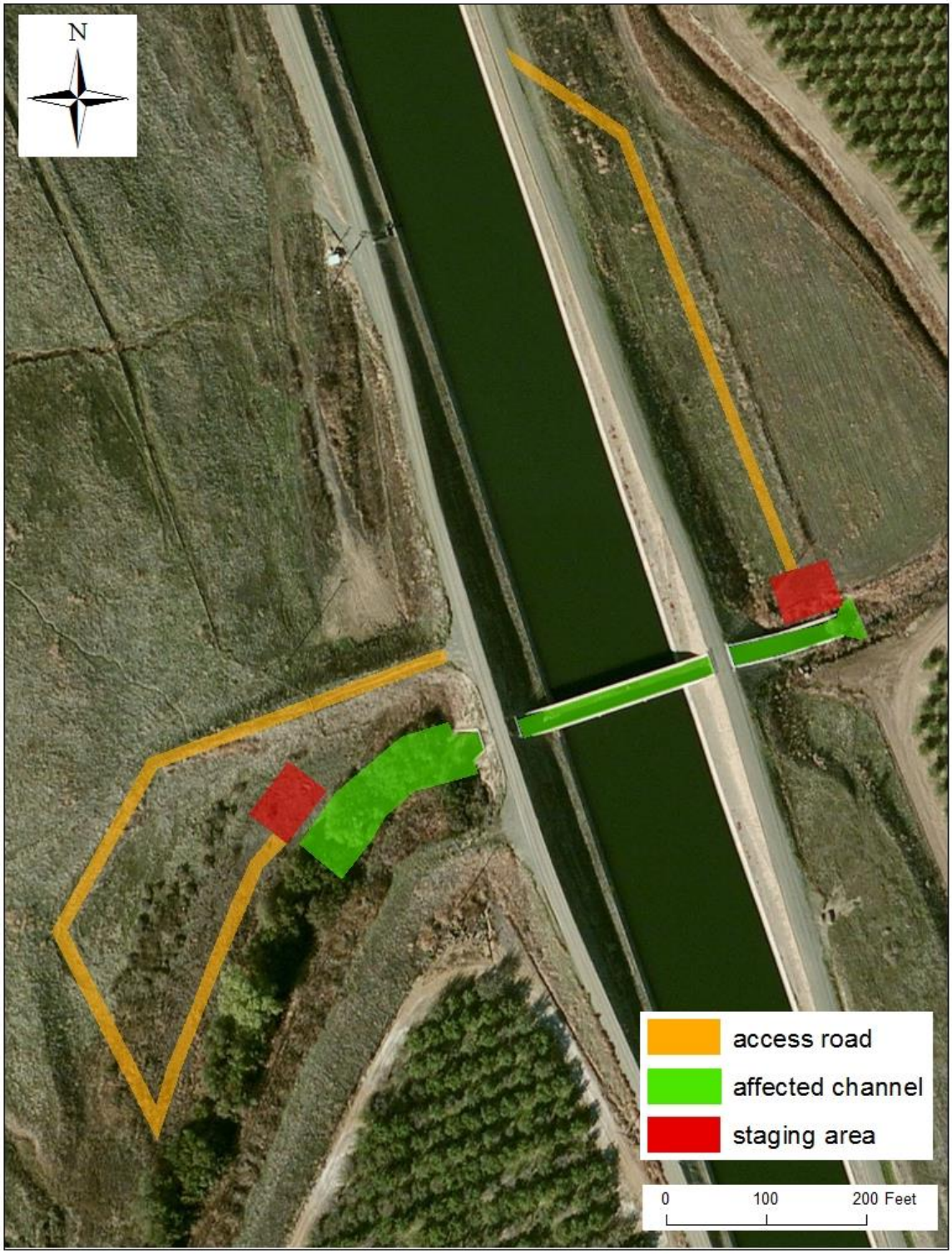

Figure 2-Project Footprint Map

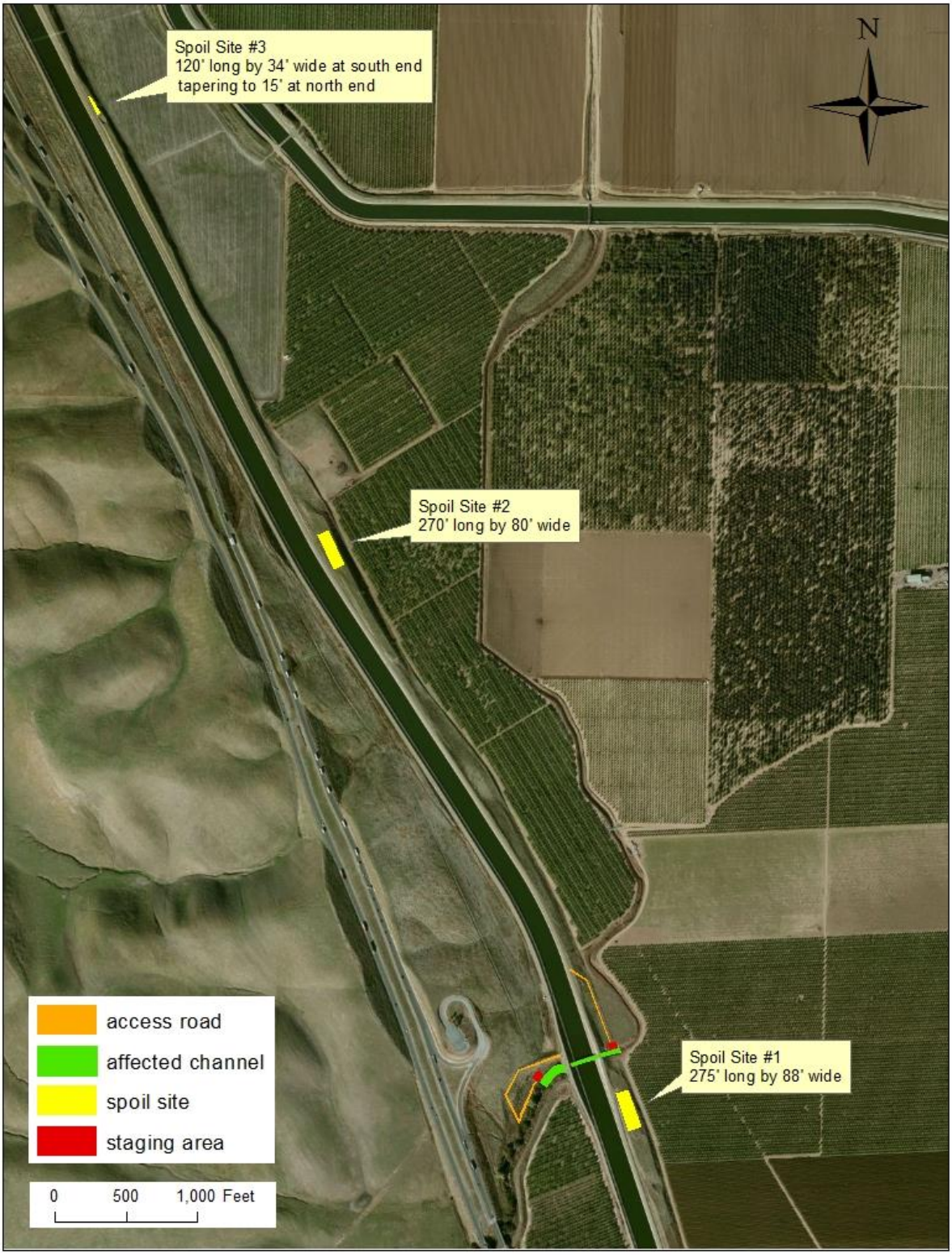

Figure 3-Spoil Site Location Map

Environmental Commitments

In an effort to minimize the potential adverse effects of this project on environmental resources, the following Conservation Measures (CMs) and Best Management Practices (BMPs) have been incorporated into the project description as environmental commitments.

Conservation Measure BIO-1: General conservation measures

- A qualified biologist will conduct pre-construction surveys no more than two weeks prior of the start of construction for any special status plants or wildlife that have the potential to occur within the project area.
- A qualified biologist shall conduct a training session for all construction personnel prior to the start of work. At a minimum, the training shall include a description and discussion of the importance of avoiding impacts to western spadefoot, nesting birds, burrowing owl, western red bat, hoary bat, American badger, San Joaquin kit fox, western pond turtle, and San Joaquin whipsnake, the general measures that are being implemented to conserve these species as they relate to the project and project area (as discussed below), and procedures to follow should sensitive plants or wildlife be encountered during work.
- A qualified biologist will be present during all ground disturbing activities and activities in wetted areas.
- Any observations of federally or state-listed species will be reported to the Service and the CDFW within three (3) working days of the observation and CNDDB forms will be submitted to CDFW within 60 days of the sighting.
- All federally and state-listed species encountered within the project site will be allowed to leave the project area on their own, unless it can be determined that moving the animal poses a lesser risk to the animal. The on-site biologist will determine whether activities must cease in order to ensure their protection.
- Project activities shall be performed during daylight hours only.
- All vehicles will observe a 15 mph speed limit on access roads.
- All fueling and maintenance of vehicles or other equipment shall occur on established access roads and at least 50 feet away from the creek.
- Motorized equipment will be kept clean and in good working condition.
- Motorized equipment will not be left idling while not in use.
- Absorbent materials will be available on site. Any accidental leaks or spills will be immediately cleaned up, and any leaking equipment will not be allowed to return to the project area until it has been repaired sufficiently to prevent further leaks or spills.
- All trash shall be properly contained, removed from the work site, and disposed of to prevent attracting wildlife.

Conservation Measure BIO-2: Avoid and minimize impacts to migrating, breeding, or resident amphibians

- Work will be conducted when the creek is under low or no-flow conditions and work will not take place during rain events.
- During work within wetted areas, a Service-approved biologist will survey the disturbance footprint each morning prior to the initiation of work and will remain on-site until work is completed for the day.
- To the extent practicable, non-native bullfrogs will be dispatched and removed from the site.

Conservation Measure BIO-3: Avoid and minimize impacts to western pond turtles

- If a western pond turtle is encountered within the project site and is in danger of being harmed by ongoing activities, a qualified biologist will move the turtle out of harm's way and relocate the individual to similar habitat within the same drainage.
- If a western pond turtle nest is uncovered by project activities, work will be halted in the immediate vicinity until CDFW can be consulted and an attempt will be made to rebury the nest or salvage the eggs and bring them to a suitable wildlife rehabilitation center such as the Lindsey Wildlife Museum.

Conservation Measure BIO-4: Avoid and minimize impacts to nesting birds

- During nesting season, a qualified biologist will conduct preconstruction surveys to identify active migratory bird nests within 250 feet of the proposed project site (up to ½ mile for raptors). Preconstruction surveys shall be conducted during the nesting season (February 1- August 31 for raptors, April 1 to August 31 for other species) within two weeks of beginning construction activity. Any construction activity that occurs between September 1 and January 31, outside the nesting season, shall not require preconstruction surveys for nesting birds.
- If nests are located, impacts shall be minimized by establishing an appropriate non-disturbance buffer zone around active nests in coordination with CDFW guidelines. Buffer zones for special status species shall be determined in consultation with CDFW and/or USFWS and will depend on the species involved, site conditions, and type of work proposed. No new project activity shall occur within the buffer zone until the young have fledged, until the nest is no longer active, or until a qualified biologist has determined in consultation with the regulating agencies that reducing the buffer would not result in nest abandonment. Monitoring of the nest by a qualified biologist during construction shall be required to ensure that nests are not jeopardized.

Conservation Measure BIO-5: Avoid and minimize impacts to Burrowing Owl

- Preconstruction surveys will be conducted for Burrowing Owl no more than two weeks prior to construction.

- If an active burrow is found during the breeding season (February 1 through August 31), markers will be used to clearly demarcate an avoidance buffer zone so that vehicles and workers at the project site will avoid disturbing the area. Buffer zones will be implemented following recommendations in the CDFW Staff Report on Burrowing Owl mitigation (CDFW 2012).
- Any active burrows will be monitored by a qualified biologist throughout the construction phase to determine the effectiveness of buffers, visual screens, or other measures, and to determine if the activity is jeopardizing an active nest. DWR shall consult with CDFW for assistance in developing site-specific solutions, as needed.

Conservation Measure BIO-6: Avoid and minimize impacts to western red bat and hoary bat

- A qualified biologist shall conduct a pre-construction survey no more than two weeks prior to work commencing to determine if tree roosting bat species such as hoary bat may be present within the project site.
- If bats are found, a phased-disturbance approach may be implemented to minimize impacts to individual day-roosting bats. A phased disturbance approach would include initiating activity which does not include vegetation removal within the area 24-48 hours before beginning vegetation removal. Minor disturbance in the area is less likely to cause flushing of day-roosting bats, but is thought to discourage bats from returning to the site to roost following nightly foraging.)
- A qualified biologist will be present on site during all vegetation removal activities.
- If bats are observed or inadvertently injured during project activities, the qualified biologist will determine is project activities must cease and CDFW will be notified immediately. If necessary the individual will be taken to a suitable wildlife rehabilitation center such as the Lindsey Wildlife Museum.

Conservation Measure BIO-7: Avoid and minimize impacts to San Joaquin kit fox

- A qualified biologist shall conduct a pre-construction survey no more than two weeks prior to work commencing to determine if there are any potential San Joaquin kit fox dens are located within 200 feet of the disturbance areas.
- Potential kit fox dens within 100 feet of a disturbance area will be tracked for three consecutive nights to determine if they have any current kit fox use.
- A 50 foot exclusion zone will be marked around any potential or atypical kit fox den located between 50 and 200 feet from a disturbance area using wooden stakes and flagging.

- Any potential kit fox dens located within 50 feet of a disturbance area will be temporarily blocked with burlap bags filled with soil (after three consecutive nights of tracking have been completed without evidence of San Joaquin kit fox use) to prevent them from using these dens during Project activities.
- A 100 foot exclusion zone will be marked around any known San Joaquin kit fox den within the survey area using wooden stakes and flagging.

Conservation Measure BIO-8: Minimize impacts to special status plants

- A botanist will conduct seasonally appropriate (one spring and one summer) pre-construction surveys for special status plants that have the potential to occur within the project area within one year prior to project commencement. If any special status plants are identified, they will be flagged and avoided if feasible. If individual plants cannot be avoided, an assessment will be made by the botanist to determine severity of the impact and the local importance of the occurrence, and if appropriate, the governing regulatory agency will be consulted and an attempt will be made to transplant the individuals or collect and disperse seed.

Conservation Measure CUL-1: Halt ground-disturbing construction activities if cultural materials are discovered

The following measures shall be implemented to avoid or minimize potential impacts to cultural materials:

- If a discovery of cultural materials (e.g., unusual amounts of shell, animal bone, flaked stone, bottle glass, ceramics, structure/building remains, etc.) is encountered during project construction, ground disturbances in the immediate vicinity of the find shall be halted immediately and a qualified professional archaeologist shall be notified regarding the discovery. The archaeologist shall determine whether the resource is potentially significant as per the CRHR and identify appropriate management steps needed to protect and secure identified resources.

Conservation Measure CUL-2: Halt construction activities if any human remains are discovered

The procedures for the treatment of discovered human remains are contained in Sections 7050.5 and 7052 of the California Health and Safety Code and Section 5097 of the California Public Resources Code. The following measures shall be implemented to avoid or minimize potential impacts to human remains:

- In accordance with the California Health and Safety Code, if human remains are uncovered during ground disturbing activities, such activities that may affect the remains shall be halted and DWR or its designated representative shall be notified. DWR shall immediately notify the county coroner and a qualified professional

archaeologist. If the coroner determines that the remains are those of a Native American, the coroner must contact the NAHC by phone within 24 hours of making that determination (Health and Safety Code, Section 7050.5[c]).

- DWR's responsibilities for acting upon notification of a discovery of Native American human remains are identified in detail in Section 5097.9 of the California Public Resources Code. DWR or its appointed representative and the professional archaeologist shall consult with a Most Likely Descendant (MLD) determined by the NAHC regarding the removal or preservation and avoidance of the remains and shall determine whether additional burials could be present in the vicinity.
  Assuming that an agreement can be reached between the MLD and DWR or their representative with the assistance of the archaeologist, these steps would minimize or eliminate adverse impacts on the uncovered human remains.

Greenhouse Gas Pre-Construction and Final Design BMPs

Pre-construction and Final Design BMPs are designed to ensure that individual projects are evaluated and their unique characteristics taken into consideration when determining if specific equipment, procedures, or material requirements are feasible and efficacious for reducing GHG emissions from the project. While all projects will be evaluated to determine if these BMPs are applicable, not all projects will implement all the BMPs listed below.

BMP 1. Evaluate project characteristics, including location, project work flow, site conditions, and equipment performance requirements, to determine whether specifications of the use of equipment with repowered engines, electric drive trains, or other high efficiency technologies are appropriate and feasible for the project or specific elements of the project.

BMP 2. Evaluate the feasibility and efficacy of performing on-site material hauling with trucks equipped with on-road engines.

BMP 3. Ensure that all feasible avenues have been explored for providing an electrical service drop to the construction site for temporary construction power. When generators must be used, use alternative fuels, such as propane or solar, to power generators to the maximum extent feasible.

BMP 4. Evaluate the feasibility and efficacy of producing concrete on-site and specify that batch plants be set up on-site or as close to the site as possible.

BMP 5. Evaluate the performance requirements for concrete used on the project and specify concrete mix designs that minimize GHG emissions from cement production and curing while preserving all required performance characteristics.

BMP 6. Limit deliveries of materials and equipment to the site to off peak traffic congestion hours.

Greenhouse Gas Construction BMPs

Construction BMPs apply to all construction and maintenance projects that DWR completes or for which DWR issues contracts. All projects are expected to implement all Construction BMPs unless a variance is granted by the Division of Engineering Chief, Division of Operation and Maintenance Chief, or Division of Flood Management Chief (as applicable) and the variance is approved by the DWR CEQA Climate Change Committee. Variances will be granted when specific project conditions or characteristics make implementation of the BMP infeasible and where omitting the BMP will not be detrimental to the project's consistency with the Greenhouse Gas Emissions Reduction Plan.

BMP 7. Minimize idling time by requiring that equipment be shut down after five minutes when not in use (as required by the State airborne toxics control measure Cal. Code of Regs., tit. 13, §2485). Provide clear signage that posts this requirement for workers at the entrances to the site and provide a plan for the enforcement of this requirement.

BMP 8. Maintain all construction equipment in proper working condition and perform all preventative maintenance. Required maintenance includes compliance with all manufacturer's recommendations, proper upkeep and replacement of filters and mufflers, and maintenance of all engine and emissions systems in proper operating condition. Maintenance schedules shall be detailed in an Air Quality Control Plan prior to commencement of construction.

BMP 9. Implement a tire inflation program on the jobsite to ensure that equipment tires are correctly inflated. Check tire inflation when equipment arrives on-site and every two weeks for equipment that remains on-site. Check vehicles used for hauling materials off-site weekly for correct tire inflation. Procedures for the tire inflation program shall be documented in an Air Quality Management Plan prior to commencement of construction.

BMP 10. Develop a project specific ride share program to encourage carpools, shuttle vans, transit passes and/or secure bicycle parking for construction worker commutes.

BMP 11. Reduce electricity use in temporary construction offices by using high efficiency lighting and requiring that heating and cooling units be Energy Star compliant. Require that all contractors develop and implement procedures for turning off computers, lights, air conditioners, heaters, and other equipment each day at close of business.

BMP 12. For deliveries to project sites where the haul distance exceeds 100 miles and a heavy-duty class 7 or class 8 semi-truck or 53-foot or longer box type trailer is used for hauling, a SmartWay2 certified truck will be used to the maximum extent feasible.

The proposed project will have a less than significant impact because it conflicts with some the BMPs of the GGERP. All feasible Project Level GHG Emissions Reduction Measures have been incorporated into the design or implementation plan for the project and Measures not

incorporated have been listed and determined not to apply to the proposed project (see Consistency Determination form).

4.0 Regulatory Requirements, Permits, and Approvals

DWR has the responsibility to ensure that all requirements of CEQA and other applicable regulations are met. Other permitting requirements for this project are listed below:

- Streambed Alteration Agreement from California Department of Fish and Wildlife (CDFW) pursuant to Section 1602 of the Fish and Game Code.
- Nationwide Permit (Maintenance) from the US Army Corps of Engineers (USACE) pursuant to Section 404 of the Federal Clean Water Act.
    - USACE will initiate Section 7 consultation with US Fish and Wildlife Service (USFWS) to comply with the Federal Endangered Species Act.
    - USACE will initiate Section 106 consultation with the State Historic Preservation Officer to comply with the National Historic Preservation Act.
- Water Quality Certification from the Regional Water Quality Control Board pursuant to Section 401 of the Federal Clean Water Act.
- Construction General Permit to comply with National Pollutant Discharge Elimination System (NPDES) standards from the Regional Water Quality Control Board pursuant to Section 402 of the Clean Water Act.

5.0 Environmental Checklist

The environmental factors checked below would potentially be 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	☐ Agricultural Resources	☐ Air Quality
☒ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☐ Greenhouse Gas Emissions	☐ Hazards and Hazardous Materials	☐ Hydrology/Water Quality
☐ Land Use/Planning	☐ Mineral Resources	☐ Noise
☐ Population/Housing	☐ Public Services	☐ Recreation
☐ Transportation/Traffic	☐ Utilities/Service Systems	☐ Mandatory Findings of Significance

Determination:

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.

☒ 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 revisions to 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 an impact on the environment that is "potentially significant" or "potentially significant unless mitigated" 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 ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the project, nothing further is required.

Signature _____ Date _____

Printed Name _____ For _____

6.0 Initial Study Checklist

6.1 Aesthetics

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. Aesthetics. Would the project:				
a) 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?	☐	☐	☐	☒

6.1.1 Environmental Setting

The project site is located in a rural area within unincorporated Stanislaus County.

The portion of Interstate 5 from State Route 152 to State Route 205, which includes the stretch that passes by the project site in Stanislaus County, was officially designated as a State Scenic Highway on October 25, 1968 (Caltrans, 2013). The view from the interstate is primarily agricultural but also parallels the Delta-Mendota Canal and California Aqueduct. The project area is readily visible from the Safety Roadside Rest Area located approximately 0.1 mile north of the Salado Creek overchute, and from the northbound direction of the interstate.

6.1.2 Discussion

a) Have a substantial adverse effect on a scenic vista?

Less than Significant Impact. The project site is located in an area that is visible from a State Scenic Highway and scenic vista point. As the view from this section of officially designated state scenic highway is primarily agricultural and provides views of the Delta-Mendota Canal and California Aqueduct, the relatively small impact caused by maintenance of the Salado Creek overchute is consistent with other agricultural activities and maintenance in the area. Additionally, the proposed maintenance project is intended to return the structure, a component of the SWP, and adjacent stream channel to as-built conditions and is not likely to substantially alter or negatively impact the quality of the scenic vista in this area.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Less than Significant Impact. Approximately 0.3 acres of naturalized vegetation, including trees, will be removed as part of this proposed project. However, as discussed above, the relatively small impact caused by maintenance of the Salado Creek overchute is not likely to substantially alter or negatively impact the quality of the scenic vista in this area and impacts will be less than significant.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

Less than Significant Impact. The area surrounding the proposed project site is dominated by agriculture and water infrastructure, therefore maintenance of the existing water infrastructure is not likely to substantially degrade the visual character or quality of the site and impacts will be less than significant.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

No Impact. The proposed project will not require additional lighting as work will be conducted during daylight hours. Maintenance of this facility will not introduce new reflective surfaces that could create new sources of substantial light or glare. Therefore the project will have no impact due to creation of new sources of substantial light on day or nighttime views.

6.2 Agricultural & Forest Resources

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. Agricultural and Forest Resources.				
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997, as updated) prepared by the California Department 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.				
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?

6.2.1 Environmental Setting

The project site and spoil areas are located immediately adjacent to the California Aqueduct, which is the main conveyance canal for the State Water Project facilities. Although there are extensive lands to the east of the California Aqueduct which are designated as Prime Farmland, land adjacent to the Aqueduct, which will be affected by the project, is mapped as vacant or disturbed land on Land Conservation Act maps provided by the California Department of Conservation (California Department of Conservation, 2012).

6.2.2 Discussion

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?

No Impact. The proposed project would be located on property associated with the Salado Creek overchute and California Aqueduct. No farmland exists on the project site or spoils areas and no conversion of farmland would occur as a result of the project. As such, no impacts resulting from the conversion of farmland would occur.

b) Conflict with existing zoning for agricultural use or a Williamson Act contract?

No Impact. The project site is located within property that is identified as vacant or disturbed land in the Land Conservation Act maps provided by the Department of Conservation. Nearby grazing land and prime farmland will not be affected; therefore, there would be 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))?

No Impact. No forest land or timberland exists on the project site. As such, no forest land or timberland would be impacted by the construction of the project.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. As noted in topic (c) above, the project site does not include any forest land. Therefore, there would be no impact.

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?

No Impact. The proposed activities are intended to maintain existing facilities and restore them to as-built conditions. This work would not alter the existing land use of the project site and no impacts to farmland or forest land would occur. Therefore, there would be no impact.

6.3 Air Quality

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. Air Quality.				
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make the following determinations.				
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?	☐	☐	☒	☐

6.3.1 Environmental Setting

The proposed project is located in Stanislaus County, which is part of the San Joaquin Valley Air Pollution Control District (SJVAPCD). The SJVAPCD is made up of eight counties in California's Central Valley: San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and the San Joaquin Valley Air Basin (SJVAB) portion of Kern County.

The SJVAB, which is approximately 250 miles long and averages 35 miles wide, is the second largest air basin in the state. Air pollution is directly related to a region's topographic features. The SJVAB is defined by the Sierra Nevada Mountains in the east, the Coast Ranges in the west, and the Tehachapi Mountains in the south. The valley is relatively flat with a slight downward

gradient to the northwest. The valley opens to the sea at the Carquinez Strait where the San Joaquin-Sacramento Delta empties into San Francisco Bay.

Although marine air generally flows into the basin from the San Joaquin River Delta, the region's topographic features restrict air movement through and out of the basin. The Coast Range hinders wind access into the SJV from the west, the Tehachapis prevent southerly passage of airflow, and the Sierra Nevada Mountains are a significant barrier to the east. The SJVAB could be considered a "bowl" open only to the north. These topographic features result in weak airflow, which becomes blocked vertically by high barometric pressure over the SJV. As a result, the SJVAB is highly susceptible to pollutant accumulation over time. Most of the surrounding mountains are above the normal height of summer inversion layers. Local climatological effects, including wind speed and direction, temperature, inversion layers, and precipitation and fog can exacerbate the air quality problem in the SJVAB.

National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) have been established for the following criteria pollutants: carbon monoxide (CO), ozone, sulfur dioxide (SO_2), nitrogen dioxide (NO_2), particulate matter less than 10 microns (PM_{10}), particulate matter less than 2.5 microns ($PM_{2.5}$), and lead. These standards have been established with a margin of safety to protect the public's health. Both the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) designate areas of the state as attainment, nonattainment, maintenance, or unclassified for the various pollutant standards according to the federal Clean Air Act (CAA) and the California Clean Air Act (CCAA), respectively.

An "attainment" designation for an area signifies that pollutant concentrations did not violate the NAAQS or CAAQS for that pollutant in that area. A "nonattainment" designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation was caused by an exceptional event, as identified in the criteria. A "maintenance" designation indicates that the area was previously non-attainment and is currently attainment for the applicable pollutant; the area must demonstrate continued attainment for a specified number of years prior to redesignation as an "attainment" area. An "unclassified" designation signifies that data do not support either an attainment or nonattainment status.

The SJVAB has one of the most severe air pollution problems in California. Its designations for various pollutants are listed in the table below.

Table 1- SJVAB pollutant designations

Pollutant	**Designation/Classification**	
	Federal Standards	**State Standards**
Ozone - One hour	No Federal Standard	Nonattainment/Severe
Ozone - Eight hour	Nonattainment/Extreme	Nonattainment
PM 10	Attainment	Nonattainment
PM 2.5	Nonattainment	Nonattainment

Carbon Monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide	Attainment/Unclassified	Attainment
Sulfur Dioxide	Attainment/Unclassified	Attainment
Lead (Particulate)	No Designation/Classification	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility Reducing Particles	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment

The SJVAPCD's Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI) (SJVAPCD, 2014) recommends assessing the impact of construction emissions on air quality by considering the extent to which compliance with District Rule 9510 (Indirect Source Review) and District Regulation VIII (Fugitive PM10 Prohibitions) will reduce construction exhaust emissions and fugitive dust, and by using the screening tool, Small Project Analysis Level (SPAL). District Rule 9510 was developed to reduce growth of (nitrogen oxides) NO_x and PM_{10} emissions associated with the construction and operation if new development projects in the San Joaquin Valley. As the proposed project does not include or promote new development, this rule does not apply to the project. The purpose of District Regulation VIII is to reduce ambient concentrations of fine particulate matter by requiring actions to prevent, reduce, or mitigate anthropogenic fugitive dust emissions.

Using project type and size, the SJVAPCD has pre-quantified emissions and determined a size below which it is reasonable to conclude that a project would not exceed applicable thresholds of significance for criteria pollutants. The project site is restricted from public access and the nearest sensitive receptor (residential) is located approximately 0.3 miles from the site.

6.3.2 Discussion

a) Conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant Impact. Air quality plans describe air pollution control strategies to be implemented by an air district, city, county, or region. The primary purpose of an air quality plan is to maintain and/or achieve attainment of a CAAQS or NAAQS. The SJVAPCD prepares plans to attain ambient air quality standards in the SJVAB.

The SJVAPCD has established thresholds of significance for criteria pollutant emissions. Emission reductions achieved through implementation of District offset requirements are a major component of the district's air quality plans. Thus, projects with emissions below the thresholds of significance for criteria pollutants would be determined to not conflict with or obstruct implementation of the District's air quality plan.

The proposed project is expected to have a less than significant impact on air quality based on a comparison with the projects listed in the SPAL; therefore, the project will not conflict with or obstruct implementation of the air quality plan.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less than Significant Impact. Emissions from construction activities are relatively short-term or temporary in duration, but have the potential to represent a significant impact with respect to air quality. Construction-related emissions of ozone precursors, reactive organic gases (ROG) and NO_x are primarily associated with mobile vehicle and equipment exhaust. Fugitive dust emissions are primarily associated with site preparation and vary as a function of such parameters as soil silt content, soil moisture, wind speed, acreage of disturbance area, and vehicle miles traveled by maintenance vehicles on-site and off-site.

The proposed project would result in the temporary generation of ROG and NO_X, emissions through the use of heavy equipment and power tools on-site, and off-site vehicle trips associated with material delivery, equipment delivery, spoil transportation, and worker commutes. Emissions and emission concentrations can vary substantially from day to day, depending on the level of activity, the specific type of operation, and the prevailing weather conditions.

Due to the nature of the proposed work which will be temporary and periodic in nature, with minimal transportation trips, and without consistent occupancy, the proposed project would produce emissions at much lower levels than the projects that are listed in the SPAL as having a less than significant impact on air quality (office space, residential housing, businesses, etc.).

Therefore, the proposed project is expected to have a less than significant impact on air quality and will not 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)?

Less than Significant Impact. The analysis of cumulative effects focuses on whether a specific project would result in cumulatively considerable emissions. By its very nature, air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development within the SJVAPCD, and this regional impact is cumulative rather than attributable to any one source. A project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development projects. The thresholds of significance are relevant to whether a project's individual emissions would result in a considerable incremental contribution to the existing cumulative air quality conditions. If a project's emissions would be less than these threshold levels, the project would not be expected to result in a considerable incremental contribution to the significant cumulative impact.

As discussed earlier, construction-generated emissions would not exceed applicable thresholds established by SJVAPCD. Therefore, emissions associated with the proposed project would not result in a cumulatively considerable incremental contribution to a significant cumulative impact. This impact would be less than significant.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact. Pollutants that could be generated by the proposed project, and that could result in adverse health effects on sensitive receptors include carbon monoxide, respirable particulate matter (i.e., PM_{10} and $PM_{2.5}$), and toxic air contaminants (TACs). Land surrounding the project site is primarily agricultural. The nearest residential property is located approximately 0.3 miles west of the project site.

Construction activities would result in temporary, short-term emissions of particulate emissions from the exhaust of off-road heavy-duty diesel equipment (diesel PM). Diesel PM was identified as a TAC by CARB in 1998. The risks estimated for an exposed receptor are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments should be based on a 70-year exposure period.

The possible sensitive receptor exposure period from the proposed project's construction activities is short (i.e., approximately 1-3 weeks) and would be less than 1% of the minimum exposure period for a health risk assessment, and distance from the project site is approximately 0.3 miles. TAC emissions would not be anticipated to expose sensitive receptors to substantial concentrations of TACs, and would be a less than significant impact.

e) Create objectionable odors affecting a substantial number of people?

Less than Significant Impact. Human response to odors is subjective, and sensitivity to odors varies greatly. Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, headaches).

A potential source of odor during construction activities is equipment exhaust. However, equipment exhaust would be localized and generally confined to the immediate area surrounding the proposed project site. The proposed project would use typical construction techniques, and the odors would be temporary and typical of most construction sites. Therefore, the project would not create objectionable odors that would affect a substantial number of people; impacts would be less than significant.

6.4 Biological Resources

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. Biological Resources.				
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 Game, the U.S. Fish and Wildlife Service, or the National Marine Fisheries 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 Game or the 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?	☐	☒	☐	☐
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?	☐	☐	☒	☐
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?	☐	☐	☐	☒

6.4.1 Environmental Setting

The proposed project is located in western Stanislaus County in the northern San Joaquin Valley. The climate in this region is typically Mediterranean, with cool, wet winters and hot, dry summers. Elevation is approximately 200 feet above mean sea level. The area surrounding and including the project site is zoned primarily for general agricultural use. Therefore, activities related to agricultural practices including grading, vehicle and human traffic, and altered water regime are standard for the area.

The project area is surrounded by substantial infrastructure, including Interstate 5 to the west and the California Aqueduct which bisects the project area. These structures may pose significant barriers to wildlife migration through the area.

DWR environmental scientists have conducted multiple site visits between September 9, 2011 and April 13, 2015 to assess existing habitat and potential for the presence of special status plants and wildlife.

6.4.1.1 Habitat Types

The following habitat types occur within the project footprint and may be affected by proposed activities.

Riparian

Salado Creek historically flowed into Del Puerto Creek which is a tributary to the San Joaquin River. Urbanization downstream has resulted in drastic channelization of Salado Creek, and part of the creek has been diverted into an underground pipe; however, review of documents related to a water quality study on Salado Creek and other nearby drainages (SWAMP Technical Draft, 2010) indicates that Salado Creek's connection to the San Joaquin River is still intact, and therefore the creek is considered to be a tributary to a navigable waterway.

Vegetation along the banks of Salado Creek includes California sagebrush (*Artemisia californica*), red willow, and California mugwort (*Artemisia douglasiana*). Within the channel itself, the streambed is mostly unvegetated; however, close to and within the upstream end of the overchute structure, below the OHWM, there is an area of vegetated wetland that measures approximately 48 feet by 40 feet containing American bulrush (*Scirpus americanus*), poison hemlock (*Conium maculatum*), narrow-leaved cattail, Baltic rush (*Juncus balticus*), and prickly ox tongue (*Helminthotheca echioides*). Wildlife species such as non-native American bullfrogs (*Lithobates catesbeianus*) have been seen within the channel during periods of low-flow. The debris barrier at the downstream end of the overchute is comprised of mainly tules, red willow, and accumulated woody debris.

Non-native Annual Grassland

Upland areas within the project footprint and the surrounding vicinity may be described as valley and foothill grassland, but are characterized by highly disturbed soils and vegetation dominated by non-native ruderal species such as Italian thistle (*Carduus pycnocephalus*), milk thistle (*Silybum marinum*), ripgut brome (*Bromus diandrus*), prickly lettuce (*Lactuca serriola*), and common spikeweed (*Centromadia pungens*). California sagebrush and mule fat (*Baccharis*

salicifolia) are also sparsely distributed within this habitat. Wildlife such as western fence lizard (*Sceloporus occidentalis*), Red-tailed Hawk (*Buteo jamaicensis*), tarantula hawk wasp (Pepsinae), and evidence of coyote (*Canis latrans*) and small burrowing mammals have been observed in the vicinity of the site.

Developed Infrastructure

Access roads along the Aqueduct which will be used to travel to and from the overchute and to transport spoils and woody debris to the spoil locations are paved with either asphalt (primary side) or aggregate base (secondary side), and are bare of vegetation. Within the concrete overchute itself, there are patches of rabbit's foot grass (*Polypogon monspeliensis*) and spearscale orach (*Atriplex patula*). Wildlife species such as cliff swallows (*Petrochelidon pyrrhonota*) and western fence lizard have been seen within the structure.

6.4.1.2 Special Status Wildlife and Plants

Prior to conducting this evaluation, DWR biologists compiled a list of sensitive species and plant communities that have the potential to occur in the project area. The list was developed from a review of the California Natural Diversity Database (CNDDB, 2015), U.S. Fish and Wildlife Service Information for Planning and Conservation (IPaC; USFWS, 2015), and the California Native Plant Society on-line Inventory of Rare, Threatened, and Endangered Plants (CNPS, 2015). The search was centered on the Patterson USGS 7.5 minute Quadrangle (Quad) and the surrounding 8 quads (Solyo, Westley, Brush Lake, Copper Mountain, Crows Landing, Wilcox Ridge, Orestimba Peak, and Newman) in order to capture the range of adjacent habitats.

Seventy special-status plant and wildlife species were identified from the CNDDB, USFWS IPaC, and CNPS Inventory. One additional species, western red bat, a CDFW Species of Special Concern, was added to the list based on the potential for the species to occur within the project site based on range and habitat preferences. Potential presence within the project area and effect determinations for potential impacts on special status species resulting from this project were evaluated through a review of CNDDB Geographic Information System (GIS) records and habitat suitability information collected during DWR site surveys. Information on species status, general habitat preferences, potential for occurrence within the project area, and effect determinations due to project activities are listed in the table provided in Appendix A. Additional information for species with potential to occur within the project area, the project's potential effects on the species, and additional mitigation measures are included in species accounts in Section 6.4.2.

6.4.2 Discussion

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, the U.S. Fish and Wildlife Service, or the National Marine Fisheries Service?

Less than significant impact. The streambed and adjacent banks within the project footprint which contain riparian habitat may be affected by vegetation and sediment removal and

potential placement of riprap revetment on disturbed banks. Heavy equipment may be required to enter the stream channel within the work zone in order to access vegetation to be removed. Continued maintenance of this facility will result in the permanent removal of the riparian vegetation within the proposed maintenance footprint. Upland areas which include grassland may be impacted by project activities including the rehabilitation of on-site access roads, site staging, and spoils.

Potential impacts to special status species that may occur in the affected habitats are expected to be largely temporary, and are attributed primarily to increased human presence and disturbance during active work. The footprint of permanent impact is small relative to the adjacent similar habitat, and habitat value within this area is already impacted by prior and ongoing disturbance. Additionally, CMs BIO-1 through BIO-8 have been incorporated into the environmental commitments of the project and will serve to minimize potential impacts to species that have a potential to occur in the vicinity, including western spadefoot, nesting birds protected under the Migratory Bird Treaty Act, Burrowing Owl, San Joaquin roach, Steelhead (Central Valley DPS), western red bat, hoary bat, San Joaquin pocket mouse, American badger, San Joaquin kit fox, western pond turtle, San Joaquin whipsnake, and several species of special status plants. Individual species accounts below provide additional information regarding impacts to species that may be present in the project area.

Amphibians

Western Spadefoot (*Spea hammondii*)

The western spadefoot is nearly endemic to California, occurring throughout the Central Valley and coastal lowlands from the San Francisco Bay to Mexico, at elevations from sea level to 4,460 feet (Jennings and Hayes 1994). Western spadefoot primarily occur in grasslands with shallow vernal pools, but occasionally are found in foothill grasslands, open chaparral, and pine-oak woodlands. Breeding occurs from January to March in temporary pools and drainages. Adults remain close to their breeding pools in underground burrows for most of the year and will travel up to many yards on rainy nights (Zeiner, et al., 1988-1990). The western spadefoot is a CDFW Species of Special Concern.

The closest CNDDB occurrence of western spadefoot is 1.5 miles west (upstream) of the project site, within Salado Creek. Potential breeding habitat within the project area is of marginal quality due to winter flows in Salado Creek which are not optimal for western spadefoot. Additionally, light and noise pollution from the nearby Interstate 5 further reduces the habitat suitability for breeding. However, presence of western spadefoot cannot be excluded, therefore, conservation measures will be implemented (See CM BIO-2).

Significance Determination: Although the habitat within the project area provides marginally suitable habitat for this species, disturbance factors such as sound and light pollution reduce the potential for the species to occur within the project area. With the implementation of CMs BIO-1 and BIO-2, this project will have *no impact* on western spadefoot.

Reptiles

Western Pond Turtle (*Emys marmorata*)
The western pond turtle is found in California north of San Francisco Bay and from the Great Central Valley north. It also ranges north of California into Oregon, Washington, and British Columbia and isolated populations occur in Susanville, CA and in Nevada. The western pond turtle is a small to medium sized dark brown to olive or blackish aquatic turtle with a low, unkeeled shell found in permanent or nearly permanent water in a variety of habitats. It is often seen basking above water, but will quickly slide into the water when it feels threatened. The species is considered omnivorous and will eat aquatic plants, invertebrates, fishes, frogs, and carrion. Western pond turtles are active from around February through November and may continue to be active year round in warmer locales. Hibernation in colder areas takes place underwater, often in muddy substrate. Aestivation during summer droughts is also common. Mating occurs in spring and egg deposition generally takes place between March and August. Eggs may be deposited in nests constructed in sandy banks along large, slow-moving streams or females may move considerable distances (up to several hundred feet) to find suitable nest sites. Nests must provide relatively high internal humidity for eggs to develop and hatch properly. Incubation duration is dependent upon temperature, but generally takes approximately 3 months. Hatchlings and juveniles may be preyed upon by a variety of vertebrate predators including certain fishes, bullfrogs, garter snakes, wading birds, and some mammals. Western pond turtle is listed by the CDFW as a Species of Special Concern.

The closest recorded occurrence of western pond turtle is 12 miles east of the project site. Salado Creek potentially provides suitable habitat for this species, but the extensive cover of willow trees limits sunny basking sites, making the project area only marginally suitable. Despite this, western pond turtle may be present within the project footprint and individuals or nests could be impacted by channel excavation and ground disturbing activities.

Significance Determination: This project is not likely to adversely affect western pond turtle because the stretch of creek that will be impacted by the project provides only marginal habitat, and western pond turtles have not been encountered within the project area during multiple site visits. Additionally, CMs BIO-1 and BIO-3 will be implemented to minimize potential adverse effects. Work at this site will be conducted during summer and fall, after the breeding season when turtles are most likely to be found travelling over land to upland nesting sites. Therefore, impacts to western pond turtle are expected to be *less than significant*.

San Joaquin Whipsnake (*Masticophis flagellum ruddocki*)
The San Joaquin whipsnake is a slender fast-moving snake with smooth scales, a large head and eyes, thin neck, and long thin tail. It reportedly occurs from around Arbuckle in Colusa County in the Sacramento Valley, south to Kern County along the Grapevine in the San Joaquin Valley, and west into the inner South Coast Ranges. There is also a disjunct population in the Sutter Buttes. San Joaquin whipsnakes occur in open, dry areas with little or no tree cover, such as valley grassland and saltbush scrub, and take refuge in rodent burrows, under shaded vegetation, or under surface objects (CalHerps 2013). San Joaquin whipsnake is listed as a Species of Special Concern by the CDFW.

The closest CNDDB occurrence of San Joaquin whipsnake is 7.4 miles southeast of the project site and the project site is located on the eastern edge (or just outside) of the known range of the species; however, appropriate habitat exists within the project area and ground disturbing activities have the potential to disturb individuals if they are present.

Significance Determination: This project is not likely to adversely affect San Joaquin whipsnake because they are unlikely to be found in the area. The project site is on the fringe of the species' known range and the nearest observation is over 7 miles away from the project site. Additionally, general conservation measures in CM BIO-1 will further reduce the potential for take. Therefore this project's effects on San Joaquin whipsnake will be *less than significant*.

Birds

Tricolored Blackbird (*Agelaius tricolor*)

The Tricolored Blackbird is native to California, with small nesting colonies found in Oregon, Washington, Nevada, and coastal Baja California. The species' diet includes insects and spiders, seeds, and cultivated grains. The Tricolored Blackbird forms the largest breeding colonies of any North American land bird. In most years, the Central Valley holds more than 90% of all breeding adults of this species. Breeding extends from mid-March through early August. The species' basic requirements for selecting breeding sites are open accessible water; a protected breeding substrate including flooded, thorny, or spiny vegetation; and a suitable foraging space providing adequate insect prey within a few miles of the nesting colony. Historically, most colonies were located in freshwater marshes dominated by cattails or tules, nettles (*Urtica* sp.), thistles (*Cirsium* spp.), or willows. Use of this habitat type decreased by the 1970's and an increasing percentage of colonies were found in Himalayan blackberry (*Rubus armeniacus*), thistles, and silage and grain fields. As this species is highly colonial, nesting areas must be large enough to support a minimum colony of about 50 pairs (Grinnell and Miller, 1944). Tricolored blackbird is a CDFW Species of Special Concern, and was given emergency status as an Endangered species under the California Endangered Species Act (CESA) for a 6 month period as of December 2014. Its listing status is currently under review and is expected to be made permanent. The species is also protected under the Migratory Bird Treaty Act (MBTA).

The closest CNDDB occurrence of Tricolored Blackbird overlaps the project site. This occurrence was recorded in 1971 and documented a colony of approximately 1250 individuals nesting in a 1 acre patch of tules within a drainage ditch in grassland habitat. Remaining suitable breeding habitat within the project area is minimal, and is unlikely to be of sufficient size to support a colony. However, presence of Tricolored Blackbird cannot be excluded, therefore, conservation measures will be implemented (See CM BIO-4).

Significance Determination: This project is not likely to adversely affect Tricolored Blackbird because appropriate nesting habitat within the project area is of insufficient size to support a nesting colony and this species has not been seen during several visits to the site. Additionally, CM BIO-4 will further reduce the potential for take. Therefore this project's effects on Tricolored Blackbird will be *less than significant*.

Golden Eagle (*Aquila chrysaetos*)

Golden Eagles are found throughout North America, but are more common in the west. They are an uncommon permanent resident and migrant throughout California, except in the center of the Central Valley. Habitat typically includes rolling foothills, mountainous areas, sage-juniper flats, and desert. Golden Eagles require open terrain for hunting prey which consists primarily of rabbits and hares, rodents, other small mammals, birds, reptiles, and carrion. Secluded cliffs with overhanging ledges or large trees may be used for cover. The species nests on cliffs of all heights and in large trees in open areas. Golden Eagles are protected by the CDFW as a Fully Protected Species, and are protected under federal law by the Bald and Golden Eagle Protection Act and the MBTA.

The closest CNDDB occurrence of Golden Eagle is located approximately 9 miles south of the project site. However, golden eagles have been reportedly observed within closer proximity to the project site based on records in citizen-science databases such as eBird (Sullivan, et al. 2009). Potential presence of Golden Eagle cannot be excluded from the project area; therefore, conservation measures will be implemented (See CM BIO-4).

Significance Determination: This project is not likely to adversely affect Golden Eagle because appropriate nesting habitat within the project area is very limited and it is unlikely that a Golden Eagle nest will be located within a distance of the project area where activities are likely to cause disturbance. Additionally, CM BIO-4 will ensure that adverse impacts do not occur. Therefore this project will have *no impact* on Golden Eagle.

Great Blue Heron (*Ardea herodias*)

The Great Blue Heron is fairly common throughout most of California in shallow estuaries and fresh and saline emergent wetlands. They may also be found along riverine habitats, rocky marine shores, croplands, pastures, and mountains above foothills. Nearly 75% of the species' diet is comprised of fish; though small rodents, amphibians, snakes, lizards, insects, crustaceans, and occasionally small birds may be taken. They often perch or roost in tall trees and nest in colonies in the tops of secluded large snags or live trees. Colonies should be protected from human disturbances which often cause nest desertion. Great Blue Heron are protected under the MBTA.

The closest CNDDB occurrence of a Great Blue Heron rookery is located approximately 7 miles northeast of the project site. Although Great Blue Heron may use riparian and grassland habitat within the project area for foraging, nesting is unlikely due to limited suitable nesting trees in the vicinity. Additionally, this species tends to utilize nest sites year after year, and has not been observed during several visits to the project site.

Significance Determination: This project is not likely to adversely affect Great Blue Heron because appropriate nesting habitat within the project area is very limited and it is unlikely that a Great Blue Heron rookery will be located within a distance of the project area where activities are likely to cause disturbance. Additionally, CM BIO-4 will serve to ensure that adverse impacts do not occur. Therefore this project will have *no impact* on Great Blue Heron.

Burrowing Owl (*Athene cunicularia*)
Burrowing Owls are primarily a grassland species but also occur in desert habitat and open shrub habitats within pinyon-juniper and ponderosa pine habitats. They inhabit appropriate habitats throughout the state from sea level to approximately 5,300 ft. Unlike many sensitive species, Burrowing Owls persist and even thrive in some landscapes that are highly altered by human activity. The overriding characteristics of suitable habitat appear to be burrows for roosting and nesting and relatively short vegetation with only sparse shrubs and taller vegetation. Individuals in agricultural environments nest along roadsides and water conveyance structures. Occupancy of Burrowing Owl habitat is confirmed at a site when at least one Burrowing Owl, or traces of presence at or near a burrow entrance, is observed within the last three years. Burrowing Owls are more easily detected during the breeding season with detection probabilities being highest during the nestling stage (Conway et al. 2008). In California, the Burrowing Owl breeding season extends from February 1st to August 31st (Haug et al. 1993, Thompsen 1971) with some variances by geographic location and climatic conditions. The Burrowing Owl is listed as a CDFW Species of Special Concern.

The closest CNDDB occurrence of Burrowing Owl is approximately 1.7 miles northeast of Spoil Site #3. There are some areas within the project vicinity and spoil areas which provide suitable habitat for Burrowing Owls, and increased noise and human activity in the work area could adversely affect owls if they are found. However, vegetation in the immediate area surrounding the overchute structure is taller than what is normally tolerated by Burrowing Owls, and the proposed use of up to three spoil sites will allow some flexibility in use if owls are found at one of the locations. Therefore, it is unlikely that Burrowing Owls will be found within the project footprint in areas that cannot be avoided using the standard 164 foot (50 meter) avoidance buffers recommended by CDFW (2012).

Significance Determination: This project is not likely to adversely affect Burrowing Owls because CMs BIO-1 and BIO-5 will be implemented to avoid impacts to the species. Therefore, the proposed project is expected to have *no impact* on Burrowing Owls.

Swainson's Hawk (*Buteo swainsoni*)
Studies conducted in 2005-2006 under the California Swainson's Hawk Inventory estimate the California population of Swainson's Hawk to be 2081 pairs, with 95% of that population nesting in the Central Valley. Although some individuals are year-round residents, the majority of the population migrates south in September and October to wintering grounds as far as South America. Breeding takes place in late March through late August. The species constructs nests on a platform of sticks, bark, and leaves, and typically nests in tree stands in juniper-sage flats, riparian areas, and oak savannah, and forages in adjacent grassland, pasture, or suitable grain or alfalfa fields. Diet consists primarily of mice, gophers, ground squirrels, rabbits, large arthropods, amphibians, reptiles, and rarely, fish. Swainson's Hawks are listed as threatened under CESA and are also protected under the MBTA.

The closest CNDDB occurrence of Swainson's Hawk is located approximately 3.5 miles northeast and northwest of Spoil Site #3. Trees of suitable size to provide nesting habitat for Swainson's

Hawk are present in the project area, and the species may use grassland areas within the project footprint for foraging. However, CM BIO-4 will ensure that the project will not impact Swainson's Hawk.

Significance Determination: This project is not likely to adversely affect Swainson's Hawk because appropriate nesting habitat within the project area is limited and it is unlikely that a Swainson's Hawk nest will be located within a distance of the project area where activities are likely to cause disturbance. Additionally, CM BIO-4 will serve to ensure that adverse impacts do not occur. Therefore this project will have *no impact* on Swainson's Hawk.

Western Yellow-billed Cuckoo (*Coccyzus americanus occidentalis*)
The Western Yellow-billed Cuckoo is an uncommon to rare summer resident of valley foothill and riparian habitats in scattered locations in California. Individuals of this species depart for South American wintering areas by late August or early September and return to summer grounds in June. Densely foliaged deciduous trees and shrubs, especially willows, in extensive riparian thickets or forests which abut slow moving water courses are required for roosting and nesting sites. High humidity conditions are needed during breeding. Eggs are laid in mid-June to Mid-July and incubation lasts 9 to11 days. Young may fledge at 6 to 9 days post-hatch. Western Yellow-billed Cuckoo is listed as Threatened under the federal Endangered Species Act (ESA), Endangered under CESA, and are a CDFW Species of Special Concern, as well as being protected under the MBTA.

The closest CNDDB occurrence of Western Yellow-billed Cuckoo is more than 14 miles north of Spoil Site #3. The narrow band of riparian habitat in the project area is unlikely to be of sufficient density to support this species which prefers extensive thickets or forests with dense understory of shrubs and humid conditions. However, if individuals are present, CM BIO-4 will serve to ensure that the project will not impact Western Yellow-billed Cuckoo.

Significance Determination: This project is not likely to adversely affect Western Yellow-billed Cuckoo because available roosting or nesting habitat within the project area is of limited suitability for the species, and they are unlikely to be present in the project site. Additionally, CM BIO-4 will serve to ensure that adverse impacts do not occur. Therefore, this project will have *no impact* on Western Yellow-billed Cuckoo.

Snowy Egret (*Egretta thula*)
The Snowy Egret is widespread in California in habitats such as coastal estuaries, fresh and saline emergent wetlands, ponds, slow moving rivers, irrigation ditches, and wet fields. They are locally common year-round residents in the Central Valley. Snowy Egrets are colonial nesters, and may roost or nest in dense emergent wetlands or in trees near water. Breeding occurs from late March to mid-May in central California. Diet consists primarily of small fish, crustaceans, and large insects, but they will also eat amphibians, reptiles, worms, snails, and small mammals. Like other egrets and herons, the species is likely sensitive to human disturbance to nesting colonies. Snowy Egrets are protected under the MBTA.

The closest CNDDB occurrence of a Snowy Egret rookery is located approximately 7 miles northeast of the project site. Although Snowy Egret may use riparian and grassland habitat within the project area for foraging, nesting is unlikely due to limited suitable nesting trees in the vicinity. Additionally, this species exhibits high roost-site fidelity, and has not been observed during several visits to the project site.

Significance Determination: This project is not likely to adversely affect Snowy Egret because appropriate nesting habitat within the project area is very limited and it is unlikely that a Snowy Egret rookery will be located within a distance of the project area where activities are likely to cause disturbance. Additionally, CM BIO-4 will serve to ensure that adverse impacts do not occur. Therefore this project will have *no impact* on Snowy Egret.

California Horned Lark (*Eremophila alpestris actia*)
The California Horned Lark is a common to abundant resident in open habitats, usually where trees and large shrubs are absent, at variable elevations. Diet consists mainly of insects, snails and spiders during the breeding season, and includes grass and forb seeds and other plant matter at other times. Pairs nest solitarily in March through July, constructing grass lined, cup-shaped nests in depressions on the ground or in the open. They often raise two broods in a season. After breeding, the species becomes very gregarious and often forms large flocks that forage and roost together. California Horned Lark is on the CDFW Watch List and protected under the MBTA.

The closest CNDDB occurrence of California Horned Lark is approximately 3 miles southeast of the project site. Ruderal grassland habitat within the project area provides suitable nesting habitat for this species. CM BIO-4 will be implemented to minimize impacts to this species.

Significance Determination: This project is not likely to adversely affect California Horned Lark because CM BIO-4 will be implemented to reduce potential impacts on nesting individuals. With these measures in place, impacts to California Horned Lark are expected to be *less than significant.*

Prairie Falcon (*Falco mexicanus*)
The Prairie Falcon is an uncommon permanent resident that ranges from the southeastern deserts through much of central California. It inhabits variable habitats from annual grasslands to alpine meadows but is associated primarily with perennial grasslands, savannah, rangeland, some agricultural fields, and desert scrub. Diet consists primarily of small mammals as well as small birds and reptiles. Nests are usually constructed on sheltered cliff ledges, sometimes using old raven or eagle stick nests. Prairie Falcon is on the CDFW Watch List, and protected under the MBTA.

The closest CNDDB occurrence of prairie falcon is located nearly 4 miles to the northwest of Spoil Site #3 in a cliff complex at Del Puerto Canyon. Prairie Falcon may use grassland habitat within the project area for foraging, but there are no appropriate nesting sites located within a distance of the project area where activities are likely to cause disturbance.

Significance Determination: Although Prairie Falcon may use habitat in the project area for foraging, there are no suitable nest sites in the vicinity. Additionally, CM BIO-4 will be implemented and project activities are expected to have *no impact* on this species.

Loggerhead Shrike (*Lanius ludovicianus*)
Loggerhead Shrike is a common resident and winter visitor in lowlands and foothills throughout California. The species prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other suitable perches. Diet consist primarily of large insects, but the species is also known to take small birds, mammals, amphibians, reptiles, fish carrion, and other invertebrates. Food items are often cached by skewering prey on thorns, sharp twigs, or barbed wire. Loggerhead Shrike is a solitary nester. Eggs are laid from March to May in nests constructed in densely foliaged shrubs or trees. Loggerhead Shrike is a CDFW Species of Special Concern.
The closest CNDDB occurrence is located approximately 1.7 miles north of Spoil Site #3. This occurrence documents a nest built in tumbleweeds piled up against a fence along the Delta Mendota Canal. As evidenced by this occurrence, this species can utilize less than ideal habitats for nesting. Ruderal grassland, riparian, and scrub habitat in the project area has potential to be used for foraging and nesting by Loggerhead Shrike. Therefore, CM BIO-4 will be implemented to reduce the potential for impacts to the species.

Significance Determination: Although Loggerhead Shrike may use habitat in the project area for foraging or nesting, CM BIO-4 will ensure that there is no take of nests and that potential impacts to nesting individuals will be minimized to *less than significant* levels.

Least Bell's Vireo (*Vireo bellii pusillus*)
Least Bell's Vireo was formerly a common and widespread summer resident in the western Sierra Nevada, Sacramento and San Joaquin Valleys, and coastal valleys and foothills from Santa Clara south. Numbers and range have declined drastically in recent decades, apparently due to cowbird parasitism and habitat destruction and degradation. Least Bell's Vireo utilizes thickets of willow and other low shrubs for nesting and roosting. They are usually found near water, but may also inhabit thickets along dry, intermittent streams. Peak egg laying takes place from May into early June, and eggs are laid in an open cup nest made of bark, fine grasses, plant down, or horse hair. Diet consists mainly of insects gleaned from foliage and branches, and sometimes includes fruits. Least Bell's Vireo is listed as Endangered under both ESA and CESA.

The closest CNDDB occurrence of Least Bell's Vireo is nearly 4 miles northwest of Spoil Site #3 in Del Puerto Canyon. The narrow band of riparian habitat within the project site is likely insufficient to support this species which favors dense thickets, but potential presence of the species cannot be ruled out. Therefore, CM BIO-4 will be implemented to ensure that impacts to this species do not occur.

Significance Determination: Although Least Bell's Vireo has the potential to use habitat in the project area for foraging or nesting, CM BIO-4 will ensure that there is no take of nests and that potential impacts to nesting individuals will be minimized to *less than significant* levels.

Fish

San Joaquin Roach (*Lavinia symmetricus* ssp. 1)

San Joaquin roach are small, chunky fish usually less than 4 inches (100 mm) in total length, which occur in tributaries to the San Joaquin River, south from the Cosumnes River. Roach are omnivorous and feed mostly on filamentous algae, crustaceans and insects. Most fish of this species reach sexual maturity at age 2 or 3 and rarely live beyond three years. Spawning occurs in March through early July, and eggs are laid in gravel beds or riffles where groups of females lay eggs in the substrate, which are then fertilized by the males (UC, 2015). The San Joaquin roach is listed as a Species of Special Concern by the CDFW.

The closest CNDDB occurrence of San Joaquin roach is approximately 10 miles south of the project site, in a stream which has maintained a surface connection with the San Joaquin River. While the portion of Salado Creek which will be affected by the proposed project is still hydrologically connected to the San Joaquin River, intervening portions of the channel are highly modified and culverted in some stretches. Additionally, the flows within the project portion of Salado Creek are seasonal and highly rain dependent, and therefore the creek is not likely to support San Joaquin roach within the project footprint.

Significance Determination: Although Salado Creek is hydrologically connected to the San Joaquin River, seasonal drying and downstream conditions in the tributary reduce the habitat potential for San Joaquin roach and the species is not likely to occur in the project area. Project activities are expected to have *no impact* on this species.

Steelhead- Central Valley Distinct Population Segment (DPS) (*Oncorhynchus mykiss irideus*)

The steelhead trout is an anadromous species of fish which migrates from natal freshwater rivers to the marine environment, where growth is faster, and steelhead typically grow much larger than the related rainbow trout which stays in fresh water throughout its lifespan. Adult steelhead will migrate back to fresh water to spawn, and unlike other Pacific salmonids, are iteroparous and can spawn multiple times (NOAA Fisheries, 2015). The steelhead Central Valley DPS is listed as threatened by the federal government under the Endangered Species Act.

The closest CNDDB occurrence of the Central Valley DPS of steelhead is located approximately 6 miles to the east of the project site in the San Joaquin River and its tributaries to the east. While the portion of Salado Creek which will be affected by the proposed project is still hydrologically connected to the San Joaquin River, intervening portions of the channel are highly modified and culverted in some stretches. Additionally, the flows within the project portion of Salado Creek are seasonal and highly rain dependent, and therefore the creek is not likely to support steelhead within the project footprint.

Significance Determination: Although Salado Creek is hydrologically connected to the San Joaquin River, seasonal drying and downstream conditions in the tributary reduce the habitat potential for the steelhead Central Valley DPS and the species is not likely to occur in the project area. Project activities are expected to have *no impact* on this species.

Invertebrates

Menke's Cuckoo Wasp (*Ceratochrysis menkei*)

Menke's cuckoo wasp is known from the Middle San Joaquin and Upper Amargosa watersheds within the upper Sonoran Zone in Inyo and Stanislaus Counties. Menke's cuckoo wasp is rarely collected and is known only from the female (Kimsey, 2006). This species, like other California cuckoo wasps, is a nest parasite which lays its eggs in the nest of an unsuspecting host insect. Menke's cuckoo wasp is included in the CNDDB due to its NatureServe conservation ranking of G1S1, or "critically imperiled" at both the state and global levels. Despite this, the species does not have any regulatory or conservation status and is not listed under either the state or federal Endangered Species Acts.

The closest recorded location of this species is in Del Puerto Canyon, approximately 4.5 miles east of Spoil Site #3, however the identification and exact location of this collection is uncertain (CNDDB, 2015). The project site and associated spoil areas have some potential to support Menke's cuckoo wasp, and as the species is highly cryptic, its potential presence cannot be ruled out. Ground disturbing activities have the potential to disturb nests or feeding individuals.

Significance Determination: This project is not likely to adversely affect Menke's cuckoo wasp as a population whole because the species has not been identified within the project area, appears to occur in naturally low densities, and project activities will affect only a small area of suitable habitat. Additionally, the species does not have any regulatory or conservation status which could make adverse impacts to individuals significant. Therefore, impacts to Menke's cuckoo wasp will be *less than significant*.

Moestan Blister Beetle (*Lytta moesta*)

Very little is known about the life history or behavior of the moestan blister beetle. It is an elongate beetle which is approximately ¾ inches (16-20 mm) in length and is black in color. Adults have been found feeding on flowers, and larvae of the *Lytta* genus are known to be nest parasites on solitary ground-nesting bees. The species is presumed to be distributed throughout Central California based on collections in Kern, Tulare, Fresno, Madera, Santa Cruz, and Stanislaus Counties (Sandra Shanks, CDFW). Moestan blister beetles are included in the CNDDB due to their NatureServe conservation rank of G2S2, "imperiled" at both the state and global levels. Despite this, the species does not have any regulatory or conservation status, and is not listed under either the state or federal Endangered Species Acts.

The closest recorded CNDDB occurrence is located approximately 6 miles north of Spoil Site #3. This occurrence is presumed to be extant, but the date of collection is unknown. The project site and associated spoil areas have some potential to support moestan blister beetle, and as the species is highly cryptic, its potential presence cannot be ruled out. Ground disturbing

activities have the potential to disturb nesting or feeding individuals if found within the project site.

Significance Determination: Because the area which will be affected by the project is small and has been previously disturbed and presence of moestan blister beetles is expected to be low, and because the species does not have any regulatory or conservation status that could make adverse impacts to individuals significant, impacts to moestan blister beetle will be *less than significant*.

Mammals

Western Red Bat (*Lasiurus blossevillii*)

The western red bat is locally common in some areas of California, occurring from Shasta County to the Mexican Border, west of the Sierra Nevada and Cascade crest and deserts. Their winter range includes western lowlands and coastal regions south of San Francisco Bay. Western red bats are nocturnal and begin foraging 1-2 hours after sunset. They may forage throughout the night with a second peak of activity before sunrise. Diet consists mainly of moths, crickets, beetles and cicadas. Day roosting sites are primarily located in trees, less often in shrubs, often in edge habitats adjacent to streams, fields or urban areas. Family groups roost together and nursery colonies may be found with many females and their young. Red bats mate in late summer or early fall, females become pregnant in spring, and young are born following a gestation period of 80-90 days. Western red bats are a CDFW Species of Special Concern.

The closest CNDDB occurrence of western red bat is located more than 11 miles from the project site; however, western red bats often go unreported or undetected due to their habit of roosting solitarily or in small, inconspicuous groups. Riparian trees within the project area have the potential to provide roosting habitat for this species. Therefore, CM BIO-6 will be implemented to reduce the project's potential impacts on the species.

Significance Determination: Western red bats have the potential to use trees within the project footprint for roosting, but the area of affected habitat is small, and the likelihood of encountering bats in this area is low. However, as the potential presence of this species within the project site cannot be excluded, CM BIO-6 will be implemented to minimize impacts to the species, and impacts will be *less than significant*.

Hoary Bat (*Lasiurus cinerius*)

The hoary bat is the most widespread of all North American bats. This large, solitary species roosts primarily in the foliage of coniferous and deciduous trees, near the ends of branches, 10-475 feet above the ground. Roosting sites are often located near the edge of a clearing. Although they are thought to be highly migratory, wintering sites have not been well documented and no specific migration routes have been identified. Hoary bats usually emerge late in the evening to forage, from one hour after sunset to just after midnight. Hoary bats have a strong preference for moths, but have also been known to eat beetles, flies, grasshoppers, termites, dragonflies, and wasps. Hoary bats mate in the fall and give birth to one to four pups in May through July. Offspring are fully flighted about a month later (Western Bat Working

Group (WBWG), 2015). Hoary bats are listed on the WBWG's watch list as a species of medium level concern, but do not have any specific regulatory or conservation status and are not listed under either the state or federal Endangered Species Acts.

The closest CNDDB occurrence of hoary bat was recorded at a non-specific location in Del Puerto Canyon, which, at its closest point, is nearly 4 miles north of Spoil Site #3. However, trees within the project area are suitable to support this species, and tree removal as well as increased noise and activity within the area have the potential to disturb roosting bats if they are found within the project vicinity.

Significance Determination: Hoary bats have the potential to use trees within the project footprint for roosting, but the area of affected habitat is small, and the likelihood of encountering bats in this area is low. However, as the potential presence of this species within the project site cannot be excluded, CM BIO-6 will be implemented to minimize impacts to the species, and impacts will be *less than significant*.

San Joaquin Pocket Mouse (*Perognathus inornatus inornatus)*
The San Joaquin pocket mouse is found in dry, open grasslands or scrub on fine textured soils in the Central and Salinas Valleys. Diet includes mainly seeds as well as green vegetation and insects. The species is nocturnal and digs burrows for cover. Reproduction probably occurs in spring and early summer and young are born and raised in a nest within the burrow. The San Joaquin pocket mouse is listed by the Bureau of Land Management (BLM) as a sensitive species requiring conservation management on BLM lands. It does not have any additional regulatory requirements on non-BLM lands, and is not listed under either the state or federal Endangered Species Acts.

The closest occurrence of San Joaquin pocket mouse is located nearly 7 miles south of the project site. However, the project site includes appropriate habitat for San Joaquin pocket mouse and their presence cannot be ruled out. Ground disturbing activities have the potential to disturb individuals if they are present.

Significance Determination: Although the upland areas within the project site and spoil areas may provide suitable habitat for San Joaquin pocket mouse, this project is not likely to adversely affect San Joaquin pocket mouse populations because the mouse is not expected to occur in significant numbers within the small footprint of the project. Additionally, individuals of the species are not granted protections outside of BLM lands, and measures included in CM BIO-1 will reduce the potential for adverse impacts to this species; therefore, the impacts of this project on San Joaquin pocket mouse are expected to be *less than significant*.

American Badger (*Taxidea taxus*)
American badgers are uncommon but widely distributed throughout the state, except in the North Coast, from below sea level to over 12,000 ft. They inhabit a variety of open, arid habitats but are most abundant in drier, open stages of most shrub, forest, and herbaceous habitats with friable soils for burrowing. American badgers are generally solitary and possess large home

ranges. Natal dens are constructed in dry, sandy soil with sparse over-story. Young are born in March and April and disperse after three to four months. Dens are elliptical in shape and are approximately 6-10 inches tall and 8-12 inches wide (JBRT, 2011).

The closest CNDDB occurrence of American badger is 0.1 miles west of the project area. Numerous site visits to the project vicinity have not detected suitable burrows for American badger, but appropriate habitat is present and their presence cannot be ruled out. Ground disturbing activities and increased human presence have the potential to adversely affect individuals if they are present.

Significance Determination: This project is not likely to adversely affect American badgers because no suitable burrows have been identified in the project vicinity and the species is not known to be present. Additionally, general conservation measures included in CM BIO-1 and measures in CM BIO-7 for San Joaquin kit fox will serve to further decrease the likelihood of impacts to badger, and project impacts are expected to be *less than significant*.

San Joaquin Kit Fox (*Vulpes macrotis mutica*)

The San Joaquin kit fox is endemic to the Central Valley and currently inhabits suitable habitat in the San Joaquin Valley and in surrounding foothills of the Coast Ranges, Sierra Nevada, and Tehachapi Mountains, from southern Kern County north to Contra Costa County. In the northern part of its range (including San Joaquin, Alameda, and Contra Costa Counties), where most historic habitat on the valley floor has been eliminated, kit foxes now occur primarily in foothill grassland, valley oak savanna, and alkali grasslands.

Dens, which are used for temperature regulation, shelter from adverse weather, and protection from predators, are either dug by kit fox, constructed by other animals, or consist of human-made structures (culverts, abandoned pipelines, or banks in slumps or roadbeds). San Joaquin kit fox dens are scarce in areas with shallow soils because of the proximity to bedrock, high water tables, or impenetrable hardpan layers. Many dens may be used throughout the year, and individuals may change dens often. During September and October, females begin to clean and enlarge natal dens. Mating occurs between December and March, and adult pairs stay together all year. Pups are born in February or March and generally disperse after four or five months.

Coyotes (*Canis latrans*) are known predators on San Joaquin kit fox and can contribute toward a high proportion of a population's mortality. In addition, they are competitors for prey. Coyote pups are easily mistaken for San Joaquin kit foxes.

The closest recorded CNDDB occurrence of San Joaquin kit fox is located approximately 2 miles south of the project location. While no appropriate burrows have been identified within the project footprint and the species is usually not found in areas near perennial water due to competition from other species that rely on constant water sources (such as coyotes), appropriate habitat is present within the project vicinity. Ground disturbing activities and increased human presence could disturb individuals if present.

Significance Determination: This project is not likely to adversely affect San Joaquin kit fox because no suitable burrows have been identified in the project area, and the species is not known to be present in the project area. If San Joaquin kit foxes were to forage in or near the project area, this would likely occur at night when project activities would not be taking place. Additionally, general conservation measures in CM BIO-1 and kit fox specific measures in CM BIO-7 below will serve to further decrease the likelihood of impacts to this species, and impacts are expected to be *less than significant*.

Plants

Red-flowered Bird's-foot Trefoil (*Acmispon rubriflorus*)

Red-flowered bird's-foot trefoil is currently known to occur in the inner north coastal ranges and San Francisco Bay Area at elevations of 650 – 1400 feet (Baldwin et al., 2012). Habitat for this annual herb includes cismontane woodland and valley and foothill grasslands. Flowering period is typically April – June (Calflora, 2015). Red-flowered bird's foot trefoil is listed as a CRPR 1B.1 species.

The closest CNDDB record of red-flowered bird's-foot trefoil is 10 miles west of the project site. The species is not known or likely to occur in the project area and the available habitat within the project footprint is of poor quality due to the dominance of non-native ruderal grasses and forbs that would tend to outcompete low-growing, grassland adapted species.

Significance Determination: This species is not expected to occur in the project footprint and CM BIO-8 will serve to further reduce potential impacts to red-flowered bird's foot trefoil. Therefore, impacts to the species will be *less than significant*.

Large-flowered Fiddleneck (*Amsinckia grandiflora*)

Large-flowered fiddleneck is currently known from only three locations in San Joaquin and Contra Costa Counties, at Site 300 at the Lawrence Livermore National Lab and the privately owned Conolly Ranch where native occurrences are presumed to persist, and at Black Diamond Mines Regional Preserve, where the species was reintroduced to native habitat by the East Bay Regional Parks District in 1989 (CNDDB, 2015). Habitat for this annual herb includes valley and foothill grasslands and foothill woodland. Flowering period is typically April-May (Calflora, 2015). Large-flowered fiddleneck is listed as Endangered by both the state and federal governments, and as a CRPR 1B.1 species.

The closest CNDDB record of an extant population is located approximately 22 miles to the northwest of the project site at Conolly Ranch, a working cattle ranch. The species is not known or likely to occur in the project area and the available habitat within the project footprint is of poor quality due to the dominance of non-native ruderal grasses and forbs that would tend to outcompete many grassland adapted species.

Significance Determination: This species is not expected to occur in the project footprint and CM BIO-8 will serve to further reduce potential impacts to large-flowered fiddleneck. Therefore, impacts to the species will be *less than significant*.

Big Tarplant (*Blepharizonia plumosa*)
Big tarplant is currently known to occur in the northwest San Joaquin Valley and eastern San Francisco Bay Area at elevations of less than 1,640 feet (Baldwin et al., 2012). Habitat for this annual herb includes valley and foothill grassland. Flowering period is typically July – November (Calflora, 2015). Big tarplant is listed as a CRPR 1B.1 species.

The closest CNDDB records of big tarplant are 3 miles northwest of Spoil Site #3 and 5 miles west of the project site. The species is not known or likely to occur in the project area and the available habitat within the project footprint is of poor quality due to the dominance of non-native ruderal grasses and forbs that would tend to outcompete low-growing, grassland adapted species.

Significance Determination: This species is not expected to occur in the project footprint and CM BIO-8 will serve to further reduce potential impacts to big tarplant. Therefore, impacts to the species will be *less than significant.*

Round-leaved Filaree (*California macrophylla*)
Round-leaved filaree is currently known to occur in the Inner North Coast Ranges, southern Sierra Nevada Foothills, Great Central Valley, and Central Western California at elevations of less than 3,940 feet (Baldwin et al., 2012). Habitat for this annual herb includes cismontane woodland and valley and foothill grassland. Flowering period is typically March - July (Calflora, 2015). Round-leaved filaree is listed as a CRPR 1B.1 species.

The closest CNDDB record of round-leaved filaree is 0.4 miles north of the Spoil Site #3. The species is not known or likely to occur in the project area and the available habitat within the project footprint is of poor quality due to the dominance of non-native ruderal grasses and forbs that would tend to outcompete low-growing, grassland adapted species.

Significance Determination: This species is not expected to occur in the project footprint and CM BIO-8 will serve to further reduce potential impacts to round-leaved filaree. Therefore, impacts to the species will be *less than significant.*

Lemmon's Jewel-flower (*Caulanthus lemmonii*)
Lemmon's jewel-flower is currently known to occur in the southwestern San Joaquin Valley, southeastern San Francisco Bay Area, eastern Outer South Coast Ranges, and Inner South Coast Ranges at elevations between 260 and 4,000 feet (Baldwin et al., 2012). Habitat for this annual herb includes pinyon and juniper woodland and valley and foothill grassland. Flowering period is typically March – May (Calflora, 2015). Lemmon's jewel-flower is listed as a CRPR 1B.2 species.

The closest CNDDB record of Lemmon's jewel-flower is 3 miles northwest of Spoil Site #3. The species is not known or likely to occur in the project area and the available habitat within the project footprint is of poor quality due to the dominance of non-native ruderal grasses and forbs that would tend to outcompete low-growing, grassland adapted species.

Significance Determination: This species is not expected to occur in the project footprint and CM BIO-8 will serve to further reduce potential impacts to Lemmon's jewel-flower. Therefore, impacts to the species will be *less than significant.*

Showy Golden Madia (*Madia radiata*)

Showy golden madia is known from the San Joaquin Valley, San Francisco Bay and Inner North Coast Range at elevations between 60 and 3600 feet (Baldwin, et al., 2012). Habitat for this annual herb includes chenopod scrub, cismontane woodland and valley and foothill grassland. Flowering period is typically March through May (Calflora, 2015). Showy golden madia is listed as a CRPR 1B.1 species.

The closest CNDDB record of showy golden madia is more than 13 miles northwest of Spoil Site #3. The species is not known or likely to occur in the project area and the available habitat within the project footprint is of poor quality due to the dominance of non-native ruderal grasses and forbs that would tend to outcompete low-growing, grassland adapted species.

Significance Determination: This species is not expected to occur in the project footprint and CM BIO-8 will serve to further reduce potential impacts to showy golden madia. Therefore, impacts to the species will be *less than significant.*

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?

Less than significant impact with mitigation incorporated. Riparian woodland habitat within the Salado Creek project footprint will be adversely impacted due to the removal of willows and other vegetation; however, loss of this habitat will be mitigated by purchasing appropriate credits at an offsite mitigation bank.

With the implementation of Mitigation Measure (MM) BIO-1 below, which includes the purchase of mitigation credits for adverse impacts to riparian habitat and other sensitive natural communities, project impacts will be less than significant with mitigation incorporated.

Mitigation Measure BIO-1 Minimize and mitigate impacts to the riparian natural community

- Impacts to the riparian natural community and other naturalized areas will be minimized and restricted to the minimum necessary to accomplish the project goals of restoring and maintaining the overchute structure to as-built conditions.
- Removal of riparian habitat will be mitigated by purchasing credits at an offsite mitigation bank at a ratio deemed appropriate by CDFW to fully mitigate the impacts of the habitat removal pursuant to the Streambed Alteration Agreement.

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?

Less than significant impact with mitigation incorporated. Based on a wetland delineation conducted on April 3, 2015, no federally protected wetlands appear to be present within the project footprint. Although wetland vegetation is present along the upper banks of Salado Creek, wetland hydrology and hydric soil indicators were not found above the Ordinary High Water Mark (OHWM) of the creek. Therefore, impacts of the proposed project will be limited to federally protected waters of the US, but will not impact wetlands. Dredging of sediment, removal of riparian vegetation, and potential placement of rip rap along the banks of Salado Creek adjacent to the overchute structure have the potential to impact species and disrupt ecosystem services that occur in these habitats; therefore impacts will be minimized to the extent practicable and mitigated as required by the permitting agencies.

With implementation of MM BIO-2, which includes the purchase of mitigation credits to compensate for the proposed project's impacts on jurisdictional waters of the United States as defined by Section 404 of the Clean Water Act, project impacts on federally protected waters, will be less than significant with mitigation incorporated.

Mitigation Measure BIO-2: Minimize and mitigate impacts to jurisdictional waters of the United States

- All construction activities that take place within aquatic areas will be conducted under low flow conditions to minimize water quality impacts, and in compliance with sections 401 and 404 of the federal Clean Water Act.
- All staging areas, parking areas, equipment, and storage areas for fuel, lubricants, and solvents will be located in areas away from waters of the United States.
- Impacts to jurisdictional waters resulting from fill or dredging will be minimized by the incorporation of measures required in a Water Quality Certification issued by the Regional Water Quality Control Board under section 401 of the Clean Water Act. If required, mitigation for impacts to waters of the US will be

achieved by purchasing credits at an offsite mitigation bank as directed by the Army Corps of Engineers under Section 404 of the Clean Water Act.

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?

Less than Significant Impact. The project site and spoil areas are already exposed to a certain level of disturbance caused by the presence of and continued maintenance of the California Aqueduct and Interstate 5, which likely affect wildlife behavior and migratory corridors. The proposed project may cause a temporary increase in activity that could interfere with normal behaviors of wildlife in the area, but the activities are within the typical range of disturbance (agricultural, vehicle traffic, human presence) in the area, and impacts are expected to be less than significant. Additionally, CM BIO-1 through BIO-8 and MM BIO-9 and BIO 10 will further serve to avoid or mitigate impacts to wildlife and their habitats.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. Stanislaus County does not have a tree preservation policy or ordinance that would apply to this project. However, the Open Space and Conservation Element of the Stanislaus County General Plan includes the following goals that may apply to the Biological Resources analysis of this project:

- Encourage protection and preservation of natural and scenic areas throughout the County
- Conserve water resources and protect water quality in the County
- Protect fish and wildlife species of the County

While this project may adversely affect resources within the area, impacts will be minimized as much as practicable and will be mitigated to less than significant levels. These efforts will ensure that the project does not conflict with the goals of the General Plan. Therefore, there will be no impact.

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 Impact. The proposed project area is not covered by an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan. A multi-species HCP/NCCP for Western Stanislaus County has been proposed, and the project location is within the proposed boundaries of the plan, but consistency with a plan that is not yet approved cannot be considered under CEQA. Therefore,

the project will not conflict with the provisions of an adopted HCP/NCCP or other conservation plan, and there would be no impact.

6.5 Cultural Resources

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant Impact	No Impact
	Would the project:				
a.	Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☐	☐	☒
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 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?	☐	☐	☒	☐
e.	Cause a substantial adverse change in the significance of tribal cultural resources, defined as "sites, features, places, cultural landscapes, sacred places and objects with cultural value to a California Native American tribe" as described under Assembly Bill (AB) No. 52?	☐	☐	☒	☐

6.5.1 Environmental Setting

History of Archaeological Investigations

The basic framework for the interpretation of archaeological data from the Central Valley is based by excavations done in the early decades of the 20th century. The researchers relied primarily upon stratigraphic association and the serration of burial lots from mound sites in the Delta region of the Central Valley (Lillard, Heizer, and Fenenga 1939). This analysis was accomplished without modern data collection methods that emphasize radiocarbon dating, faunal and archaeobotanical analyses, and fine mesh screening. However, the burial lots provided enough information to divide the prehistoric period into an Early, Middle, and Late Delta cultural sequence, but lacked actual age determinations. Beardsley (1954), also without the aid of absolute dating techniques, integrated both the coastal and Delta patterns to formulate his Central California Taxonomic System (CCTS). Later, Ragir (1972) revised the CCTS by integrating radiocarbon dating methods along with charmstone and projectile point typologies. She was then able to demonstrate the antiquity of certain sites.

Although the CCTS did provide a useful framework, it was a static system that did not allow the depiction of gradual change over time, regional variability, or cultural patterns, such as settlement and economic systems or social organization. These concepts began to take on more

importance, possibly because refined dating techniques and the introduction of modern processual methodology made understanding these complex issues a more attainable goal. The work of James Bennyhoff and Dave Fredrickson (1973, 1974) moved away from the static cultural horizon concept and toward thinking about prehistoric human behavior as a set of patterns separate from temporal implications. Fredrickson (1973) characterized a pattern as an adaptive mode extending across one or more regions, characterized by technology, economic modes, and aspects of social organization. He then was able to assign chronological units to the various patterns which he termed the Windmiller Pattern (Early Horizon), the Berkeley Pattern (Middle Horizon), and the Augustine Pattern (Late Horizon) (Morato 1984). These were categorized by not only artifact types, but by behavioral criteria as well (Fredrickson 1973).

Regional Archaeological Patterns

While the Bay-Delta area had been the subject of much archaeological research, the western edge of the San Joaquin Valley had not been the focus of California archaeological studies until the Bureau of Reclamation and DWR began reservoir projects in the area. These projects occurred in two main phases, salvage archaeology for San Luis, Los Banos, and Little Panoche Reservoirs in the 1960's, and later reconnaissance surveys for the Los Banos Grandes reservoir alternatives studying suitable locations for reservoirs in the 1990's (Bell et all 1993; Hines et al. 1992, 1993; Mikkelsen and Hildebrandt 1990; DPR 1993). Four of the five reconnaissance surveys for the Los Banos Grandes alternative sites are located in the western San Joaquin Valley in Stanislaus and Merced Counties.

The earlier phase of salvage work for the reservoir projects was instrumental in creating a cultural chronological sequence for the northwestern San Joaquin Valley. Several substantial sites within reservoir footprints were the focus of intensive excavations (Nissley 1975; Olsen and Payen 1968, 1969, 1983; Pritchard 1970 and1983). Olsen and Payen (1969) postulated estimated dates for the prehistoric cultural sequence of the local area that includes the Positas, Pacheco, Gonzaga, and Panoche complexes. The earliest complex is not well dated, but the local sequence provides an archaeological framework from the later part of the Middle Holocene (7700-3800 BP) through the Late Holocene (3800-150 BP).

Terminal Pleistocene / Early Holocene (13,500-7,700 cal BP)

Sites dating to these time periods may exist in the project area, buried deeply under Quaternary alluvial sediment, but none have been found to date. These earliest years are not well represented archaeologically throughout California and are referred to, in general, as the Paleoindian Period. Many of the earliest Paleoindian occupations in California are found in the desert regions where the landscape has not been covered by Quaternary alluviation. These sites are usually surface phenomena characterized by the presence of weathered fluted or basally-thinned spear or atlatl points, often referred to as Clovis or Great Basin Concave Base (Basgall 2005a, 2005b; Davis 1978; Moratto 1984). They have been found in association with faunal remains of extinct species, such as mammoth, camel, and horse; however, whether the association is due in fact to large game hunting or merely accidental is debatable (Basgall 2005a, 2005b; Davis 1978; Fenenga 1992). Flaked stone crescents are also very old and are

found around the margins of Pleistocene lakes in the same or similar contexts as the basally-thinned points. Some of the most well-known Paleoindian sites occur in around the shores of Pleistocene Lake Tulare in Kings County (CA-KIN-32) and Pleistocene Lake Buena Vista (Wedel 1941). Direct dating of these sites has been very limited and includes a few dates on human bone and some obsidian hydration readings. However, these sites are estimated to be as much as 11,500 years old (Rosenthal et al. 2007).

Another ancient Paleoindian pattern that may overlap, but is generally thought to post-date the concave base and basally thinned points is the Stemmed-Point Tradition. Stemmed point sites are often located along the shores of Pleistocene lakes like basally thinned/concave base points; however, they have a much wider distribution and are not found in association with extinct fauna. Both of these ancient traditions lack groundstone artifacts which are indicative of plant processing. The abundance of flaked stone items and the absence of plant processing artifacts lead to the interpretation that these early cultures were hunting oriented. Vegetal foods were almost certainly consumed, but the lack of preservation of dietary constituents, both faunal and botanical, force archaeologists to rely on inference based on tool types. Long distance travel is also characteristic of these early cultures. This is evidenced by the presence and variety of flaked stone tools whose geologic origins are quite distant to the site locations (Sutton et al. 2007)).

Middle Holocene to Late Holocene (7,700 -150 cal BP)

It is thought that the Paleoindian cultures of the preceding period began to break up into smaller, relatively more sedentary local manifestations and regional differentiation in tool types increased. This period is not well represented in the archaeological record. This may be due to the rapid sedimentation that was taking place during this time that caused much of California and especially the Central Valley to be filled with Quaternary alluvial deposits, burying many older sites beneath several deep layers of sediment. As sedimentation slowed and sea level stabilized, the landscape began to look much the way it does now. Thus, there is a much more robust archaeological record for the end of the Middle Holocene through the Late Holocene Periods. This is generally the time period that is broken up into Early, Middle, and Late Periods in the cultural chronologies (Lillard, Heizer, and Fenenga 1939; Beardsley 1954; Ragir 1972; Fredrickson 1973, 1974).

Distinctive lowland and upland adaptive patterns emerge after around 4,500 cal BP. These are characterized by atlatl points that on average are smaller and lighter than the Paleo-Indian forms. Groundstone is also found at these sites in the form of handstones and milling slabs indicating that the processing of small seeds is important enough for use of specialized tools. Mortars and pestles for the processing of large nuts, most especially acorns begin to emerge with the development of acorn focused economies. Fishing is also important as seen in bone and shell fish hooks, net sinkers, and harpoons. Territorial areas shrink and settlements become increasingly sedentary. Trade alliances with neighboring groups become important as mobility patterns decreased.

After 3,500 cal BP, sites with sophisticated material culture and westward oriented, extended burials—referred to as the Windmiller Pattern—appeared within the Central Valley. These include burials within formal cemeteries, often in mounds and regularly accompanied by grave associated goods. This period is not well represented in the project area. Olsen and Payen (1969) refer to this period as the Positas Complex, but it is not a well-developed pattern based primarily on a component from one site.

Positas Complex (ca. 5,300–4,600 BP)

This cultural manifestation represents the earliest period for which archaeological evidence has been noted in the project area. In general, little is known of this period, and its relationship to earlier and later manifestations is somewhat unclear (Olsen and Payen 1969). However, by this time, early Native Americans appear to have adopted a more settled lifeway and the lower cultural deposits from CA-Mer-94 on the San Luis Creek suggest that extensive trade networks had already been established by this time. Obsidian from distant sources and spire-lopped *Olivella* beads from the coast are found at sites dating to this period. Other artifacts characteristic of this period include small shaped mortars, short cylindrical pestles, milling stones, and a wide range of flaked stone tools.

Pacheco Complex (ca. 4,600 BP–1,700 BP)

This period, best represented by a component at CA-Mer-94 (Olsen and Payen 1969), has been divided into two phases based primarily on tool and shell bead forms. Pacheco B (before about 3,600 BP) and Pacheco A occurring after ca. 3,600 BP. Pacheco B is characterized by leaf-shaped bifaces, rectangular *Haliotis* (abalone shell) ornaments, and thick rectangular *Olivella* beads. Pacheco A, occurring after ca. 3,600 BP, includes a much wider variety of *Olivella* and *Haliotis* bead and ornament forms, perforated canine teeth, bone tools and whistles, and large stemmed and side-notched points. Abundant milling stones, mortars, and pestles indicate an increased reliance on gathered seed and nut foods. Evidence for trade also increases during this time, with the bone and shell industries bearing marked similarities with those noted in the Delta "Middle Horizon" and traits from western and southern assemblages (Moratto 1984:192; Olsen and Payen 1969).

Gonzaga Complex (ca. 1,700–1,000 BP)

Noted from several sites (CA-Mer-3, CA-MER-14, and CA-Mer-94), this cultural manifestation has been noted throughout the west side of the valley (Moratto 1984:192). Distinctive features include a mix of extended and flexed human burials, bowl mortars, and shaped pestles, squared and tapered-stem projectile points, a modicum of bone awls (indicative of coiled basketry), grass saws, distinctive *Haliotis* ornaments and thin rectangular, split-punched, and oval *Olivella* beads. Bone and shell artifacts closely resemble those from the Delta "Late Horizon," Phase I (Moratto 1984:192; Olsen and Payen 1969).

Panoche Complex (ca. 500–150 BP)

Olsen and Payen (1969) posited a 500 year period of abandonment of the area, and then resettlement. It has been speculated that the abandonment was in response to a climatic or environmental shift; however, in several cases, proposed periods of abandonment later proved to be a shift in settlement practices. Settlement shifts may be made in response to either environmental or social factors.

The late prehistoric to early historic Panoche complex, similar to the "Late Horizon" Phase II of the Bay/Delta region, has been documented at a number of sites in western San Joaquin Valley (Breschini et al. 1983:79). Large circular structures occur frequently, along with flexed burials and primary and secondary cremations, few milling stones, varied mortars and pestles, bone awls, saws, whistles, tubes, small side-notched arrow points, clamshell disk beads, *Haliotis* epidermis disk beads, and *Olivella* lipped, side ground, and rough disc beads(Moratto 1984; Olsen and Payen 1968, 1969).

Although some proto-historic and early historic materials have been excavated in area sites, much of the Diablo Range was abandoned by Native Americans as many were either captured to work at the Spanish Mission San Juan Bautista, died fighting the Spanish, or fled to the east (Latta 1949; Olsen and Payen 1968). With the Spanish Mission on the west side of the hills and the El Camino Viejo on the east, the project area was under heavy Spanish influence, making it an undesirable place to live for local Native Americans.

Ethnographic Setting

The project area lies within territory assigned to the Nopchinchi subdivision of the Northern Valley Yokuts (Wallace 1978). Latta (1949) describes the territorial limits of the Orestimba Indians from south of Del Puerto Creek to the ridge between the Orestimba Creek and Garzas Creek basins. He specifically mentions "Salada Granda" and "Saladitia" as belonging in this territory. Unfortunately, the Yokut name of this tribe has been lost to history. Elsewhere in their range, the Yokuts are well recorded (Gayton 1948; Latta 1949), but due to a sequence of historic era transformations including the introduction of diseases, missionization, and the Gold Rush, this region of California remains little understood. The Northern Valley Yokuts territory ranged from Bear Creek in the north to Fresno in the south. In the east, their boundary extended to the foothills of the Sierra Nevada, and to the crest of the Diablo Range in the west (Wallace 1978). The Nopchinchi subdivision lies largely on the west side of the San Joaquin River.

It is thought that the Northern Valley Yokuts' political organization was built upon tribelets consisting of approximately 300 individuals led by a headman. Northern Valley Yokuts subsistence was more dependent on acorn and salmon than the Yokuts to the south (Wallace 1978) as those resources were more abundant in the north. The Yokuts greatly relied upon fishing, given their close proximity to the San Joaquin River. Salmon, sturgeon, perch, western suckers, and Sacramento pike were some of the sought after species. It is presumed that they also took advantage of the abundant water fowl and possibly larger game such as antelope and elk; however, there is no indication in the written record that these resources were utilized. In addition, plant resources such as acorns, tule roots, and seeds were eaten (Wallace 1978).

Material culture is known primarily from archaeological contexts. Structures consisted of small round or oval (25 to 40 feet across), lightly built dwellings that were covered with woven tule mats. Archaeological remnants of these structures reveal hard packed dirt floors excavated to two feet below ground surface level. They appear to be single family dwellings. Besides the more common house structures, there were also sweathouses and ceremonial assembly chambers, both much larger and rarer than the average dwelling. Technology consisted of woven mats, basketry, nets, and cordage, stone pestles, handstones, milling slabs, bowl, hopper and bedrock mortars, as well as stone, bone, and antler tools of many kinds. Flaked stone tools were made from a variety of lithic types such as chert, jasper, chalcedony, and obsidian (Wallace 1978). Lithic material is in short supply in the valley and consisted mainly of sandstone and basalt formations on the western edge of the valley. Steatite, chert, and obsidian could be obtained through the east-west trade networks along with marine shell from Coastal tribes (Bethard and Basgall 2000). Steatite was fashioned into vessels, pipes, ear spools, and beads. Marine shell was fashioned into beads and ornaments.

Historic Background

Mission to Mexican Period

Kyle (1990) explains the Arroyo Salado Grande was named after a pioneer named Salty Smith who settled there in 1855. The Salado Creek was crossed by the El Camino Viejo, the Mission Period travel corridor which connected San Pedro (in Southern California) to San Antonio (now eastern Oakland). The El Camino Viejo was located along the interface of the east Diablo range foothills and the western rim of the Great Valley. The trail was linked along the way by watering holes which supported Native American settlements and later the Spanish Ranchos (Kyle 1990).

Expansion of missions ceased in the early 1820s when Mexico gained its independence from Spain. The Mexican government granted several large Ranchos along the western edge of the San Joaquin Valley to prominent citizens with the understanding they would help prevent the Indians from raiding the stock at the coastal missions. In 1844, the Mexican Rancho del Puerto was established; its northern boundary was El Puerto Creek. The Rancho, located to the east of the study area, was used for grazing. It is the closest known Rancho to the project area. The most substantial economic activity during the Mexican Period was the cattle ranching industry. The chief commercial products were hide and tallow which were exported from points along the California coast.

American Period

The American Period began with the end of the war between Mexico and the United States in 1848 and the start of the California gold rush. The hide and tallow trade ceased and some Rancheros began to supply beef to the growing Anglo population. Sheep ranching was also introduced into the area from New Mexico (Wee 1990) to provide food for the miners during the gold rush decade. By the early 1860's the sheep industry had begun to change from meat to wool production. Sheep Ranching continued into the early decades of the 20th century.

Henry Miller became the first American to own a substantial portion of land on the west side of the San Joaquin Valley. From the year 1863, the Miller and Lux company amassed land and by the 1890's, they owned 68 miles along the west side of the San Joaquin Valley from Firebaugh Ferry in Fresno County to Orestimba Creek in Stanislaus County (Kyle 1990). They owned vast herds and also began irrigating the land for agricultural uses. Today, the land is dominated by agricultural fields to the east of the California Aqueduct and to grazing in the foothills to the west.

California Aqueduct

By the mid-1950s, DWR identified the primary water issue in California as one of maldistribution. According to the DWR, too much water was wasted in northern California and too little rain fell in southern California (DWR 1957:10–11). Plans to rectify this began in earnest after World War II during a period when California experienced a population surge and dramatic development throughout much of the state. Local governments and water officials quickly realized that their water supplies could not meet the growing demand of their communities. Farmers were also draining regional groundwater basins to irrigate their crops (DWR 2011).

To rectify this issue, state engineer Arthur D. Edmonston published a proposal that suggested building a multipurpose dam, reservoir, and power plant on the Feather River; an aqueduct to transport water from the Sacramento-San Joaquin Delta to Santa Clara and Alameda Counties; and a second aqueduct to serve the San Joaquin Valley and southern California (DWR 2011).

Edmonston proposed the construction of a giant aqueduct fed by massive, custom-designed pumps that would force the water from the Delta southward, where it could be used to water the dry southern valley and the cities of southern California (DWR 1974:7). These planning efforts eventually came to fruition as the State Water Project (SWP). A key component of the SWP is the California Aqueduct, the primary delivery system of the SWP. It is the longest water conveyance feature of the SWP and its primary purpose is to transport water from the Delta to the San Joaquin Valley and Southern California. Branches of the aqueduct move water to the San Francisco Bay Area and Santa Barbara and San Luis Obispo counties. Construction on the California Aqueduct began in 1960 and the main line was completed in 1973 (Ambacher 2011).

Today, the SWP provides drinking water for 25 million people; irrigates approximately 750,000 acres of crops; and features 34 storage facilities, 20 pumping plants, four pumping-generating plants, five hydroelectric power plants, and 700 miles of open canals and pipelines.

Methods

California Historical Resources Information System: A records search for the APE was conducted on October 17, 2012 by the staff of the Central California Information Center of the California Historical Resources Information System (CHRIS) at California State University, Stanislaus (Attachment 1). An updated records search was conducted on November 26, 2014. The search encompassed a ¼-mile radius around the project area.

The Native American Heritage Commission (NAHC) was contacted on October 12, 2012. The NAHC provided a list of local Native American representatives who could be contacted regarding their possible knowledge of resources within the project area. Letters of inquiry were sent on November 14, 2012 to the Tule River Indian Tribe, Buena Vista Rancheria, California Valley Miwok Tribe, North Valley Yokuts Tribe, Southern Sierra Miwuk Nation, and the Tuolumne Band of Me-Wuk.

The McHenry Museum and Historical Society was also sent a letter of inquiry on October 12, 2012 soliciting information on any known historic-era resources within the project area. Ms. Burta Herger of the Patterson Township Historical Society was contacted by email and sent a formal letter of inquiry on December 6, 2012 after a Google search turned up a reference to a Salado Creek history article from one of their publications.

DWR Archaeologists, Wendy Pierce, Rebecca Gilbert, and Margaret Kress, of the Division of Environmental Services, conducted a field survey of the APE on January 23, 2013. They were accompanied by DWR Environmental Scientists Danika Tsao and Lesley Hamamoto. The APE was surveyed with pedestrian transects a maximum of fifteen meters apart. Visibility in the APE was moderate to poor. There were small areas of bare dirt and rodent back-dirt piles that were examined for artifacts, ecofacts, and anthropogenic soils.

Results

CHRIS Records Search

The CHRIS search indicated that no cultural resources have been formally recorded within the project area, but that the California Aqueduct, present in the APE, has been recorded in another part of Stanislaus County (P-50-001903). They also reported that no other cultural resources have been recorded within a ¼-mile radius of the project area.

The CHRIS search indicated that four previous cultural studies have been conducted within the project area and six additional studies have been conducted within a ¼-mile radius.

Additional Research

The entire 444-mile long main branch of the California Aqueduct (from Clifton Court Forebay to Lake Perris) has been evaluated and found to meet the criteria for listing in the National Register of Historic Places (NRHP) at a statewide level of significance under Criterion A as a representation of a comprehensively planned and publicly sanctioned water conveyance public works project that facilitated development throughout the state and under Criterion C for its complex design. Since the completion of the aqueduct is less than 45 years old, it has also been evaluated under Criterion Consideration G for properties less than 50 years of age. A copy of the site record for the California Aqueduct can be found in Attachment 2.

Native American Consultation

The NAHC conducted a search of the Sacred Lands File and reported that no Native American cultural resources are known to exist within the project area.

One response to the letters of inquiry sent on October 18, 2012 was received. On November 8, 2012, Ms. Silvia Burley, Chairperson of the California Valley Miwok Tribe, stated that the Tribe had no issues with the project, but noted that since ground disturbance will occur that the Tribe is concerned there could be artifacts or human remains found. She requested on behalf of the Tribe to be notified if any artifacts or human remains are discovered.

Follow-up emails or phone calls were placed to all of the knowledgeable individuals on March 20, 2013, for any additional questions or concerns they may have about the project. On March 21, 2013, Ms. Reba Fuller of the Tuolumne Band of Me-Wuk stated that the project area is not within their aboriginal territory and to contact Kathy Perez and that the Tuolumne Band did not have any concerns at this time.

Historical Society Consultation

An email response was received from Carol Scoles, Board President of the Patterson Township Historical Society on December 13, 2012. She stated that she saw no concerns in the project area or near the spoils locations and that they were not in proximity to any historic-era resources. No response was received from the McHenry Museum and Historical Society. Copies of the correspondence can be found in Attachment 4.

6.5.2 Discussion

a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

No Impact. DWR has applied the criteria of adverse effect to the proposed project and determined that there is no adverse effect to the California Aqueduct. The proposed maintenance activities are all designed to prolong the efficiency and function of the canal and associated features and are in compliance with the regular Operations and Maintenance work currently being implemented on the Aqueduct. The activities included here are consistent with the long term treatment and management of historic properties as outlined in 36 CFR § 68 and will not impact the resource. The activities proposed as part of this under-taking will not affect the qualities that make the Aqueduct eligible for the National Register under Criterion A or C, as all activities are envisioned to keep the Aqueduct operating as it historically did, to move and deliver water; and it will not change or alter the design, materials, or workmanship of the character defining features.

Based on this analysis, DWR finds the proposed project will have no adverse effect to historic properties pursuant to 36 CFR § 800.5(b).

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less than significant impact. DWR Archaeologists, Wendy Pierce, Rebecca Gilbert, and Margaret Kress, of the Division of Environmental Services, conducted a field survey of the APE on January 23, 2013. The APE was surveyed with pedestrian transects a maximum of fifteen meters apart. Visibility in the APE was moderate to poor. There were small areas of bare dirt and rodent back-dirt piles that were examined for artifacts, ecofacts, and anthropogenic soils. No new cultural resources were identified as a result of the January 23, 2013 survey within the project footprint.

Given the lack of identified prehistoric remains and geomorphic conditions that suggest a low potential for their presence, the APE appears to possess a low level of sensitivity for containing Native American sites, features, and artifacts. Nevertheless, it is possible that previously undiscovered or unknown cultural remains exist at the site and could be encountered or uncovered during project construction. However, with the incorporation of CM CUL-1 in the unlikely event that archaeological resources are discovered during project-related construction activities, this potential impact would be reduced to a less than significant level.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No Impact. Project-related earth-moving activities (i.e., grading) would take place in soils that were likely filled and compacted to form the existing dams and the existing unpaved roads. Any unique paleontological resources that may have been present in those fill materials would have been destroyed during the previous construction process. Therefore, the project would have no impact on unique paleontological resources or unique geologic features.

d) Disturb any human remains, including those interred outside of formal cemeteries?

Less than Significant. No evidence of human remains at the project site was found in documentary research, and it is extremely unlikely that buried human remains are present. Nevertheless, it is possible that presently unknown prehistoric burials exist, and could be uncovered during project construction. California law recognizes the need to protect interred human remains, particularly Native American burials and associated items of patrimony, from vandalism and inadvertent destruction. In light of the potential to uncover unknown or undocumented Native American burials, this impact would be potentially significant. Implementation of CM CUL-2 would reduce this impact to a less than significant level.

e) Cause a substantial adverse change in the significance of tribal cultural resources, defined as "sites, features, places, cultural landscapes, sacred places and objects with cultural value to a California Native American tribe" as described under Assembly Bill (AB) No. 52?

Less than Significant. Under Assembly Bill No. 52, project proponents must evaluate the project's potential to cause a significant impact on tribal cultural resources. Recognizing that

tribes may have expertise with regard to their tribal history and practices, AB 52 requires lead agencies to provide notice to tribes that are traditionally and culturally affiliated with the geographic area.

The CHRIS record search did not identify any formally recorded cultural resources within the project site or within ½ mile of the project site. The NAHC conducted a search of the Sacred Lands File and reported that no Native American cultural resources are known to exist within the project area.

Additionally, the Native American Heritage Commission provided a list of local Native American representatives who could be contacted regarding their possible knowledge of resources within the project area. Letters of inquiry regarding the proposed project were sent to the Tule River Indian Tribe, Buena Vista Rancheria, California Valley Miwok Tribe, North Valley Yokuts Tribe, Southern Sierra Miwuk Nation, and the Tuolumne Band of Me-Wuk on November 14, 2012.

Responses to inquiries were received from Ms. Silvia Burley, Chairperson of the California Valley Miwok Tribe and Ms. Reba Fuller of the Tuolumne Band of Me-Wuk, indicating that their respective tribes had no concerns regarding the project, aside from requesting notification if artifacts or human remains were found. As CM CUL-1 and CUL-2 have already been proposed to mitigate this potential impact, the proposed project will not cause a substantial adverse change in the significance of tribal resources, and impacts will be less than significant.

6.6 Geology and Soils

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. Geology and Soils. 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 California Geological Survey 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, as updated), 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?	☐	☐	☐	☒

6.6.1 Environmental Setting

The mapped soils in the project area are Vernalis Clay Loam on the west side of the project, and Elsalado Fine Sandy Loam on the east side, both of which are deep (80 inches to restrictive layer), well drained, non-saline, alluvial soils. The project is not located within an Alquist-Priolo Earthquake Fault Zone. The closest fault to the project area is the Ortigalita fault, which runs approximately 56 miles in a southeast direction from Orestimba Creek, through the San Luis Reservoir, and farther south (California Department of Conservation, 2010). The closest portion of the Ortigalita fault, which is known as the Cottonwood Arm Segment, is over 12 from the project site; however, numerous post-1969 earthquakes have been associated with the Ortigalita fault, the largest of which was a magnitude 3.7 earthquake which occurred just south of San Luis Reservoir in May 1981 (California Division of Mines and Geology Fault Evaluation Report-166, 1985).

6.6.2 Discussion

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 California Geological Survey Special Publication 42.)

No Impact. The project vicinity is not located within an Alquist-Priolo Earthquake Fault Zone (CA Geological Survey 2013), and none of the actions at the project site are promoting development of structures for human occupancy; therefore, project activities at this location would not expose people or structures to risk of loss, injury, or death due to rupture of a known earthquake fault.

ii) Strong seismic ground shaking?

Less than Significant Impact. The closest portion of the Ortigalita fault is located over 12 miles from the project site. Although there is a moderate level of earthquake hazard in this area (California Department of Conservation, 2010), project activities would not increase the potential for adverse effects to people or structures.

iii) Seismic-related ground failure, including liquefaction?

Less than Significant Impact. The project site is in an area that has not been mapped for seismic hazard zones; however, the soils in the project area, Vernalis Clay Loam and Elsalado Fine Sandy Loam, are both deep, well drained soils, and have not been identified as susceptible to liquefaction. The soil composition at the site coupled with distance from a recently active fault, make the risk of seismic-related ground failure, including liquefaction, unlikely.

iv) Landslides?

Less than Significant Impact. The project is located in an area mapped by the California Geological Survey to be of lowest landslide risk. High rock strength, which has been used as a measure of resistance to landslides, combined with low elevation slope, indicate that the area has a comparatively low potential for landslides. Additionally, project activities would not be likely to increase the landslide potential in the area nor increase the exposure of people or structures to the risk of landslide.

b) Result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact. Some project activities have the potential to cause substantial erosion; however, measures will be taken to reduce these effects. Access road surfacing such as aggregate base, which is included in the project description, will reduce the impact potential for soil erosion due to grading. Other soil disturbance, such as along the channel banks, will be rip rapped if erosion is found to be a concern, and spoil areas may utilize erosion control measures such as placement of straw wattles if needed. Additionally, this project has been calculated to have an erosivity R-factor of 1.6 using the Environmental Protection Agency's calculation methods (R-factor is a surrogate measure of the impact that impact that rainfall had on erosion from a particular site; EPA, 2012)), indicating that soil erosion is expected to be low, and thus is not likely to adversely affect water quality.

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?

No Impact. As discussed in section a, the project is located in an area that has not been designated as susceptible to landslide risk or liquefaction, and there are no known faults that pass through or are immediately adjacent to the project site. Additionally, the activities that are to be undertaken as part of this project would not increase the risk of these disasters occurring since no new structures will be constructed as a part of this project.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial risks to life or property?

No Impact. No new structures will be constructed as a part of this project, as its purpose is only to maintain the existing structure. Therefore, risks to life or property due to construction on expansive soils will not be elevated as a result of this project.

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?

No Impact. The proposed project would not require the use of septic tanks or alternative wastewater disposal systems; therefore, there would be no impact.

6.7 Greenhouse Gas Emissions

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. Greenhouse Gas Emissions. 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?	☐	☐	☒	☐

6.7.1 Environmental Setting

In May 2012, DWR adopted the DWR Climate Action Plan-Phase I: Greenhouse Gas Emissions Reduction Plan (GGERP), which details DWR's efforts to reduce its greenhouse gas (GHG) emissions consistent with Executive Order S-3-05 and the Global Warming Solutions Act of 2006 (Assembly Bill (AB) 32). DWR also adopted the Initial Study/Negative Declaration prepared for the GGERP in accordance with the CEQA Guidelines review and public process. Both the GGERP and Initial Study/Negative Declaration are incorporated herein by reference and are available at: http://www.water.ca.gov/climatechange/CAP.cfm. The GGERP provides estimates of historical (back to 1990), current, and future GHG emissions related to operations, construction, maintenance, and business practices (e.g. building-related energy use). The GGERP specifies aggressive 2020 and 2050 emission reduction goals and identifies a list of GHG emissions reduction measures to achieve these goals.

DWR specifically prepared its GGERP as a "Plan for the Reduction of Greenhouse Gas Emissions" for purposes of CEQA Guidelines section 15183.5. That section provides that such a document, which must meet certain specified requirements, "may be used in the cumulative impacts analysis of later projects." Because global climate change, by its very nature, is a global cumulative impact, an individual project's compliance with a qualifying GHG Reduction Plan may suffice to mitigate the project's incremental contribution to that cumulative impact to a level that is not "cumulatively considerable." (See CEQA Guidelines, § 15064, subd. (h)(3).)

More specifically, "[l]ater project-specific environmental documents may tier from and/or incorporate by reference" the "programmatic review" conducted for the GHG emissions reduction plan. "An environmental document that relies on a greenhouse gas reduction plan for a cumulative impacts analysis must identify those requirements specified in the plan that apply

to the project, and, if those requirements are not otherwise binding and enforceable, incorporate those requirements as mitigation measures applicable to the project." (CEQA Guidelines § 15183.5, subd. (b)(2).)

Section 12 of the GGERP outlines the steps that each DWR project will take to demonstrate consistency with the GGERP. These steps include: 1) analysis of GHG emissions from construction of the proposed project , 2) determination that the construction emissions from the project do not exceed the levels of construction emissions analyzed in the GGERP, 3) incorporation into the design of the project DWR's project level GHG emissions reduction strategies, 4) determination that the project does not conflict with DWR's ability to implement any of the "Specific Action" GHG emissions reduction measures identified in the GGERP, and 5) determination that the project would not add electricity demands to the State Water Project (SWP) system that could alter DWR's emissions reduction trajectory in such a way as to impede its ability to meet its emissions reduction goals.

Consistent with these requirements, a GGERP Consistency Determination Checklist is attached documenting that the project has met each of the required elements.

6.7.2 Discussion

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant Impact. Based on the analysis provided in the GGERP and the demonstration that the proposed project is consistent with the GGERP (as shown in the attached Consistency Determination Checklist), DWR as the lead agency has determined the proposed project's incremental contribution to the cumulative impact of increasing atmospheric levels of GHGs is less than cumulatively considerable and, therefore, *less than significant*.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less than Significant Impact. The State CEQA Guidelines require environmental analyses to evaluate both the level of GHG emissions associated with construction and operation of a project and the project's consistency with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

Assembly Bill (AB) 32 directed CARB to develop a Scoping Plan and identify a list of early action GHG reduction measures. CARB's Scoping Plan includes a comprehensive set of actions designed to reduce overall GHG emissions in California. The adopted Scoping Plan includes proposed GHG reductions from direct regulations, alternative compliance mechanisms, monetary and nonmonetary incentives, voluntary actions, and market-based mechanisms such as cap-and-trade systems. Emission reductions assumed as part of the Scoping Plan include light-duty vehicle GHG standards ("Pavley standards"), low carbon fuel standard, and energy

efficiency measures. The Scoping Plan did not directly create any regulatory requirements related to the proposed project.

CARB's Scoping Plan includes measures that would indirectly address GHG emissions levels associated with construction activity, including the phasing in of cleaner technology for diesel engine fleets (including construction equipment) and the development of a Low Carbon Fuel Standard. Policies formulated under the mandate of AB 32 that are applicable to construction-related activity, either directly or indirectly, are assumed to be implemented during construction of the proposed project if those policies and laws are developed before construction begins. Therefore, it is assumed that project construction would not conflict with the Scoping Plan.

In August 2008, the San Joaquin Valley Air Pollution Control District's Governing Board adopted the Climate Change Action Plan (CCAP). The CCAP directed the District Air Pollution Control Officer to develop guidance to assist Lead Agencies, project proponents, permit applicants, and interested parties in assessing and reducing the impacts of project specific greenhouse gas (GHG) emissions on global climate change.

On December 17, 2009, the San Joaquin Valley Air Pollution Control District (District) adopted the guidance: Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA and the policy: District Policy – Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency. The guidance and policy rely on the use of performance based standards, otherwise known as Best Performance Standards (BPS), to assess significance of project specific greenhouse gas emissions on global climate change during the environmental review process, as required by CEQA.

Use of BPS is a method of streamlining the CEQA process of determining significance and is not a required emission reduction measure. Projects implementing BPS would be determined to have a less than cumulatively significant impact. Otherwise, demonstration of a 29 percent reduction in GHG emissions, from business-as-usual, is required to determine that a project would have a less than cumulatively significant impact. The guidance does not limit a lead agency's authority in establishing its own process and guidance for determining significance of project related impacts on global climate change.

DWR has developed a "Climate Action Plan Phase 1: Greenhouse Gas Emissions Reduction Plan" (GGERP) to guide its efforts in reducing GHG emissions (DWR 2012b). The GHG emissions reduction measures proposed in the Plan were developed for the purpose of reducing emissions of GHGs in California as directed by Executive Order (EO) S-3-05 and AB 32. DWR has established the following GHG Emissions Reduction Goals:

Reduce GHG emissions from DWR activities by 50% below 1990 levels by 2020; and

Reduce GHG emissions from DWR activities by 80% below 1990 levels by 2050.

Pre-construction and Final Design BMPs from the GGERP are designed to ensure that individual projects are evaluated and their unique characteristics taken into consideration when determining if specific equipment, procedures, or material requirements are feasible and efficacious for reducing GHG emissions from the project. The proposed project would implement the Pre-construction and Final Design BMPs listed below.

The following measures are considered best management practices (BMPs) for DWR construction and maintenance activities. Implementation of these practices will reduce greenhouse gas (GHG) emissions from construction projects by minimizing fuel usage by construction equipment, reducing fuel consumption for transportation of construction materials, reducing the amount of landfill material, and reducing emissions from the production of cement.

Pre-Construction and Final Design BMPs

Pre-construction and Final Design BMPs are designed to ensure that individual projects are evaluated and their unique characteristics taken into consideration when determining if specific equipment, procedures, or material requirements are feasible and efficacious for reducing GHG emissions from the project. While all projects will be evaluated to determine if these BMPs are applicable, not all projects will implement all the BMPs listed below.

BMP 1. Evaluate project characteristics, including location, project work flow, site conditions, and equipment performance requirements, to determine whether specifications of the use of equipment with repowered engines, electric drive trains, or other high efficiency technologies are appropriate and feasible for the project or specific elements of the project.

BMP 2. Evaluate the feasibility and efficacy of performing on-site material hauling with trucks equipped with on-road engines.

BMP 3. Ensure that all feasible avenues have been explored for providing an electrical service drop to the construction site for temporary construction power. When generators must be used, use alternative fuels, such as propane or solar, to power generators to the maximum extent feasible.

BMP 4. Evaluate the feasibility and efficacy of producing concrete on-site and specify that batch plants be set up on-site or as close to the site as possible.

BMP 5. Evaluate the performance requirements for concrete used on the project and specify concrete mix designs that minimize GHG emissions from cement production and curing while preserving all required performance characteristics.

BMP 6. Limit deliveries of materials and equipment to the site to off peak traffic congestion hours.

Construction BMPs

Construction BMPs apply to all construction and maintenance projects that DWR completes or for which DWR issues contracts. All projects are expected to implement all Construction BMPs unless a variance is granted by the Division of Engineering Chief, Division of Operation and Maintenance Chief, or Division of Flood Management Chief (as applicable) and the variance is approved by the DWR CEQA Climate Change Committee. Variances will be granted when specific project conditions or characteristics make implementation of the BMP infeasible and where omitting the BMP will not be detrimental to the project's consistency with the Greenhouse Gas Emissions Reduction Plan.

BMP 7. Minimize idling time by requiring that equipment be shut down after five minutes when not in use (as required by the State airborne toxics control measure Cal. Code of Regs., tit. 13, §2485). Provide clear signage that posts this requirement for workers at the entrances to the site and provide a plan for the enforcement of this requirement.

BMP 8. Maintain all construction equipment in proper working condition and perform all preventative maintenance. Required maintenance includes compliance with all manufacturer's recommendations, proper upkeep and replacement of filters and mufflers, and maintenance of all engine and emissions systems in proper operating condition. Maintenance schedules shall be detailed in an Air Quality Control Plan prior to commencement of construction.

BMP 9. Implement a tire inflation program on the jobsite to ensure that equipment tires are correctly inflated. Check tire inflation when equipment arrives on-site and every two weeks for equipment that remains on-site. Check vehicles used for hauling materials off-site weekly for correct tire inflation. Procedures for the tire inflation program shall be documented in an Air Quality Management Plan prior to commencement of construction.

BMP 10. Develop a project specific ride share program to encourage carpools, shuttle vans, transit passes and/or secure bicycle parking for construction worker commutes.

BMP 11. Reduce electricity use in temporary construction offices by using high efficiency lighting and requiring that heating and cooling units be Energy Star compliant. Require that all contractors develop and implement procedures for turning off computers, lights, air conditioners, heaters, and other equipment each day at close of business.

BMP 12. For deliveries to project sites where the haul distance exceeds 100 miles and a heavy-duty class 7 or class 8 semi-truck or 53-foot or longer box type trailer is used for hauling, a SmartWay2 certified truck will be used to the maximum extent feasible.

The proposed project will have a less than significant impact because it conflicts with some the BMPs of the GGERP. All feasible Project Level GHG Emissions Reduction Measures have been incorporated into the design or implementation plan for the project and Measures not incorporated have been listed and determined not to apply to the proposed project (see Consistency Determination form).

6.8 Hazards and Hazardous Materials

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. Hazards and Hazardous Materials. 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/or 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?	☐	☐	☒	☐

6.8.1 Environmental Setting

The Salado Creek Channel Maintenance Project will require the use of minor amounts of hazardous materials, typically in the form of fuel and lubricants for construction equipment. Transportation and use of these materials in small amounts is within the normal range of exposure in a rural agricultural setting.

Waters which collect at the site pass through residential and agricultural districts upstream. Therefore, there is an elevated risk for soil contamination by Title 22 metals, pesticides, and hydrocarbons. Testing for these hazardous materials will be conducted prior to excavation and re-deposition of soil material from the channel to the spoil areas.

6.8.2 Discussion

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less than Significant Impact. Construction of the proposed project will not require extensive or on-going use of acutely hazardous materials or substances. Project activities would involve limited transport, storage, use, or disposal of hazardous materials. Some examples of hazardous materials handling include fueling and servicing construction equipment on-site, and the transport of fuels, lubricating fluids, and solvents. These types of materials, however, are not acutely hazardous, and all storage, handling, and disposal of these materials are regulated by the California Department of Toxic Substances Control (DTSC), U.S. Environmental Protection Agency, California Environmental Protection Agency, and the Occupational Safety & Health Administration.

All hazardous materials would be stored and used in accordance with applicable federal, state, and local regulations. In addition, proper spill management, including response plans and spill kits, would be implemented and maintained onsite, as is currently required by DWR. The project will not generate new sources of hazardous materials. Accordingly, impacts related to the routine use of hazardous materials would be *less than significant*.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?

Less than Significant Impact. As described above, DWR will follow standard procedures for handling hazardous materials, including implementing spill management and response plans, and precautions will be taken to prevent conditions which would potentially release hazardous materials such as fuels, lubricating fluids and solvents into the environment, such as checking equipment for leaks prior to use and fueling in upland areas away from water sources.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. The nearest school to the project area is Mi Casa's Dual Language Preschool in Patterson, CA over 2.5 miles north of the proposed project site; therefore, there will be no hazardous emissions or handling of hazardous or acutely hazardous materials, substances, or wastes 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 §65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact. The Hazardous Waste and Substances Sites List (Cortese List) is compiled by the California Department of Toxic Substances Control (DTSC) in accordance with California Government Code Section 65962.5. A search of the Cortese List for sites with reported hazardous material spills, leaks, ongoing investigations, and/or remediations near the project site was performed using the DTSC online EnviroStor (DTSC 2014) and the SWRCB GeoTracker databases. GeoTracker identified the nearest hazardous material listing approximately 150 feet south of the project site, at the Tosco-Patterson Pumping Station. The clean-up status of this site is listed as open, but inactive as of March, 2, 1999 and no potential contaminants are listed. The next closest record is a location along the Shell Oil Pipeline, approximately 1 mile west of the project site, where a crude oil leak occurred in October of 2005 and remediation including recovery of approximately 905 barrels of crude oil via vacuum truck and excavation of an unknown volume of contaminated soil was undertaken. Clean-up was completed approximately one month following the incident, and the case was closed on February 21, 2006. Neither of these cases is located within the project footprint and proposed project activities will not impact either of these sites.

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?

No Impact. The project site is not located within two miles of a public airport. The Modesto City-County Airport is the nearest public airport and is more than 17 miles east of the project site. The Patterson Airport is the closest private airstrip and is located approximately 3 miles to the north. The NASA Crows Landing Airport is less than two miles from the project site, but as of January 2011, this airport has been permanently closed. The proposed project will not result in safety hazards related to airports due to the nature of the proposed work, as well as the distance of the project from any airport facilities.

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?

No Impact. As noted in item (e) above, the closest airport to the proposed project would be the Patterson Airport. Project activities are small in scope and footprint and hazards to people working in the project area are not increased by the presence of the airport.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. During the project period, emergency response routes and plans would not be impacted by construction activities at the project site. The proposed project would not require any road or land closures during maintenance procedures and activities will be located on DWR owned land with restricted access.

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?

Less than Significant Impact. The project site is located within a moderate fire hazard zone as mapped by Cal Fire (2008). Dry vegetation at the site poses a potential fire hazard if it were to be inadvertently ignited by vehicles; however, site preparation measures including grading of access roads and staging areas will significantly reduce the risk of fire during project activities by removing potential fire fuel from areas that will be traversed by vehicles and equipment. With these measures in place, the project should not increase the risk of loss, injury or death due to wildland fire.

6.10 Hydrology and Water Quality

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. Hydrology and Water Quality. 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 that 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 on- or off-site erosion or siltation?	☐	☐	☒	☐
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 on- or off-site flooding?	☐	☐	☒	☐
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 that would impede or redirect flood flows?	☐	☐	☐	☒

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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) Result in inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

6.10.1 Environmental Setting

The Salado Creek overchute is intended to convey Salado Creek waters over the California Aqueduct, maintaining Salado Creek's flow from the hills on the west side of the California Aqueduct eastward through densely cultivated and developed lands to its eventual connection with the San Joaquin River.

The proposed project seeks to restore and maintain the overchute structure to ensure that water in Salado Creek is not impounded against the structure, which could threaten the integrity of the California Aqueduct embankment.

6.10.2 Discussion

a) Violate any water quality standards or waste discharge requirements?

Less than Significant Impact. This project is likely to result in localized, short-term impacts to water quality. Sediment removal activities could possibly cause siltation in the immediate work area; however, by working during the summer months when flow is lowest, and by incorporating erosion control measures and coffer dams if there is flowing water within the creek, effects are expected to be temporary and localized. Additionally, DWR will adhere to the requirements MM BIO-9 and BIO-10 which include adhering to water quality protection measures that will be outlined in the 401 Water Quality Certification issued by the RWQCB, and Streambed Alteration Agreement issued by CDFW. Therefore, impacts related to water quality during the proposed activities would be less than significant.

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 that would not support existing land uses or planned uses for which permits have been granted)?

Less than Significant Impact. Work within the creek channel is intended to restore the as-built condition and therefore will not result in significantly altered drainage patterns. The proposed project would result in grading and compaction of access roads that have not been utilized in many years; however, these roads will be minimal in extent, covered with a porous material

(aggregate base) which should prevent against excessive runoff, and will be located adjacent to the drainage. Impacts would be minor and should not interfere with groundwater recharge.

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 on- or off-site erosion or siltation?

Less than Significant Impact. The project would not significantly increase drainage flow or substantially alter the existing drainage patterns in the area, as the course of the existing channel will not be altered. Erosion control methods such as placement of rip rap revetment along disturbed banks of the channel and placement of aggregate base on newly graded roadways will reduce erosion and siltation at the project site. Additionally spoil areas will utilize erosion control measures such as placement of straw wattles if there is potential for erosion of newly deposited soil materials into a waterway.

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 on- or off-site flooding?

Less than Significant Impact. As discussed in c) above, the project would not be expected to alter existing drainage patterns or increase runoff. Thus, this project would not contribute to an increase in on-site or off-site flooding.

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?

Less than Significant Impact. As discussed in c) and d) above, runoff volume from the project site will not be significantly increased. There is a slight potential for a release of pollutants into adjacent waters from equipment used during channel maintenance; however, measures such as refraining from fuelling near water sources and checking equipment for leaks prior to use will be implemented to reduce the chances of this occurring. Spoil areas will utilize erosion control measures if there is potential for erosion of newly deposited soil materials into a waterway or drainage system. Overall, the project is not likely to create additional sources of polluted runoff, nor will there be any additional structures or facilities that could increase the rate runoff, and the purpose of the project is to restore the conveyance capacity of the overchute back to standard specifications.

f) Otherwise substantially degrade water quality?

Less than Significant Impact. As discussed in a), c), and e) above, the proposed project would not substantially degrade water quality and this impact will be less than significant.

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?

No Impact. The proposed project would not provide new housing. Because the proposed project would not include the addition of any housing, nor is it located within a 100-year flood hazard area, there would be no impact.

h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?

Less than Significant Impact. The eastern portion of the Salado Creek overchute is located within a 100 year flood hazard zone; however, the proposed project would not place any structures that would impede or redirect flood flows, and is instead intended to restore adequate passage of creek flows through the structure.

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?

Less than Significant Impact. Although creeks in Stanislaus County, including Salado Creek, are known to flood, the proposed project will reduce the risk of localized flooding by preventing impoundment of Salado Creek waters against the Aqueduct embankment. Additionally, by ensuring adequate passage of creek flows through the overchute, the project will decrease the potential for a catastrophic failure in the Aqueduct that could result from water impoundment that may saturate and destabilize the embankment. In this way, the project will reduce the risk of flooding and potential for dam failure.

j) Result in inundation by seiche, tsunami, or mudflow?

No Impact. The proposed project is not located in an area likely to be inundated by seiche or tsunami due to its inland position between the foothills of the Diablo Range and the Sierra Nevadas. Additionally, work will be conducted in a low-lying area between elevated landforms; therefore, mudflow as a result of this project is similarly unlikely.

6.11 Land Use and Planning

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. Land Use and Planning. 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, a 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?	☐	☐	☐	☒

6.11.1 Environmental Setting

The project area is located in lands zoned for General Agriculture (A-2-40), as mapped in the Stanislaus County General Plan (1994). As such, the minimum parcel size in this zone is 40 acres, except for parcels created for or used for public utility or communication purposes. Parcels may contain one single-family dwelling per 20 acres.

6.11.2 Discussion

a) Physically divide an established community?

No Impact. The proposed project would not alter the existing use of the site and does not divide an established community. There would be no impact.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Less than Significant Impact. Per the Stanislaus County Code, district regulations for the A-2 zoning designation are intended to protect open space lands and to "ensure that all land uses are compatible with agriculture and open space, including natural resources management, outdoor recreation and enjoyment of scenic beauty." Maintenance of the existing overchute structure would not conflict with these goals and any adverse environmental impacts resulting from the project will be mitigated to less than significant levels.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

No Impact. The proposed project area is not covered by an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional or state habitat conservation plan. A multi-species HCP/NCCP for Western Stanislaus County has been proposed, and the project location is within the proposed boundaries of the plan, but consistency with a plan that is not yet approved cannot be considered under CEQA. Therefore, the project will not conflict with the provisions of an adopted HCP/NCCP or other conservation plan, and there would be no impact.

6.12 Mineral Resources

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. Mineral Resources. 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?	☐	☐	☐	☒

6.12.1 Environmental Setting

According to the Stanislaus County General Plan, which relies on the State Division of Mines and Geology report, *Mineral Land Classification of Stanislaus County, California* (Special Report 173), Stanislaus County is not prolific in its extractive resources. Aggregate materials, including sand and gravel deposits, presently constitute the only significant extractive resource from a commercial standpoint. Minerals found within Stanislaus County include bemenite, braunite, chromite, cinnabar, garnet, gypsum, hausmannite, hydromagnesite, inesite, magnesite, psilomelane, pyrobrsite, and rhodochrosite. However, present economic conditions make commercial extraction of these minerals difficult or impossible.

The Stanislaus County General Plan includes maps of aggregate resource areas in Stanislaus County. The closest aggregate resource area is located south of the Patterson Quad boundary.

6.12.2 Discussion

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?

No Impact. No known mineral resources, mineral resource recovery sites, or aggregate resource areas are located on the project sites. The project area has not been designated in the County General Plan as an area of known mineral resources. Additionally, the actions included in the proposed project would not result in the loss of availability of mineral resources if they were later discovered to be present at the site.

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?

No Impact. There are no mineral recovery sites within or near the project area identified in the Stanislaus County General Plan. Additionally, the actions included in the proposed project would not result in the loss of availability of mineral resources if they were later discovered to be present at the site.

6.13 Noise

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. Noise. 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 in other applicable local, state, or federal standards?	☐	☐	☒	☐
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?	☐	☐	☐	☒

6.13.1 Environmental Setting

Existing human-created noise sources in the project area include interstate highway traffic and agricultural operations.

The Stanislaus County Noise Control Ordinance (Ordinance No. C.S. 1070) was enacted in 2010 to “control unnecessary, excessive, and annoying noise in the county” by placing restrictions on certain noise sources, such as audio equipment, construction equipment, and power tools. However, exemptions are provided in certain circumstances, including “construction or maintenance activities performed by or at the direction of any public entity or public utility.”

6.13.2 Discussion

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?

Less than Significant Impact. Noise levels created by the proposed project would fluctuate depending on the particular type, number, and duration of usage of the varying equipment. The effects of noise largely depend on the type of maintenance activities occurring on any given day, noise levels generated by those activities, distances to noise-sensitive receptors, and the existing ambient noise environment near the receptor. On-site maintenance equipment used during site preparation would include excavators, dozers, backhoes, and trucks.

Noise from localized point sources (such as construction sites) typically decreases with distance from source to receptor. The nearest residential receptor is approximately 0.3 miles south of the project site. The softer, pervious ground, such as the agricultural fields, that exist between the proposed project and the nearest residential receptor act to reduce sound. Due to the terrain and the distance to the nearest residence, this impact would be less than significant.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less than Significant Impact. Construction activities in the project area may result in varying degrees of temporary ground vibration, depending on the specific construction equipment used and operations involved.

Groundborne noise impacts occur due to the vibration of structures. Due to the distance from the nearest residence (0.3 miles) and the minor nature of the project, groundborne noise impacts would be less than significant.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

No Impact. Elevated noise would cease at the end of the project activity and would not result in a permanent increase in ambient noise levels in the project area.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Less than Significant Impact. Temporary increases in noise levels due to the project are associated with the use of heavy equipment and power tools. Noise levels produced by these sources would be similar to those created by agricultural practices in the area; therefore temporary or periodic increases in noise levels will be less than significant.

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?

No Impact. The project site is not located within two miles of a public airport. The Modesto City-County Airport is the nearest public airport and is more than 17 miles east of the project site. The Patterson Airport is the closest private airstrip and is located approximately three miles to the north. The NASA Crows Landing Airport is just less than two miles from the project site, but as of January 2011, this airport has been permanently closed. Therefore, air traffic noise over the project site would be minimal and will not expose people working in the project area to excessive noise.

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?

No Impact. As noted in item (e) above, the closest airport to the proposed project would be the Patterson Airport, which is located approximately three miles from the project site. This private airstrip services up to 10 single engine aircraft, one multiengine aircraft, and one helicopter. Due to the airstrip's distance from the project site, limited use of the privately owned airstrip, and short term duration of human presence at the project site; the proposed project will not expose people working in the project area to excessive noise levels.

6.14 Population and Housing

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. Population and Housing. 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 homes, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

6.14.1 Environmental Setting

The project site is located on DWR-owned property in an area zoned for General Agriculture with limited rural residences (one single family dwelling per 20 acres). The project site is surrounded by the California Aqueduct, Interstate 5, and agricultural open space.

6.14.2 Discussion

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)?

No Impact. The proposed project includes maintenance work to restore as-built conditions at the Salado Creek overchute in order to maintain the integrity of the California Aqueduct. The proposed maintenance work for the project will not increase or extend the established infrastructure, except to upgrade access to the site. Additionally, development of additional housing in the area is restricted by current zoning regulations. Accordingly, the proposed project would not induce population growth in the area, and there would be no impact.

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

No Impact. The proposed project would not displace any existing housing. Therefore, the proposed project would not result in impacts to housing nor necessitate the construction of replacement housing. No impact would occur.

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

No Impact. The proposed project would not displace any people or result in the need for replacement housing. No impact would occur.

6.15 Public Services

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. Public Services. Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the 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?	☐	☐	☒	☐

6.15.1 Environmental Setting

The proposed project is located on DWR-owned property adjacent to the California Aqueduct which is restricted from public access. Access to the site is achieved by a combination of public and private access roads. The project is located in an unincorporated area of Stanislaus County and therefore emergency and public services are generally overseen by County agencies.

Although the closest fire station is the Patterson Cal Fire station at 2142 Sperry Avenue, about 2.5 miles north of the site, most of the lands east of Interstate 5, including the project area, are designated as part of the Local Responsibility Area rather than the State Responsibility Area which is serviced by Cal Fire. The West Stanislaus County Fire Protection District provides fire protection and emergency medical services to unincorporated areas outside the Patterson city limits. The closest fire station within this district is located at 344 West Las Palmas Avenue in Patterson, approximately 3.2 miles from the project site.

The Stanislaus County Sheriff's Department has principal law enforcement jurisdiction in all unincorporated areas of Stanislaus County. The Sheriff provides law enforcement services to a population of over 200,000 covering an area of approximately 1,521 square miles. The Sheriff

also provides the full spectrum of law enforcement services to four contract cities, which are Patterson, Riverbank, Hughson and Waterford.

The area around the project site is rural, with few residences and no schools in the immediate vicinity. Many schools are located in Patterson, the closest of which is Mi Casa's Dual Language Preschool, approximately 2.6 miles north of the project site.

As the area surrounding the project site is zoned for agricultural use, there are no public parks in the immediate vicinity.

The California Aqueduct provides recreational opportunities in the immediate area of the project site. Approximately 65 miles of the paved maintenance road on the east side of the Aqueduct is open to public pedestrian and bicycle access for fishing and cycling from Bethany Reservoir in the north to O'Neill Forebay in the south.

6.15.2 Discussion

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the 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?

No Impact. The maintenance activities in the proposed project would not require additional fire protection facilities or services, and emergency access to the site would be maintained during project activities and response times would not be impacted. Therefore, no impacts related to fire protection services would occur as a result of the proposed project.

Police protection?

No Impact. The maintenance activities in the proposed project would not require additional law enforcement facilities or services, and emergency access to the site would be maintained during project activities and response times would not be impacted. Therefore, no impacts related to police protection services would occur as a result of the proposed project.

Schools?

No Impact. The proposed project would include routine maintenance activities around the Salado Creek overchute and would not promote additional housing or provide additional employment opportunities. Therefore, the proposed project would not generate new students or increase the demand on local school systems, and no impact to school services would occur.

Parks?

No Impact. Due to the areas agricultural zoning, no public parks are located within a distance that is predicted to be impacted by the proposed activity.

Other public facilities?

Less than Significant Impact. Although the California Aqueduct provides recreational opportunities such as fishing and bicycling, the project activities will not preclude access from the resource, and impacts will be minimal. Project impacts will be limited to a temporary increase in traffic along the access road, and increased noise due to heavy equipment operation. However, these activities are within the normal level of disturbance in this area.

6.16 Recreation

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. Recreation. Would the project:				
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?	☐	☐	☐	☒
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒

6.16.1 Environmental Setting

The California Aqueduct provides recreational opportunities in the immediate area of the project site. Approximately 65 miles of the paved maintenance road on the east side of the Aqueduct is open to public pedestrian and bicycle access for fishing and cycling from Bethany Reservoir in the north to O'Neill Forebay in the south.

Trail access and parking are provided at numerous points along the trail, but there are few amenities and the trail is not developed as a recreational destination in the way that some of the reservoirs are.

6.16.2 Discussion

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?

No Impact. The proposed project is for maintenance activities on DWR property with restricted-access and will not affect the use of any of the existing recreational facilities in the vicinity.

b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

No Impact. As discussed above, the proposed project is for maintenance activities on DWR property with restricted-access and will not promote or require additional recreational facilities.

6.17 Transportation/Traffic

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. Transportation/Traffic. 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?	☐	☐	☐	☒

6.17.1 Environmental Setting

The project site is accessible from the service roads that flank the California Aqueduct. These roads are closed to the public, but are accessible to pedestrians and bicyclists. Oak Flat Road is the closest public vehicle access to the site, and is the closest freeway exit from Interstate 5.

6.17.2 Discussion

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?

No Impact. The proposed project would be accessed primarily by restricted-use access roads. Travel on public roads and freeways will be minimal and insignificant in relation to the baseline use of these roads. Public transit does not exist in the immediate vicinity of the project site, and will not be impacted by the project. While bicycle and pedestrian facilities exist in the immediate vicinity of the project site, the proposed project would not affect public use of any of these facilities. Worker commute trips would be minor during the project period, truck trips would be spread throughout the workday, and no road closures or obstructions to standard roadway flow (including bicyclists and pedestrians) would be part of the proposed project. Therefore, no adverse impact would occur on the circulation system in the project vicinity.

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?

No Impact. As noted in item (a) above, the proposed project would not adversely impact any publicly accessible local or regional roads in the project vicinity. Heavy equipment would be stored between days within the staging areas and would be hauled in and out before and after the project components are completed. Haul truck trips would be required to dispose of the removed vegetation and sediment. These trips would be staggered throughout the day during non-peak hours and would not adversely impact the surrounding circulation system.

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?

No Impact. The proposed project would not result in a change in air traffic patterns or result in any air safety risks. The proposed project would not include any aircrafts or develop any structures that would interfere with air traffic in the vicinity of the project. There would be no impact.

d**) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**

No Impact. The proposed project would not include any change to roadway design or incompatible uses in the project vicinity. The proposed project will improve access and create turnarounds for equipment on private access roads to maintain the overchute structure, but these would not be accessible to the public and do not create hazards due to their design. The proposed project is intended to properly maintain the overchute structure to ensure proper and safe operation. There would be no impact.

e) Result in inadequate emergency access?

No Impact. The proposed project would not include any road or lane closures on public or private roadways. Emergency access to the site as it currently exists (through locked gates) would be maintained at all times.

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?

No Impact. As noted in item (a) above, public transit does not exist in the immediate vicinity of the project site, but bicycle and pedestrian facilities do. Public access to the California Aqueduct bikeway and fishing access by pedestrians and bicyclists would not be impacted by the project. Thus, the proposed project would not conflict with any adopted policies, plans, or programs for public transit, bicycle, and pedestrian facilities, and there would be no impact.

6.18 Utilities and Service Systems

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. Utilities and Service Systems. 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 that 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?	☐	☐	☐	☒

6.18.1 Environmental Setting

The project site is located within a natural creek drainage and does not currently generate wastewater or require the use of a wastewater or water treatment facility. Tree waste generated by the proposed project will be recycled by an existing greenwaste facility.

6.18.2 Discussion

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

No Impact. The proposed project would not create additional sources of wastewater. Therefore, no impact to wastewater treatment requirements of the Regional Water Quality Control Board would occur.

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?

No Impact. Water and wastewater services are not currently provided at the project site, and maintenance activities would not create a need for new water or wastewater treatment facilities; therefore, no impacts would occur.

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?

No Impact. No storm water drainage facilities are currently present at the site. None of the activities in the proposed project, including grading of new access roads which will be paved with water permeable substrates are expected to create additional runoff. Activities at the site would not contribute substantial additional sources of polluted runoff during the maintenance activities. Because there is no increase in runoff and the potential for the release of pollutants is minor, no new storm water drainage facilities would be required. There would be no impact to storm water drainage facilities.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

No Impact. Permanent water supplies will not be needed at the project site, and the project will not require new or expanded entitlements; therefore, no impacts would occur.

e) Result in a determination by the wastewater treatment provider that 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?

No Impact. As noted in (a) above, the proposed project would not generate wastewater. There would be no impact.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Less than Significant Impact. The vegetation removed from the project site will be chipped and deposited in upland areas of the project site or transported via dump truck to a nearby green waste facility. Sediment spoils will be transported to designated sediment spoil sites. The estimated amounts of green waste (up to 10 cubic yards) generated by this project will not cause a green waste facility to exceed capacity. Therefore, the impact will be less than significant for the proposed project.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

No Impact. Solid waste generated by the proposed project will be limited to vegetation and sediment removed from the channel and will be transported via dump truck to a nearby green waste facility or to designated spoil sites. Because the proposed project would comply with all applicable federal, state, and local regulations, no impact would occur.

6.19 Mandatory Findings of Significance

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant Impact	No Impact
a.	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
b.	Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" meant that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of the 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?	☐	☐	☒	☐

6.19.1 Discussion

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?

Less than Significant Impact with mitigation incorporated. The proposed project has the potential to cause temporary disturbance to biological resources, including fish, wildlife, and plants in the area, due to increased human presence and vehicle traffic during active work. A small amount of riparian habitat and ruderal grassland will be permanently altered or removed due to channel maintenance and access road reestablishment. These impacts will be minor, as previous and existing baseline disturbance in the general area has already reduced the habitat values within the project site. The amount of impacted habitat is small in comparison to similar available habitat nearby, and Conservation Measures have been incorporated as environmental commitments which will reduce the potential for impacts. Additionally, impacts to riparian habitat, a habitat type which has experienced extensive losses in California due to removal, degradation and disturbance, will be mitigated for as required by CDFW pursuant to MM BIO-1

and BIO-2. No cultural or historical resources which may serve as important examples of the major periods of California history or prehistory will be adversely affected by this project. Therefore, the project will not substantially degrade the quality of the environment and impacts will be less than significant.

b) Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" meant that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of the other current projects and the effects of probable future projects)?

Less than Significant Impact. The impacts of the proposed project are individually limited and not cumulatively considerable. All environmental impacts that could occur as a result of the proposed project would be reduced to a less than significant level through implementation of the of Best Management Practices, Conservation Measures, and Mitigation Measures recommended in this Initial Study and, when viewed in conjunction with other closely related past, present or reasonably foreseeable future projects, there would be a less than significant impact.

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

Less than Significant Impact. The proposed project's potential adverse effects to human beings are limited to temporary impacts to air quality and noise levels. These impacts will be minor due to duration, severity, and distance from sensitive receptors. Therefore, impacts will be less than significant.

7.0 References

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, editors. 2012. The Jepson Manual: Vascular Plants of California, second edition. University of California Press, Berkeley.

Cal Fire. 2008. Draft Fire Hazard Severity Zones in Local Responsibility Area. http://frap.fire.ca.gov/webdata/maps/stanislaus/fhszl06_1_map.50.pdf

Calflora: Information on California plants for education, research and conservation, with data contributed by public and private institutions and individuals, including the Consortium of California Herbaria. [web application]. 2015. Berkeley, California: The Calflora Database [a non-profit organization]. Available: http://www.calflora.org/ (Accessed: May 15, 2015).

California Department of Conservation. 2010. 2010 Fault Activity Map of California. http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html

California Department of Conservation. 2012. Official Alquist-Priolo Earthquake Fault Zone Maps Released September 21, 2012. http://www.conservation.ca.gov/cgs/rghm/ap/Pages/index.aspx

California Department of Conservation. 2012. Farmland Mapping and Monitoring Program. ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2012/sta12_so.pdf

California Department of Fish and Wildlife (CDFW). 2012. Staff report on Burrowing Owl Mitigation. March 7, 2012.

California Department of Transportation. 2014. Officially Designated State Scenic Highways. 2010. Available from: http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm Accessed: September 15, 2014

California Department of Water Resources (DWR). 2012. Climate Action Plan-Phase I: Greenhouse Gas Emissions Reduction Plan (GGERP). May 2012.

californiaherps.com (CalHerps). 2015. A Guide to the Amphibians and Reptiles of California. http://www.californiaherps.com/turtles/pages/a.marmorata.html

California Native Plant Society (CNPS). 2015. Inventory of Rare, Threatened and Endangered Plants of California. http://www.rareplants.cnps.org/ (Accessed May 7, 2015).

California Natural Diversity Database (CNDDB). 2015. RareFind 5 [Internet]. California Department of Fish and Wildlife. http://www.dfg.ca.gov/biogeodata/cnddb/ (Accessed May 7, 2015).

California Wildlife Habitat Relationships (CWHR). 2015. Life History Accounts and Range Maps. California Department of Fish and Wildlife (CDFW). https://www.dfg.ca.gov/biogeodata/cwhr/

Conway, C. J., V. Garcia, M. D., and K. Hughes. 2008. Factors affecting detection of burrowing owl nests during standardized surveys. Journal of Wildlife Management 72: 688-696.

Department of Toxic Substances Control. 2015. EnviroStor. http://www.envirostor.dtsc.ca.gov/public/ (Accessed May 15, 2015).

Haug, E. A., B. A. Millsap, and M. S. Martell. 1993. Burrowing owl (*Speotyto cunicularia*), *in* A. Poole and F. Gill, editors, The Birds of North America, The Academy of Natural Sciences, Philadelphia, Pennsylvania, and The American Ornithologists' Union, Washington, D.C., USA.

Jennings, M. R. and M. P. Hayes. 1994. Amphibian and reptile species of special concern in California. California Department of Fish and Game. Rancho Cordova 255 pp.

Jeffersonii Badger Recovery Team (JBRT). 2011. Badger Burrow Identification. Last updated May 17, 2011. Available from: http://www.badgers.bc.ca/pubs/Badger_burrow_ID.pdf

Kimsey, Lynn. 2006. California Cuckoo Wasps in the Family Chrysididae (Hymenoptera). University of California Press.

Natural Resources Conservation Service. 2015. Custom Soil Resource Report for Stanislaus County, California, Western Part. US Department of Agriculture. http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm (Accessed May 15, 2015).

NOAA Fisheries. 2015. Species Accounts "*Oncorhynchus mykiss*, Steelhead trout". http://www.fisheries.noaa.gov/pr/species/fish/steelhead-trout.html

San Joaquin Valley Air Pollution Control District. 2014. Draft Guidance for Assessing and Mitigating Air Quality Impacts. http://www.valleyair.org/transportation/GAMAQI-2014/DRAFT_GAMAQI_2014_July_7.pdf

Shanks, Sandra. ____. Species Accounts "*Lytta moesta*, Moestan blister beetle". https://www.dfg.ca.gov/biogeodata/cnddb/pdfs/invert/Insects_-_Coleoptera/Lytta_moesta.pdf

Stanislaus County Planning and Community Development. 1994. Stanislaus County General Plan. http://www.stancounty.com/planning/pl/general-plan.shtm

State Water Resources Control Board. 2015. GeoTracker. http://geotracker.waterboards.ca.gov/ (Accessed May 15, 2015).

Sullivan, B.L., C.L. Wood, M.J. Iliff, R.E. Bonney, D. Fink, and S. Kelling. 2009. eBird: a citizen-based bird observation network in the biological sciences. Biological Conservation 142: 2282-2292. http://ebird.org/content/ebird/ (Accessed May 27, 2015)

Thomsen, L. 1971. Behavior and ecology of burrowing owls on the Oakland Municipal Airport. Condor 73: 177-192.

University of California (UC), Division of Agriculture and Natural Resources. 2015. California Fish Website "California Roach". http://calfish.ucdavis.edu/species/?uid=18&ds=241

United States Environmental Protection Agency (EPA). 2012. Stormwater Phase II Final Rule: Construction Rainfall Erosivity Waiver. http://water.epa.gov/polwaste/npdes/stormwater/upload/fact3-1-2.pdf

US Fish and Wildlife Service (USFWS). 2015. IPaC- Information for Planning and Conservation. http://ecos.fws.gov/ipac/ (Accessed May 7, 2015).

USFWS. 2011. US Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to Ground Disturbance. Sacramento Fish and Wildlife Office. http://www.fws.gov/sacramento/es/Survey-Protocols-Guidelines/Documents/kitfox_standard_rec_2011.pdf

Western Bat Working Group (WBWG). 2015. Species Accounts. http://wbwg.org/western-bat-species/

8.0 List of Preparers

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Appendix A: Complete Special Status Species List

Scientific Name	Common Name	Federal/State/ Other	Habitat	Potential to Occur in the Project Area	Effect Determination
Amphibians					
Ambystoma californiense	California tiger salamander	Threatened/ Threatened/ CDFW Species of Special Concern	Cismontane woodland | Meadow and seep | Riparian woodland | Valley and foothill grassland | Vernal pool | Wetland	None; closest potential aquatic breeding site is separated from project activities by Interstate 5 and closest recorded occurrence is 12 miles from the project site. Project site is located beyond the current known range.	No impact- Species is not likely to be present in the project area.
Anaxyrus canorus	Yosemite toad	Threatened/ None/ CDFW Species of Special Concern	Meadow & seep | Subalpine coniferous forest | Wetland	None; project is outside of known range; found exclusively at high elevation in the Sierras.	No impact- Species is not likely to be present in the project area.
Rana boylii	foothill yellow-legged frog	None/ None/ CDFW Species of Special Concern	Aquatic | Chaparral | Cismontane woodland | Coastal scrub | Klamath/North coast flowing waters | Lower montane coniferous forest | Meadow and seep | Riparian forest | Riparian woodland | Sacramento/San Joaquin flowing waters	None; project is outside of known species range (CDFW).	No impact- Species is not likely to be present in the project area.
Rana draytonii	California red-legged frog	Threatened/ None/ CDFW Species of Special Concern	Aquatic | Artificial flowing waters | Artificial standing waters | Freshwater marsh | Marsh and swamp | Riparian forest | Riparian scrub | Riparian woodland | Sacramento/San Joaquin flowing waters | Sacramento/San Joaquin standing waters | South coast flowing waters | South coast standing waters | Wetland	None; project is outside of known species range (IUCN).	No impact- Species is not likely to be present in the project area.
Spea hammondii	western spadefoot	None/ None/ CDFW Species of Special	Cismontane woodland | Coastal scrub | Valley and foothill grassland | Vernal pool |	Low; the species is known to occur downstream	No impact- Species is not likely to be present in the

Scientific Name	Common Name	Federal/State/ Other	Habitat	Potential to Occur in the Project Area	Effect Determination
		Concern	Wetland	within the drainage, but presence in the project site is unlikely due to noise and light disturbance.	project area.
Reptiles					
Emys marmorata	western pond turtle	None/ None/ CDFW Species of Special Concern	Aquatic | Artificial flowing waters | Klamath/North coast flowing waters | Klamath/North coast standing waters | Marsh and swamp | Sacramento/San Joaquin flowing waters | Sacramento/San Joaquin standing waters | South coast flowing waters | South coast standing waters | Wetland	Moderate; pond turtles may be present in the area when water is available; however, overstory vegetation within the affected portion of the channel would likely reduce basking opportunities and limit habitat suitability.	Less than Significant Effect- Impacts avoided by implementation of CMs BIO-1 and BIO-3
Gambelia sila	Blunt-nosed leopard lizard	Endangered/ Endangered/ CDFW Fully Protected	Chenopod scrub	None; project is outside of the current range of the species and dense vegetation at the site would likely discourage colonization.	No impact- Species is not likely to be present in the project area.
Masticophis flagellum ruddocki	San Joaquin whipsnake	None/ None/ CDFW Species of Special Concern	Chenopod scrub | Valley and foothill grassland	Moderate; grassland habitat within the project area may provide appropriate habitat for this species.	Less than Significant Effect- impacts avoided by implementation of CM BIO-1
Thamnophis gigas	Giant gartersnake	Threatened/ Threatened/	Marsh & swamp | Riparian scrub | Wetland	None; project is outside of the current known	No impact- Species is not likely to be

Scientific Name	Common Name	Federal/State/ Other	Habitat	Potential to Occur in the Project Area	Effect Determination
		None		range of the species, though central Stanislaus county was part of its former range. Marsh habitat in the region is likely insufficient to support an extant population.	present in the project area.
Birds					
Agelaius tricolor	Tricolored Blackbird	None/ None/ CDFW Species of Special Concern	Freshwater marsh | Marsh and swamp | Swamp | Wetland	Moderate; the species was documented in the project area in 1971, but very little suitable nesting habitat remains in the area.	Less than Significant Effect- Implementation of CM BIO-4 will avoid impacts to nesting birds.
Aquila chrysaetos	Golden Eagle	None/ None/ CDFW Fully Protected	Broadleaved upland forest | Cismontane woodland | Coastal prairie | Great Basin grassland | Great Basin scrub | Lower montane coniferous forest | Pinon and juniper woodlands | Upper montane coniferous forest | Valley and foothill grassland	Low; Golden Eagle may forage in nearby grassland habitat, but nesting or roosting within 1 mile of the project area is unlikely due to limited available nesting habitat and proximity to agriculture and development.	No impact- Implementation of CM BIO-4 will avoid impacts to nesting birds.
Ardea herodias	Great Blue Heron	None/ None/ MBTA	Brackish marsh | Estuary | Freshwater marsh | Marsh and swamp | Riparian forest | Wetland	Low; individuals may forage within the drainage and surrounding area, but no documented roosting or	No impact- Implementation of CM BIO-4 will avoid impacts to nesting birds.

Scientific Name	Common Name	Federal/State/ Other	Habitat	Potential to Occur in the Project Area	Effect Determination
				nesting colonies occur within the project vicinity.	
Athene cunicularia	Burrowing Owl	None/ None/ CDFW Species of Special Concern	Coastal prairie | Coastal scrub | Great Basin grassland | Great Basin scrub | Mojavean desert scrub | Sonoran desert scrub | Valley and foothill grassland	Low; tall vegetation conditions within the project area would tend to discourage colonization by Burrowing Owls. No Burrowing Owls have been seen during several site visits over multiple seasons.	No impact- Impacts avoided by implementation of CM BIO-5
Branta hutchinsii leucopareia	Cackling (=Aleutian Canada) Goose	Delisted/ None/ MBTA	Artificial standing waters | Sacramento/San Joaquin standing waters | Valley and foothill grassland	None; surrounding agriculture (orchards) is not likely to attract Cackling Geese to the area. No appropriate foraging or loafing habitat in the project area.	No impact- Implementatio n of CM BIO-4 will avoid impacts to nesting birds.
Buteo swainsoni	Swainson's Hawk	None/ Threatened/ MBTA	Great Basin grassland | Riparian forest | Riparian woodland | Valley and foothill grassland	Moderate; Swainson's Hawks have been may forage in nearby grasslands, and trees of suitable size for Swainson's Hawk nesting are present within ½ mile of the project area.	No impact- Implementatio n of CM BIO-4 will avoid impacts to nesting birds.

Scientific Name	Common Name	Federal/State/ Other	Habitat	Potential to Occur in the Project Area	Effect Determination
Coccyzus americanus occidentalis	western yellow-billed cuckoo	Threatened/ Endangered/ CDFW Species of Special Concern	Riparian forest	Low; the narrow band of riparian habitat in the project area is likely insufficient to support this species which favors dense riparian stands.	No impact- Implementation of CM BIO-4 will avoid impacts to nesting birds.
Egretta thula	Snowy Egret	None/ None/ MBTA	Marsh and swamp | Meadow and seep | Riparian forest | Riparian woodland | Wetland	Low; individuals may forage within the drainage and surrounding area, but no documented roosting or nesting colonies occur within the project vicinity.	No impact- Implementation of CM BIO-4 will avoid impacts to nesting birds.
Eremophila alpestris actia	California horned lark	None/ None/ CDFW Watch List	Marine intertidal and splash zone communities | Meadow and seep	Moderate; grassland habitat within the project area may provide suitable habitat for this species.	Less than significant- Implementation of CM BIO-4 will avoid impacts to nesting birds
Falco mexicanus	prairie falcon	None/ None/ CDFW Watch List	Great Basin grassland | Great Basin scrub | Mojavean desert scrub | Sonoran desert scrub | Valley and foothill grassland	Low; individuals may forage in the grasslands nearby, but no suitable nesting habitat (cliff ledges) is present within the project area.	No impact- Implementation of CM BIO-4 will avoid impacts to nesting birds
Haliaeetus leucocephalus	bald eagle	Delisted/ Endangered/ CDFW Fully Protected	Lower montane coniferous forest | Old growth	None; no appropriate nesting habitat within the project area. Suitable foraging habitat is more than 20 miles to the	No impact- Species is not likely to be present in the project area.

Scientific Name	Common Name	Federal/State/ Other	Habitat	Potential to Occur in the Project Area	Effect Determination
				south.	
Lanius ludovicianus	loggerhead shrike	None/ None/ CDFW Species of Special Concern	Broadleaved upland forest | Desert wash | Joshua tree woodland | Mojavean desert scrub | Pinon and juniper woodlands | Riparian woodland | Sonoran desert scrub	High; grassland/scrub habitat within the project area provides suitable foraging and habitat.	Less than significant- implementation of CM BIO-4will avoid impacts to nesting birds
Melospiza melodia	song sparrow (“Modesto” population)	None/ None/ CDFW Species of Special Concern	Marsh and swamp | Wetland | Riparian woodland	None; the project area is outside the species’ known range, and suitable nesting habitat is limited within the project area.	No impact- implementation of CM BIO-4 will avoid impacts to nesting birds
Vireo bellii pusillus	least Bell's vireo	Endangered/ Endangered/ None	Riparian forest | Riparian scrub | Riparian woodland	Low; the narrow band of riparian habitat in the project area is likely insufficient to support this species which favors dense riparian stands.	No impact- implementation of CM BIO-4 will avoid impacts to nesting birds
Fish					
Lavinia symmetricus ssp. 1	San Joaquin roach	None/ None/ CDFW Species of Special Concern	Aquatic | Sacramento/San Joaquin flowing waters	Low; the affected portion of Salado Creek is seasonally dry, and is unlikely to support this species.	No impact- Activities conducted during the dry season will not have impacts to fish species.
Oncorhynchus mykiss	Steelhead- Central Valley DPS	Threatened/ None/ None	Aquatic | Sacramento/San Joaquin flowing waters	Low; the affected portion of Salado Creek is seasonally dry, and is unlikely to support this	No impact- Activities conducted during the dry season will not have impacts to fish species.

Scientific Name	Common Name	Federal/State/ Other	Habitat	Potential to Occur in the Project Area	Effect Determination
				species.	
Oncorhynchus mykiss	Steelhead-northern California DPS	Threatened/ None/ None	Aquatic | Sacramento/San Joaquin flowing waters	None; the project is located outside of the known DPS range (Mendocino and Trinity Counties)	No impact- Species is not likely to be present in the project area.
Pogonichthys macrolepidotus	Sacramento splittail	None/ None/ CDFW Species of Special Concern	Aquatic | Estuary | Freshwater marsh | Sacramento/San Joaquin flowing waters	None; The project is located outside of the known species range which is limited to the Sacramento-San Joaquin Delta, Suisun Bay and associated marshes.	No impact- Species is not likely to be present in the project area.
Invertebrates					
Branchinecta conservatio	Conservancy fairy shrimp	Endangered/ None/ IUCN Endangered	Valley & foothill grassland | Vernal pool | Wetland	None; no vernal pool habitat within the project area.	No impact- Species is not likely to be present in the project area.
Branchinecta longiantenna	Longhorn fairy shrimp	Endangered/ None/ IUCN Endangered	Valley & foothill grassland | Vernal pool | Wetland	None; no vernal pool habitat within the project area.	No impact- Species is not likely to be present in the project area.
Branchinecta lynchi	vernal pool fairy shrimp	Threatened/ None/ IUCN Vulnerable	Valley & foothill grassland | Vernal pool | Wetland	None; no vernal pool habitat within the project area.	No impact- Species is not likely to be present in the project area.
Ceratochrysis menkei	Menke's cuckoo wasp	None/ None/ None	Collected from Del Puerto Canyon in Stanislaus County	Unknown; collection of this species in Del Puerto Canyon is of uncertain identity and	Less than Significant Effect- Habitat suitability is marginal, but information about this

Scientific Name	Common Name	Federal/State/ Other	Habitat	Potential to Occur in the Project Area	Effect Determination
				location.	species is insufficient to ensure avoidance.
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	Threatened/ None/ None	Riparian scrub	None; no host elderberry shrubs present in project area	No impact- Species is not likely to be present in the project area.
Eucerceris ruficeps	Redheaded sphecid wasp	None/ None/ None	Interior dunes	None; no appropriate habitat within the project area	No impact- Species is not likely to be present in the project area.
Lepidurus packardi	Vernal pool tadpole shrimp	Endangered/ None/ IUCN Endangered	Valley & foothill grassland | Vernal pool | Wetland	None; no vernal pool habitat within the project area.	No impact- Species is not likely to be present in the project area.
Lytta moesta	Moestan blister beetle	None/ None/ None	Valley & foothill grassland; Found on flowers in annual grassland, foothill woodland, and saltbush scrub. Historical distribution includes Kern, Tulare, Fresno, Madera, Santa Cruz and Stanislaus Counties	Unknown; habitat within the project area meets the general habitat requirements of the species. Little is known about the species distribution.	Less than Significant Effect- Habitat suitability is marginal, but information about this species is insufficient to ensure avoidance.
Pyrgulopsis diablensis	Diablo Range pyrg	None/ None/ IUCN Vulnerable	Aquatic; Known only from Del Puerto Creek	None; outside of known range.	No impact- Species is not likely to be present in the project area.
Mammals					
Dipodomys nitratoides exilis	Fresno kangaroo rat	Endangered/ Endangered/ None	Chenopod scrub	None; project is outside of the current range of the species (ESRP).	No impact- Species is not likely to be present in the project area.
Lasiurus blossvellei	Western red bat	None/ None/ CDFW Species of Special	Cismontane woodland | Lower montane coniferous forest | Riparian forest | Riparian	Moderate; riparian trees in the project area	Less than Significant Effect- Impacts

Scientific Name	Common Name	Federal/State/ Other	Habitat	Potential to Occur in the Project Area	Effect Determination
		Concern	woodland	provide suitable roosting habitat for this species.	avoided by implementation of CM BIO-6.
Lasiurus cinereus	Hoary bat	None/ None/ WBWG Medium Priority	Broadleaved upland forest | Cismontane woodland | Lower montane coniferous forest | North coast coniferous forest	Moderate; riparian trees in the project area provide suitable roosting habitat for this species.	Less than Significant Effect- Impacts avoided by implementation of CM BIO-6.
Neotoma fuscipes riparia	Riparian (=San Joaquin Valley) woodrat	Endangered/ None/ CDFW Species of Special Concern	Riparian forest | Riparian scrub	None; project is outside of the current range of the species and the narrow band of riparian habitat in the project area is likely insufficient to support this species which favors dense riparian stands.	No impact- Species is not likely to be present in the project area.
Perognathus inornatus inornatus	San Joaquin pocket mouse	None/ None/ BLM Sensitive	Valley and foothill grassland | Blue-oak savanna | Desert-shrub | Alkali sink	Moderate; grassland habitat in the project area provides suitable habitat for this species.	Less than Significant Effect- Habitat suitability is marginal and species is not granted protections outside of BLM lands.
Sylvilagus bachmani riparius	Riparian brush rabbit	Endangered/ Endangered/ None	Valley riparian	None; project is outside of the current range of the species	No impact- Species is not likely to be present in the project area.
Taxidea taxus	American badger	None/ None/ CDFW Species of Special Concern	Alkali marsh | Alkali playa | Alpine | Alpine dwarf scrub | Bog and fen | Brackish marsh | Broadleaved upland forest | Chaparral | Chenopod scrub | Cismontane woodland | Closed-cone coniferous forest | Coastal bluff scrub | Coastal dunes | Coastal prairie | Coastal scrub | Desert dunes | Desert wash |	Moderate; Badger habitat usage is highly generalized, and grassland and riparian areas within the project area may provide suitable habitat	Less than Significant Effect- Impacts avoided by implementation of CMs BIO-1 and BIO-7

Scientific Name	Common Name	Federal/State/ Other	Habitat	Potential to Occur in the Project Area	Effect Determination
			Freshwater marsh | Great Basin grassland | Great Basin scrub | Interior dunes | Ione formation | Joshua tree woodland | Limestone | Lower montane coniferous forest | Marsh and swamp | Meadow and seep | Mojavean desert scrub | Montane dwarf scrub | North coast coniferous forest | Old growth | Pavement plain | Redwood | Riparian forest | Riparian scrub | Riparian woodland | Salt marsh | Sonoran desert scrub | Sonoran thorn woodland | Ultramafic | Upper montane coniferous forest | Upper Sonoran scrub | Valley and foothill grassland	for this species.	
Vulpes macrotis mutica	San Joaquin kit fox	Endangered/ Threatened/ None	Chenopod scrub | Valley and foothill grassland	Low; Areas with access to water are more often colonized by species such as coyotes which tend to outcompete kit fox when habitat conditions are suitable for the more water-dependent species.	Less than Significant Effect-Impacts avoided by implementation of CMs BIO-1 and BIO-7
Plants					
Acanthominth a lanceolata	Santa Clara thorn-mint	None/ None/ CRPR 4.2	Chaparral | Cismontane woodland | Coastal scrub | Ultramafic	None; no appropriate habitat due to lack of serpentine soils.	No impact-Species is not likely to be present in the project area.
Acmispon rubriflorus	red-flowered bird's-foot-trefoil	None/ None/ CRPR 1B.1	Cismontane woodland | Valley and foothill grassland	Low; grassland within the project area provides low quality habitat due to dominance of non-native	Less than Significant Effect- Impacts avoided by implementation of CM BIO-8.

Scientific Name	Common Name	Federal/State/ Other	Habitat	Potential to Occur in the Project Area	Effect Determination
				ruderal species.	
Allium sharsmithiae	Sharsmith's onion	None/ None/ CRPR 1B.3	Chaparral | Cismontane woodland | Coastal scrub | Ultramafic	None; no appropriate habitat due to lack of serpentine soils.	No impact- Species is not likely to be present in the project area.
Amsinckia grandiflora	large-flowered fiddleneck	Endangered/ Endangered/ CRPR 1B.1	Cismontane woodland | Valley & foothill grassland	Low; grassland within the project area provides low quality habitat due to dominance of non-native ruderal species.	Less than Significant Effect- Impacts avoided by implementation of CM BIO-8.
Astragalus tener var. *tener*	alkali milk-vetch	None/ None/ CRPR 1B.2	Alkali playa | Valley and foothill grassland | Vernal pool | Wetland	None; no appropriate habitat due to dominance of non-native ruderal species and lack of appropriate hydrology.	No impact- Species is not likely to be present in the project area.
Atriplex cordulata var. *cordulata*	heartscale	None/ None/ CRPR 1B.2	Chenopod scrub | Meadow and seep | Valley and foothill grassland	None; no appropriate habitat due to lack of alkaline soils.	No impact- Species is not likely to be present in the project area.
Atriplex minuscula	lesser saltscale	None/ None/ CRPR 1B.1	Alkali playa | Chenopod scrub | Valley and foothill grassland	None; no appropriate habitat due to lack of alkaline soils.	No impact- Species is not likely to be present in the project area.
Atriplex persistens	vernal pool smallscale	None/ None/ CRPR 1B.2	Vernal pool | Wetland	None; no appropriate habitat due to lack of alkaline soils.	No impact- Species is not likely to be present in the project area.
Blepharizonia plumosa	big tarplant	None/ None/ CRPR 1B.1	Valley and foothill grassland	Low; low quality habitat due to dominance of non-native	Less than Significant Effect- Impacts avoided by implementation

Scientific Name	Common Name	Federal/State/ Other	Habitat	Potential to Occur in the Project Area	Effect Determination
				ruderal species.	of CM BIO-8.
California macrophylla	round-leaved filaree	None/ None/ CRPR 1B.1	Cismontane woodland | Valley and foothill grassland	Low; low quality habitat due to dominance of non-native ruderal species.	Less than Significant Effect- Impacts avoided by implementation of CM BIO-8.
Campanula exigua	chaparral harebell	None/ None/ CRPR 1B.2	Chaparral | Ultramafic	None; no appropriate habitat due to lack of serpentine soils.	No impact- Species is not likely to be present in the project area.
Caulanthus lemmonii	Lemmon's jewel-flower	None/ None/ CRPR 1B.2	Pinon and juniper woodlands | Valley and foothill grassland	Low; low quality habitat due to dominance of non-native ruderal species.	Less than Significant Effect- Impacts avoided by implementation of CM BIO-8.
Centromadia parryi ssp. rudis	Parry's rough tarplant	None/ None/ CRPR 4.2	Valley & foothill grassland | Vernal pool | Wetland	None; no appropriate habitat due to lack of alkaline soils.	No impact- Species is not likely to be present in the project area.
Clarkia breweri	Brewer's clarkia	None/ None/ CRPR 4.2	Chaparral | Cismontane woodland | Coastal scrub | Ultramafic	None; no appropriate chaparral, cismontane woodland, or coastal scrub and lack of serpentine soils.	No impact- Species is not likely to be present in the project area.
Collomia diversifolia	Serpentine collomia	None/ None/ CRPR 4.3	Chaparral | Cismontane woodland | Coastal scrub | Ultramafic	None; no appropriate chaparral, cismontane woodland, or coastal scrub and lack of ultramafic soils.	No impact- Species is not likely to be present in the project area.
Convolvulus simulans	Small-flowered morning-glory	None/ None/ CRPR 4.2	Chaparral | Coastal scrub | Ultramafic | Valley & foothill grassland	None; no appropriate habitat due to lack of	No impact- Species is not likely to be present in the

Scientific Name	Common Name	Federal/State/ Other	Habitat	Potential to Occur in the Project Area	Effect Determination
				serpentine soils.	project area.
Cryptantha rattanii	Rattan's cryptantha	None/ None/ CRPR 4.3	Cismontane woodland | Riparian woodland | Valley & foothill grassland	None; no appropriate habitat due to lack of talus substrates.	No impact- Species is not likely to be present in the project area.
Delphinium californicum ssp. *interius*	Hospital Canyon larkspur	None/ None/ CRPR 1B.2	Chaparral | Cismontane woodland | Coastal scrub | Meadow & seep	None; no appropriate chaparral, cismontane woodland, coastal scrub or meadow and seep habitat	No impact- Species is not likely to be present in the project area.
Eriastrum tracyi	Tracy's eriastrum	None/ Rare/ CRPR 1B.2	Chaparral | Cismontane woodland	None; no appropriate chaparral or cismontane woodland habitat	No impact- Species is not likely to be present in the project area.
Eryngium racemosum	Delta button-celery	None/ Endangered/ CRPR 1B.1	Riparian scrub | Wetland	None; no appropriate floodplain habitat with clay soils.	No impact- Species is not likely to be present in the project area.
Eryngium spinosepalum	Spiny-sepaled button-celery	None/ None/ CRPR 1B.2	Valley & foothill grassland | Vernal pool | Wetland	None; no appropriate vernal pool habitat.	No impact- Species is not likely to be present in the project area.
Eschscholzia rhombipetala	diamond-petaled California poppy	None/ None/ CRPR 1B.1	Valley and foothill grassland	None; alkaline soils not present, low quality habitat due to dominance of non-native ruderal species	Less than Significant Effect- Impacts avoided by implementation of CM BIO-8.
Leptosyne hamiltonii	Mt. Hamilton coreopsis	None/ None/ CRPR 1B.2	Cismontane woodland	None; no appropriate woodland habitat	No impact- Species is not likely to be present in the project area.

Scientific Name	Common Name	Federal/State/ Other	Habitat	Potential to Occur in the Project Area	Effect Determination
Madia radiata	showy golden madia	None/ None/ CRPR 1B.1	Chenopod scrub | Cismontane woodland | Valley and foothill grassland	Low; low quality habitat due to dominance of non-native ruderal species	Less than Significant Effect- Impacts avoided by implementation of CM BIO-8.
Malacothamnus hallii	Hall's bush-mallow	None/ None/ CRPR 1B.2	Chaparral | Ultramafic	None; no appropriate habitat due to lack of ultramafic soils	No impact- Species is not likely to be present in the project area.
Phacelia phacelioides	Mt. Diablo phacelia	None/ None/ CRPR 1B.2	Chaparral | Cismontane woodland | Ultramafic	None; no appropriate chaparral or cismontane woodland habitat and lack of serpentine soils	No impact- Species is not likely to be present in the project area.
Sphenopholis obtusata	prairie wedge grass	None/ None/ CRPR 2.2	Cismontane woodland | Meadow and seep | Wetland	None; project located outside of appropriate elevation range (900-6000 ft.)	No impact- Species is not likely to be present in the project area.

WBWG= Western Bat Working Group
CRPR= California Rare Plant Rank

IUCN

Appendix B: GHG Consistency Determination

Print Form

DWR GHG Emissions Reduction Plan Consistency Determination Form

For Projects Using Only DWR Staff and Equipment

This form is to be used by DWR project managers to document a DWR CEQA project's consistency with the DWR Greenhouse Gas Emissions Reduction Plan. This form is to be used only when DWR is the Lead Agency and when only DWR staff and equipment are used to implement the project.

Additional Guidance on filling out this form can be found at:
dwrclimatecange.water.ca.gov/guidance_resources.cfm

The DWR Greenhouse Gas Emissions Reduction Plan can be accessed at:
http://www.water.ca.gov/climatechange/CAP.cfm

California Department of Water Resources
1416 9th Steet
Sacramento, CA
95814
dwrclimatechange.water.ca.gov
www.water.ca.gov/climatechange

Project Name:	Salado Creek Channel Maintenance Project
Environmental Document type:	Mitigated Negative Declaration
Manager's Name:	Gerald Snow
Manager's email:	Gerald.Snow@water.ca.gov
Division:	Operations and Maintenance
Office, Branch, or Field Division	Regulatory Compliance Section

Short Project Description:

DWR is proposing a maintenance project to remove sediment and accumulated debris from within the Salado Creek overchute of the California Aqueduct (Aqueduct) and adjacent portions of Salado Creek. Delta Field Division proposes to remove the accumulated silt and vegetation from the creek over a distance of 200 linear feet immediately upstream of the overchute to the level of the concrete structure at the base of the overchute; clean out sediment and forb vegetation which has accumulated within the concrete overchute itself; and remove a debris barrier comprised of rooted cattails, tules, red willow, and accumulated woody debris on the downstream portion of the structure.

Additional bank stabilization, such as placement of rip rap along the recontoured channel slopes adjacent to the overchute structure, may be necessary after the sediment and vegetation removal is complete.

Project GHG Emissions Summary

☒ All emissions from the project will occur as ongoing operational, maintenance, or business activity emissions and therefore have already been accounted for and analyzed in the GGERP. (This box must be checked if you are using this form. If you cannot check this box you must use the form at this link)

Project GHG Reduction Plan Checklist

☒ All Project Level GHG Emissions Reduction Measures have been incorporated into the design or implementation plan for the project. (Project Level GHG Emissions Reduction Measures)

Or

☐ All feasible Project Level GHG Emissions Reduction Measures have been incorporated into the design or implementation plan for the project and and Measures not incorporated have been listed and determined not be apply to the proposed project (include as an attachment)

☒ Project does not conflict with any of the Specific Action GHG Emissions Reduction Measures (Specific Action GHG Emissions Reduction Measures)

Would implementation of the project result in additional energy demands on the SWP system of 15 GWh/yr or greater?

○ Yes ◉ No

If you answered Yes, attach a Renewable Power Procurement Plan update approval letter from the DWR SWP Power and Risk Office.

Is there substantial evidence that the effects of the proposed project may be cumulatively considerable notwithstanding the proposed project's compliance with the requirements of the DWR GHG Reduction Plan?

○ Yes ◉ No

If you answered Yes, the project is not eligible for streamlined analysis of GHG emissions using the DWR GHG Emissions Reduction Plan. (See CEQA Guidelines, section 15183.5, subdivision (b)(2).)

Based on the information provided above and information provided in associated environmental documentation completed pursuant to the above referenced project, the DWR CEQA Climate Change Committee has determined that the proposed project is consistent with the DWR Greenhouse Gas Reduction Plan and the greenhouse gasses emitted by the project are covered by the plan's analysis.

Project Manager Signature:		Date:	10-30-15
C4 Approval Signature:	Matthew Correa	Date:	11/9/2015

Attachments:

☐ List and Explanation of excluded Project Level GHG Emissions Reduction Measures

☐ Plan to update Renewable Energy Procurement Plan from DWR SWP Power and Risk Office