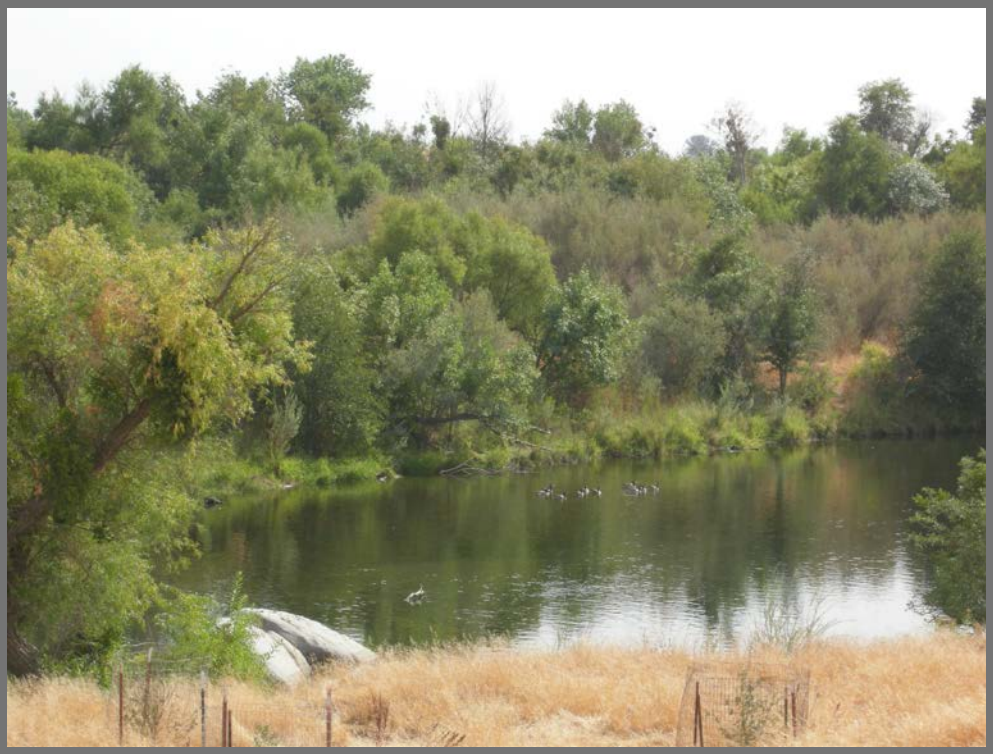
September 2015

San Joaquin River Parkway, RIVER VISTA PUBLIC ACCESS PROJECT

INITIAL STUDY/DRAFT MITIGATED NEGATIVE DECLARATION



SAN JOAQUIN RIVER CONSERVANCY STATE OF CALIFORNIA

WCB State of California Wildlife Conservation Board

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INITIAL STUDY/DRAFT MITIGATED NEGATIVE DECLARATION
San Joaquin River Parkway, River Vista Public Access Project

1. **Project Title:** San Joaquin River Parkway, River Vista Public Access Project

2. **Lead agency name and address:** State of California, San Joaquin River Conservancy
   5469 E. Olive Avenue
   Fresno, CA 93727

3. **Contact person and phone number:** Ms. Melinda Marks
   Executive Officer
   (559) 253-7324

4. **Project location:** Madera County

5. **Project sponsor's name and address:** N/A

6. **General plan designation:** Madera County General Plan: Public Open Space

7. **Zoning:** Madera County: POS

8. **Description of project (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary):**

   See attached

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

   See attached

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

    California Regional Water Quality Control Board, Central Valley Region

    California Department of Fish and Wildlife

    California State Lands Commission

    California Wildlife Conservation Board

    Central Valley Flood Protection Board

    National Marine Fisheries Service

    United States Army Corps of Engineers

    United States Fish and Wildlife Service

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

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

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

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

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

Signature: Melinda S Marks **Date:** 9-1-15

Printed name and title: Melinda Marks, Executive Officer
For: San Joaquin River Conservancy

Notice of Intent to Adopt a Mitigated Negative Declaration

Pursuant to the provisions of Title 14, Section 15072 of the California Code of Regulations, the State of California, San Joaquin River Conservancy (Conservancy) gives notice of its intent to adopt the mitigated negative declaration for the project: San Joaquin River Parkway, River Vista Public Access Project.

The Conservancy proposes to construct low-impact recreation improvements on a portion of a 115-acre parcel owned by the State of California in Madera County near the town of Friant. The project will include an improved entrance, small parking area and, shaded picnic structures, and ancillary features to support public river access. The project will also involve the removal of derelict bridge remnants within the San Joaquin River channel to improve visitor safety.

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

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

A comment period for the initial study/draft mitigated negative declaration will begin **September 5, 2015, and will end October 4, 2015**.

Written comments should be mailed to:

San Joaquin River Conservancy
5469 E. Olive Avenue
Fresno, CA 93727
Attention: Joshua Morgan

Electronic comments can be sent as a signed email attachment to:
Joshua.Morgan@sjrc.ca.gov

By: Melinda S Marks Date: 9-1-15

Melinda Marks, Executive Officer
San Joaquin River Conservancy

Section 1: Introduction

Introduction and Regulatory Guidance

This Initial Study/Draft Mitigated Negative Declaration (IS/MND) has been prepared to evaluate the more specific environmental impacts related to the San Joaquin River Parkway, River Vista Public Access Project (proposed project) proposed by the State of California, San Joaquin River Conservancy (Conservancy).

The proposed project is an element of the San Joaquin River Parkway (Parkway), a planned regional natural and recreation area to be developed in the river's floodplain from Friant Dam to State Route 99 in Fresno and Madera counties. Conceptual Parkway improvements, including the proposed project, were originally evaluated in the *San Joaquin River Parkway Interim Master Plan* (Parkway Master Plan) and associated *Program Environmental Impact Report* (EIR) (State Clearinghouse Number 1997109087) (EIP Associates, October 1997). The Conservancy approved the Parkway Master Plan and certified the Program EIR on December 18, 1997. This IS/MND satisfies the requirements of the California Environmental Quality Act (CEQA) (Public Resources Code 21000 *et seq*.) and State CEQA Guidelines (Title 14, California Code of Regulations [CCR], Section 15000 *et seq*.), which require all California public agencies to consider the environmental impacts of projects over which they have discretionary authority before acting on those projects. The Conservancy is the lead agency for the proposed project under CEQA.

The project area is currently identified in the Madera County General Plan and zoned as Public Open Space. The proposed project uses are consistent with the County General Plan and zoning, as well as the Parkway Master Plan and Program EIR.

As a planned facility within the Parkway, this IS/MND is intended to tier from the Parkway Master Plan EIR and provide a focused, site-specific environmental analysis of the proposed project and study area not provided in the Program EIR. The purpose of this IS/MND is to identify the potential environmental impacts and proposed mitigation measures associated with the proposed project, within a study area of approximately 115 acres owned by the Conservancy, located south of Road 206 in Madera County. This IS/MND provides the necessary analysis in accordance with CEQA to allow the construction of the proposed project, including Parkway low-impact recreation improvements in the study area, and the removal of derelict bridge remnants within the San Joaquin River channel. This document evaluates the potential environmental impacts of proposed trails, trailheads, access points, and other improvements and public uses associated with the proposed project.

The IS/MND is funded by the Conservancy through a grant administered by the California Wildlife Conservation Board (WCB). The conceptual design of the proposed project and the IS/MND were prepared by the County of Madera Planning Division through a contract with the Conservancy.

The proposed project has been made consistent with the 1995 Madera County General Plan and 1997 Parkway Master Plan. The Parkway Master Plan calls for the conservation, enhancement, and restoration of natural resources, preservation of cultural resources, and public access, recreation, and education compatible with long-term protection of those resources. The proposed project is the first step in implementing the Parkway Master Plan and Madera County General Plan as both relate to the project area.

Pursuant to Section 15168 (c)(1) of the State CEQA Guidelines, Conservancy is preparing this IS/MND to evaluate and address the potential environmental impacts associated with the proposed project. This IS/MND is a planning document necessary to implement Parkway Master Plan goals, objectives, and policies specific to the approximately 115 acre proposed project site. Under Section 15168 (c)(1), if a later activity would have effects that were not examined in the program EIR, a new Initial Study would need to be prepared leading to either an EIR or a Negative Declaration. In this

case, no potentially significant environmental effects have been identified, and a Mitigated Negative Declaration has been prepared.

This environmental document, including all impact analyses and mitigation measures, is limited in its capacity as an environmental document under CEQA to the approximately 115-acre project site under the jurisdiction of the Conservancy and the adjacent state sovereign lands under the jurisdiction of the California State Lands Commission (CLSC).

Lead Agency

By mutual agreement of the Conservancy and the County of Madera, the Conservancy has been designated lead agency (CCR 15051 (d)) for the proposed project. The intended use of this document is to provide information to support conclusions regarding the potential environmental impacts of the project. The IS/MND provides the basis for input from public agencies, organizations, and interested members of the public. The IS/MND will be circulated for 30 days to obtain comments concerning the analysis contained in the IS/MND. The contact for the Conservancy is:

Melinda Marks, Executive Officer
San Joaquin River Conservancy
5469 E. Olive Avenue
Fresno CA 93727
(559) 253-7324 x 1
info@sjrc.ca.gov

Responsible and Trustee Agencies

The following Responsible and Trustee agencies, as established in Public Resources Code section 21083 and CEQA Guidelines sections 15381 and 15386, may require regulatory permits, leases, or approval for various elements of the proposed project, or otherwise have jurisdiction over various natural resources affected by the proposed project:

- California Department of Fish and Wildlife (CDFW)
- California State Lands Commission (CSLC)
- California Wildlife Conservation Board (WCB)
- Central Valley Flood Protection Board (CVFPB)
- Central Valley Regional Water Quality Control Board (RWQCB)
- National Marine Fisheries Service (NMFS)
- U.S. Army Corps of Engineers (USACE)
- U.S. Fish and Wildlife Service (USFWS)

Many of the affected agencies have been consulted in planning the proposed project.

Other Agencies

Other agencies have been consulted in the development of the proposed project, as well as preparation of this IS/MND. These agencies include the following:

- California Department of Parks and Recreation, Millerton Lake State Recreation Area
- California Department of Parks and Recreation, Division of Boating and Waterways
- California State Office of Historic Preservation (SHPO)
- County of Madera
- Madera County Fire Department/CalFire

Document Purpose and Organization

The purpose of this document is to evaluate the potential environmental effects of the proposed River Vista project.

The document is organized as follows:

- Section 1 – Introduction
  This section provides an introduction to the proposed project, involved agencies, and discusses the purposes of the environmental documentation.

- Section 2 – Project Description
  This section describes the project location, project study area/site description, historical uses of the site, project objectives, characteristics, and related projects.

- Section 3 – Environmental Evaluation
  This section contains the Environmental (Initial Study) Checklist that identifies the significance of potential environmental impacts, and provides a brief discussion of each impact resulting from implementation of the proposed project, as well as proposed mitigation measures to reduce significant impacts to an insignificant level. This chapter also contains the Mandatory Findings of Significance.

- Section 4 – References and Common Acronyms used in the Document
  This section identifies the references and sources used in the preparation of this IS/MND.

- Section 5 - Appendices
  This section identifies the appendices for this report including the Mitigation Monitoring Reporting Program.
  - Appendix A—Mitigation Monitoring and Reporting Program
  - Appendix B—Cultural Resources Report, Archeological Survey of the River Vista Trail and Recreation Facility (attachment: State Office of Historic Preservation letter)
  - Appendix C—River Vista Access Biological Evaluation (with biological report sub-appendices A through C)
  - Appendix D—Survey Map
  - Appendix E—River Vista Derelict Bridge Demolition Biological Evaluation (attachments: biological report sub-appendices A through C)

Section 2: Project Description

Historical Use and Impacts

Prior to western influence in the project area, the Yokuts tribes were established in the river corridor and project area. Western influence upon the San Joaquin River began in the late 19th Century as the lower stretches of the river were dredged for navigability. Steamboats and other boats were used for transportation up the river from Stockton and the Sacramento-San Joaquin Delta to as far upstream as the vicinity of the project area. Following the First World War, the portion of the river upstream of Fresno, including the project area, saw increasing recreation. Forms of recreation near the project area included fishing, boating, and swimming.

The construction of Friant Dam in the late 1930s changed the river dramatically. The historic salmon runs documented on the river eventually ceased to exist. The majority of the river flow was redirected into irrigation canals, including the Friant-Kern Canal and the Madera Canal. The river flows today are but a fraction of the historic flows.

The project area was used for cattle grazing on unirrigated rangeland until it was acquired by the Conservancy for Parkway conservation and recreation purposes in 2001. The site once had a single-family residence; its remains were demolished in the early 2000s.

The project area contains a portion of a concrete public roadway bridge that collapsed as a result of a flood during the late winter of 1950. The bridge was constructed in 1905 and designed by John B. Leonard. Although the part of the collapsed bridge on the Fresno County side of the river has been removed, the portion on the Madera County side remains. The large bridge fragments create hazards to recreational navigation and river access. The California State Historic Preservation Office (SHPO) has determined that the remaining portion of the derelict bridge is not eligible for listing on either the State or National register of historic places (Appendix B attachment).

Project Location

The proposed project will be located on approximately 115 acres acquired by the State of California for Parkway purposes and managed under the jurisdiction of the Conservancy (hereinafter referred to as Conservancy land). The proposed project will also affect state sovereign lands generally consisting of the adjacent riverbed and bank under the jurisdiction of the CSLC.

The proposed project area/study area encompasses approximately 115 acres on the right bank (Madera County) of the San Joaquin River, with the planned derelict bridge removal and public access features approximately 1 mile downstream from Friant Dam (near River Mile 266). The San Joaquin River channel represents the southeastern boundary of the project area. The centerline of the main channel forms the boundary between Fresno and Madera counties. Madera County Road 206 represents the northeastern boundary of the project area. Private property controlled and owned by the Central Green Company comprises the western boundary and southern boundary of the project area. (Figure 1: Project Location)

Project Overview

The Conservancy is a regionally governed State agency created by the State Legislature in 1992 to develop and manage the Parkway, a planned 22-mile natural recreational area in the San Joaquin River floodplain in Fresno and Madera counties extending from Friant Dam to Highway 99. The Conservancy's mission includes acquiring approximately 5,900 acres of land from willing sellers; developing, operating, and managing those lands for public access and recreation; and protecting, enhancing, and restoring riparian and floodplain habitat.

In 1997, the Conservancy adopted the Parkway Master Plan and certified the associated EIR. The Parkway Master Plan sets forth goals, objectives, and policies that guide the development of the Parkway. The Parkway Master Plan EIR sets forth overall required mitigation measures for Parkway projects. The Master Plan envisions a connected 22-mile habitat corridor and continuous multi-use trail over the length of the Parkway. The Parkway will include trailheads, picnic areas, non-motorized boating facilities, outdoor classrooms, and other improvements to support low-impact recreational and educational uses. This document was prepared to tier from the Parkway Plan, and provides a focused, site-specific environmental analysis of the proposed project and study area not provided in the Parkway Plan.

Consistent with the goals, objectives, policies, and mitigation measures of the Parkway Master Plan, the proposed project will implement the Parkway Master Plan within the project area. The proposed project will serve as a key public river access point for the northern portion of the planned Parkway. The proposed project will meet Parkway Master Plan objectives for the project area, including habitat restoration, public river access, low-impact recreation, opportunities for environmental education, and natural and cultural resources conservation.

The proposed project described in this IS/MND was developed by the County of Madera Planning Division through a series of public workshops and public review and comment opportunities, which occurred in 2013 through 2014.

The River Vista project proposes one main trail extending the length of the project area along an existing gravel road. The trail will be approximately 3,800 linear feet in length, eight-feet wide, and allow for hiking and biking. There will be four main natural overlook areas for scenic vistas. One of the overlooks will be located at the southern end of the trail adjacent to a planned emergency vehicle turnaround, and another will utilize a concrete support remaining from the derelict bridge at the northern end of the site.

Visitors will access the site via Road 206; the proposed project includes construction of a road turnout with acceleration and deceleration lanes. There will be 27 vehicle-parking stalls and two bus/recreational vehicle parking stalls, located within an area that has been previously disturbed by past land uses. One self-contained vault restroom will be provided adjacent to the proposed parking area. The project site will incorporate a native plant landscaped or commemorative area and picnic shelter adjacent to the parking facility. An additional picnic shelter may be provided near the southern boundary of the project site. There will also be several interpretive locations for educational opportunities throughout the trail. Restoration of the riparian corridor may occur through planting native vegetation and with temporary irrigation. No overnight camping is proposed.

In addition to low-impact public recreation, environmental and cultural resources conservation are primary goals of the proposed project. The proposed project has been designed to have the least possible impact upon the natural and cultural resources of the project area and surrounding areas. The proposed primary trail/maintenance road will consist of grading and fencing improvements to the existing gravel road, and will be located landward of the riparian wildlife habitat and movement corridor. The proposed restroom will be located above the elevation of the San Joaquin River 100-year floodway and flood zone.

Amenities proposed onsite would promote environmental interpretation opportunities through both passive and active education. A series of overlooks are proposed along the San Joaquin River to enhance learning opportunities of the site's biological, cultural, and geologic resources and history. Signage will be utilized throughout the site to warn visitors of environmental hazards and to further inform visitors of the site's resources.

The proposed site plan with visitor river access improvements is shown on Figure 2.

This IS/MND also analyzes the removal of the derelict bridge remnants within the San Joaquin River channel. The collapsed segments of the old reinforced concrete bridge lie within the Madera County side of the San Joaquin River near the town of Friant, California. The bridge (historically known as the Pollasky Bridge or Friant Bridge) was destroyed by flooding in the late winter of 1950. After the flood, a new bridge (known as the Road 206 bridge) was constructed upstream of the collapsed bridge, and the concrete portions of the failed bridge were removed from the Fresno County side of the river. The six large pieces of concrete rubble remaining on the Madera County side have for many years posed a danger to boaters, waders, anglers, and other recreationists. The gravel upon which they lie is subject to erosion and under-mining. Moreover, the rubble is an attractive nuisance and attracts graffiti. The Conservancy, in collaboration with the County of Madera, proposes to demolish and remove most of the bridge ruins, leaving one support intact to provide a historical reference and interpretive point. The bridge demolition phase of the project will have four main components: demolition work in the river, demolition work in uplands, concrete crushing and salvage. It is estimated the duration of bridge demolition will be less than two months, with less than one month affecting the channel. Crushed concrete will be stockpiled onsite to be used by the Conservancy and others for trail and access road gravel. (Figure 3: River Vista Derelict Bridge Demolition Diagram)

All construction and demolition and salvage work will be performed during normal working hours, on weekdays between 7 a.m. and 6 p.m. Workers' parking and equipment storage will be limited to a

small grassland area adjacent to the project site's existing gravel road. During non-work hours, all construction equipment will be parked on the project site's existing gravel road and small adjacent grassland area. The limits of the work area will be delineated with construction fencing. Temporary security fencing may be installed by the contractor around the demolition site. Demolition will require temporary fill to support heavy equipment; the fill will be removed after demolition and removal of the bridge rubble in the channel.)

The project area is currently designated as Public Open Space (POS), which is consistent with the existing and recreational and natural resource management improvements and uses associated with the proposed project. Therefore, no entitlement permits or discretionary actions are required by the County of Madera.

All potential future connections to the rest of the planned Parkway are addressed in the Parkway Master Plan. Any future Parkway access or improvements to existing access points (bridges, roads, trails, or easements) are conceptual and shall require project-specific planning, design, and environmental review in accordance with CEQA.

Figure 1: Location Map

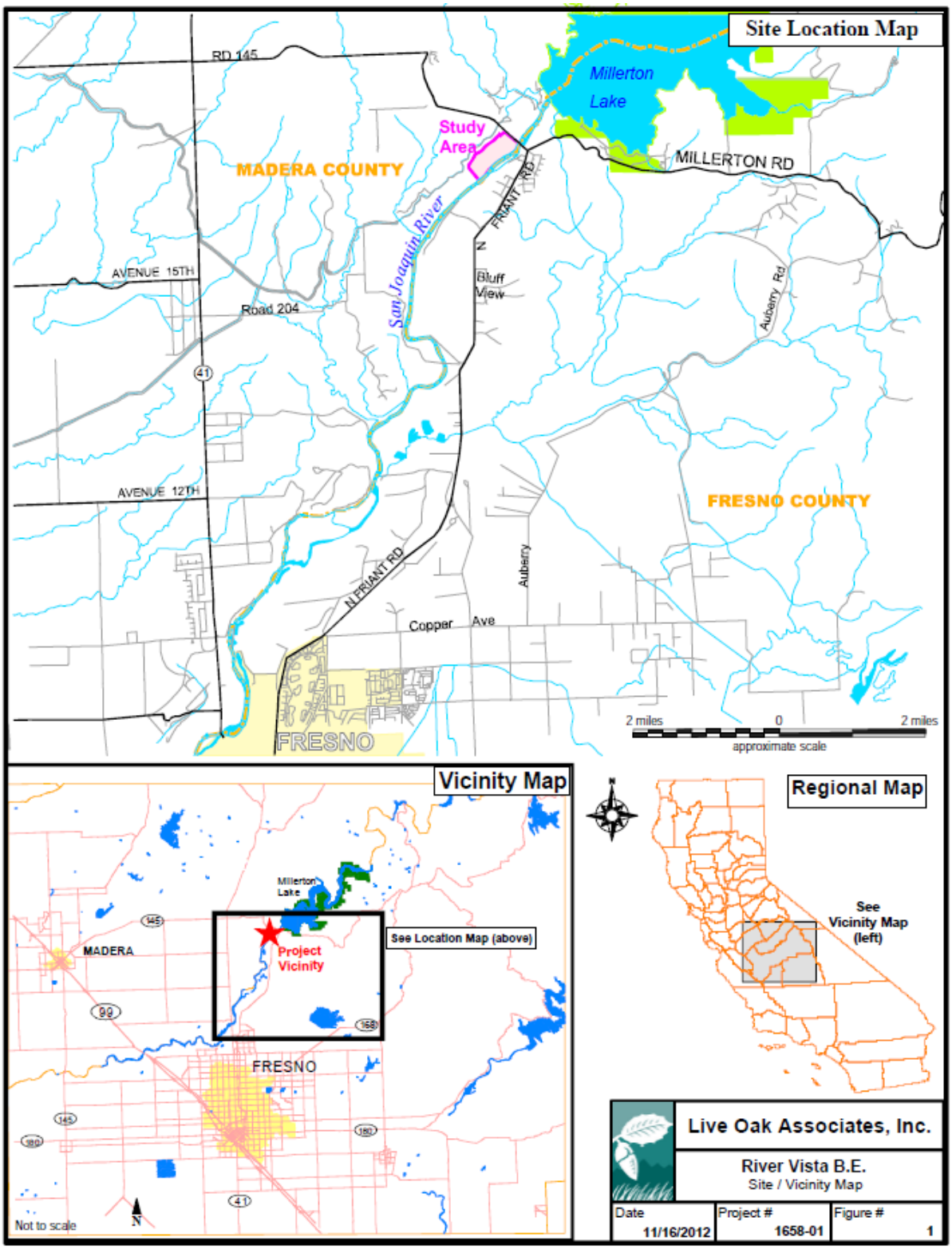


Figure 2: Proposed River Vista Public Access Project Site Plan

Figure 3: River Vista Derelict Bridge Demolition Diagram

Project Area and Surrounding Area Characteristics

The project area is located on the right bank of the San Joaquin River in Madera County within the San Joaquin Valley. Historically, millions of acres of riparian habitat flourished along California's rivers. Remnants of this habitat are protected in publicly owned parks, reserves, and wildlife areas, such as the Parkway.

At present, the project site is fenced and gated along Road 206; however, individuals often enter the riverbank at the project site to fish and hike.

There is some small commercial development to the east within the community of Friant in Fresno County. The California Department of Fish and Wildlife (CDFW) San Joaquin Fish Hatchery and staff residences lie immediately across the river. There is a Parkway canoe launch and parking facility named Friant Cove (7 acres), located within Fresno County just to the northeast of the project area owned by the Conservancy and operated under contract by the California Department of Parks and Recreation. The Conservancy owns additional Parkway conservation and future recreation land (126 acres) adjacent to the project site across Road 206.

There is no commercial, recreational, or residential development in the immediate vicinity of the project area in Madera County. The neighboring properties within Madera County are primarily open range grazing land, with tree orchards to the west of the project area. There is significant urban development planned west of the project area within the Rio Mesa Area Plan. The Rio Mesa Area Plan was adopted by the County of Madera in 1995 and consists of approximately 15,000 acres. To date, no development has occurred within the Rio Mesa Area Plan, although the approved Tesoro Viejo village, three to four miles to the southeast of the proposed project, is expected to begin construction in the next few years. No active entitlements are being processed for the development of the adjacent Central Green properties.

Section 3: Discussion of Environmental Evaluation

3.1 Aesthetics

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
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 building 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?	☐	☒	☐	☐

Environmental Setting

Landforms and Visual Quality

The project area, extending south from Road 206 to the southern project boundary, consists of a relatively flat floodplain. The most prominent landforms within or seen from the project area include the following:

- San Joaquin River main channel
- Remnants of the collapsed old Friant bridge
- Friant Dam

Ground surface levels within the project area and vicinity range from 407 feet along the northwest side of the project site to approximately 295 feet within the bed of the San Joaquin River. Unobstructed views of the project area are available to the general public from one public road, Road 206.

View from existing road/proposed trail facing south

View from existing road/proposed trail facing north with Friant Dam in background

View from bank of San Joaquin River facing north with Friant Dam in background

View from the existing Road 206 bridge looking southwest at the project site and the remnants of the old Friant bridge

Impact Analysis

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

Less than Significant. The proposed project's facilities and improvements would change the visual quality of individual sites where grading, excavation, and construction activities would occur and where changes in vegetation or landscaping and new amenities and structures (parking areas, picnic shade structures, native plant landscaping, etc.) are introduced. Traveler views on Road 206 may change as new recreational facilities are built near the road; however, the majority of existing visual characteristics of the site would be retained and would not substantially alter views.

In addition, views from public roadways of the dam and San Joaquin River channel will be retained. Impacts would be less than significant, and no mitigation is required.

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

No Impact. There are no State or County-designated scenic highways in or near the proposed project. Therefore, proposed facilities and improvements under the project would not affect scenic resources within a scenic highway and no impact would occur. No changes to known historic sites within the proposed project would occur. No mitigation is required.

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

Less than Significant. The proposed project would change the visual quality of the site where facilities and improvements would be implemented, as well as change the overall views of the project area from public roadways and within the site; however, generally the open space, natural character of the site will be retained.

During construction, the active construction areas, storage areas and staging areas will create views of excavated soils, building materials, stockpiles, construction debris, and construction equipment, visible to users and visitors of adjacent areas and Road 206. However, this impact would be temporary and would occur on scattered sites and at intermittent times, as individual improvements are under construction. Thus, visual impacts during construction would be short-term and considered less than significant.

As proposed facilities and improvements are implemented, changes in visual impacts would occur throughout the proposed project area. These changes may include removal (with replacement mitigation) of a relatively small number of (estimated seven) existing trees during bridge demolition or for construction of site amenities; new native-plant landscaped areas; parking areas; signs; improvement of onsite paths; and replacement of invasive plant species with native vegetation. The determination of whether permanent changes in the visual quality of the site would degrade the site or its surroundings, and thus, be significant and adverse, is highly subjective as some individuals prefer open and natural settings; others prefer old and low density developments; and others prefer new, urban, and highly structured environments. Similarly, preferences for one architectural style over another make it difficult to conclude that the design of a picnic shade structure or site amenity such as an overlook would have a negative or positive aesthetic impact. As such, a change from a less improved open space area to a more structured setting with more refined

edges between roads, landscaped areas, parking areas, and trails may be considered a positive impact by one person but not another.

Aside from the subjective nature of aesthetics and visual quality, the proposed facilities and improvements would not all be visible from any one single vantage point or viewer group, and visual changes would be scattered and confined to individual sites throughout the project area. Project improvements such as parking areas will include native landscaping that will serve to blend with the surrounding natural environment and provide a visual buffer from adjacent areas. Thus, impacts are considered less than significant.

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

Less than Significant with Mitigation. The proposed project may include security lighting at the parking, picnic facilities, restrooms, and entrance/fee collection station. No other lighting would be included as part of the project and no nighttime public uses are proposed. Lighting that is low wattage and directed downward and shielded to minimize excess glare, skyglow, and light within the river and riparian corridor would be required through a mitigation measure. Recognizing the small amount of additional lighting and the glare-minimizing design criteria, the potential for nighttime glare and skyglow in the project area would be less than significant.

Mitigation Measures

MM-AS 1: Any lighting shall utilize outdoor lighting that is low wattage and directed downward or otherwise shielded to minimize excess glare, skyglow, or additional light within the river and riparian corridor.

3.2 AGRICULTURAL and Forest Resources

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
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) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.*** *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 Resource Code section 12220(g)) or timberland (as defined by Public Resources Code section 4526) or timberland zoned Timberland Protection (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest land?	☐	☐	☐	☒
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?	☐	☐	☒	☐

Environmental Setting

The project area is zoned by the County of Madera as Public Open Space. Project construction would occur primarily on areas disturbed within a former home site and on existing gravel access roads. The property had previously been used as unirrigated rangeland. The area adjacent to the northwest includes vineyards and nut orchards, to the north are additional Parkway conservation lands, to the southeast the river channel, with the San Joaquin Fish Hatchery and Friant community lying across the river.

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

Impact Analysis

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?*

No Impact. The California Farmland and Monitoring Program and the Program's Important Farmland Map was utilized in conjunction with Geographic Information Systems (GIS) analysis to assess the proposed project's impacts to farmland. The project area does not contain prime farmland, unique farmland, farmland of statewide importance, or farmland of local importance. The 2012 Farmland and Mapping and Monitoring Program map indicates that roughly half of the project site is vacant or disturbed land and the other half is nonagricultural and natural vegetation land.

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

No Impact. The project area is currently zoned OS (Open Space). No Williamson Act contracts currently exist for any of the parcels within the project area.

c) *Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resource Code section 12220(g)) or timberland (as defined by Public Resources Code section 4526) or timberland zoned Timberland Protection (as defined by Government Code section 51104(g))?*

No Impact. The project area is currently not zoned for forest land, timberland, or timberland zoned Timberland Protection. No new zoning districts are proposed for the project area that may jeopardize forested land. There is no forest land in the project area.

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

No Impact. The project area does not contain any forest land and therefore no conversion or impacts would occur as a result of the proposed project.

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?

Less than Significant. An almond orchard is situated adjacent to the project area on the western boundary and adjacent to Road 206. It is reasonable to assume that the private property will continue to be utilized for agricultural purposes. The orchard is also designated within the Madera County General Plan and is zoned for agricultural use. The project area adjacent to the almond orchard will be utilized as open space, which is consistent with the County's zoning and General Plan.

3.3 Air Quality

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
Air Quality ***Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.*** *Would the project:*				
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?	☐	☐	☐	☒

Environmental Setting

The proposed project would include demolition of bridge remnants in the San Joaquin River channel, and construction of improvements in the uplands of the project site, approximately one mile downstream of Friant Dam. The project will consist of low impact recreational improvements, including a hiking trail, small parking area consisting of 27 parking spaces, restroom, and picnic and interpretive improvements.

The setting is rural, with the nearest residences in the unincorporated community of Friant approximately ½ mile from the proposed bridge demolition and construction of public recreation features.

Regulatory Setting

The California Air Resources Board is responsible for air pollution control and setting State ambient air quality standards and allowable emission levels for motor vehicles. The State is divided into air basins governed by districts. The project site is located in the San Joaquin Valley Air Pollution Control District (SJVAPCD). The SJVAPCD monitors and enforces District, State of California, and Federal air quality standards. Monitored pollutants include Ozone (O3), Nitrogen Oxides (NO and NO2, collectively "Nox") Carbon Monoxide (CO), Sulfur Dioxide (SO2), Hydrogen sulfide (H2S), Particulate Matter (PM10 and PM2.5), hydrocarbons, elemental and organic carbon, and various hazardous air pollutant compounds.

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

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
Note: Obtained March 1, 2012 from the San Joaquin Valley Air Pollution Control District website.		

Sensitive Receptors

The closest sensitive receptors in the project vicinity are the residences located approximately ½ mile to the east of the project site. Sensitive receptors in this case are people that may have health problems. The most common air quality effects from construction sites are dust (PM10) and increased emissions from construction vehicles. These effects can be problematic for the young or the old or those with asthma or emphysema.

Standard Conditions

AQ-SC 1: In order to reduce dust impacts, onsite vehicular speeds will be limited to 15 mph in unpaved areas, such as the site's parking areas.

AQ-SC 2: All unpaved areas with public vehicle access will be treated with dust palliative materials, such as gravel, or other materials deemed sufficient to comply with local Air District rules.

Impact Analysis

Would the project:

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

Less than Significant. Air quality plans or attainment plans are used to bring the applicable air basin into attainment with all state and federal ambient air quality standards designed to protect the health and safety of residents within that air basin.

Implementation of the project would result in short term pollution emissions associated with short-term construction and long-term vehicle emissions generated by visitor trips. However, the project would not conflict with or obstruct the implementation of any applicable air quality plan. A project is deemed inconsistent with air quality plans if it would result in population and/or employment growth that exceeds growth estimates included in the applicable air quality plan. Therefore, the project needs to be evaluated to determine whether it would generate population and employment growth and, if so, whether that growth would exceed the growth rates included in the relevant air plans. Because the project is not a population or growth-inducing project, this impact is considered less than significant. No mitigation is necessary.

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

Less than Significant with Mitigation. Construction-related emissions would be short-term, but may still cause adverse effects on air quality. Construction activities include site preparation, earthmoving, and general construction. Site preparation includes activities such as general land clearing and grubbing. Earthmoving activities include cut-and-fill operations, trenching, soil compaction, and grading. General construction includes adding improvements such as structures, and facilities. The emissions generated from these construction activities include:

- Dust (including PM10 and PM2.5) primarily from "fugitive" sources (i.e., emissions released through means other than through a stack or tailpipe) such as soil disturbance;
- Combustion emissions of criteria air pollutants (ROG, NOx, CO, PM10, and PM2.5) primarily from operation of heavy off-road construction equipment (primarily diesel operated), portable auxiliary equipment, and construction worker automobile trips (primarily gasoline-operated); and

- Evaporative emissions (e.g., ROG) from asphalt paving and architectural coatings.

The San Joaquin Valley Air Pollution Control District GAMAQI does not necessarily require a quantification of particulate matter emissions for all projects. Instead of having an emission threshold for construction, control measures for particulate matter are required and enforced under Regulation VIII (fugitive dust emissions).

The SJVAPCD's threshold for significant impact for ROG and NOx is 10 tons/year of each. The District does not recommend a quantitative threshold for PM10 emissions from construction activities since it considers compliance with Regulation VIII – Fugitive Dust Prohibitions to reduce this impact to less than significant. However, a threshold of 15 tons/year for operational PM10 is often used as a comparable threshold value for this pollutant.

The Conservancy estimates the project will generate on average 60 new vehicle trips per day, and a maximum of ten peak hour trips per day. CO is a localized pollutant of concern. CO concentrations have declined dramatically in California due to existing controls and programs in most areas of the state, including the project region, and have no problem meeting the CO state and federal standards. The 1995 Rio Mesa Area Plan (RMAP; abutting the proposed project to the north) EIR documents that low concentrations of CO exist in the project area, CO concentrations are projected to further decline in the future, and that development of RMAP would not be anticipated to result in or contribute to CO concentrations that exceed the California 1-hour or 8-hour ambient air quality standards. The CO impact analysis was deemed below one ppm in the 1994 RMAP EIR. As background CO emissions continue to decrease, mobile-source emissions of CO associated with the proposed project's operational impacts would not be anticipated to result in or contribute substantially to an air quality violation.

Rule 9510 – Implementation of mitigation options required by the Indirect Source Review (ISR) would help reduce construction emissions. The ISR rule requires projects to achieve a 20 percent construction emissions reduction for NOx and a 45 percent construction reduction for PM10; for all exceedances, in lieu fees may be required. In accordance with the ISR and to further reduce construction related emissions, mitigation measure AQ-1 would be implemented during the project's construction. The SJVAPCD retains the right to determine whether the mitigation measures proposed by the Conservancy are feasible and would, in fact, result in the appropriate reductions.

Mitigation Measures

MM AQ-1: Contractors shall implement the required SJVAPCD fugitive dust control measures. These measures include, but are not limited to, the following:

a) All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover.
b) All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.
c) All land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.
d) When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained.

e) All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (*The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions.) (Use of blower devices is expressly forbidden.*)
f) Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.
g) Limit on-site traffic speeds on unpaved roads to 15 mph.
h) The project proponent shall re-establish ground cover on all disturbed portions of the project site through seeding and watering. A palette of non-invasive, native seeding shall be utilized.

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. Potential construction-related air quality impacts are location-specific to the extent that they may temporarily result in significant impacts on the localized environment; however, based on the size of the project, the impacts are not considered project or cumulatively significant. The Conservancy estimates the project will generate on average 60 new vehicle trips per day, and a maximum of ten peak hour trips per day. Operational impacts of ROG and NOx (ozone precursors) will fall far below SJVAPCD thresholds of 10 tons per year for both pollutants.

The proposed project's contribution to cumulative air quality impacts would be less than significant. No mitigation is required.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less than Significant with Mitigation. As noted in part b) above, project construction would generate dust and equipment exhaust emissions for the duration of project construction. The nearest potentially sensitive receptors, residences located ½ mile away, are too distant to be affected by emissions during project construction. The public will be precluded from visiting the site during construction. This precaution, in conjunction with Mitigation Measure AQ-1, would reduce the potential adverse impact to a less than significant level.

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

Less than Significant. The use of construction equipment and construction activities for the proposed project's facilities and improvements could generate odors from diesel exhaust, painting, and paving operations that may be noticeable to nearby residents and employees. As these odors are typical with construction, they would not be unfamiliar or necessarily objectionable. The odors would be temporary and would dissipate rapidly from the source with an increase in distance. Therefore, the construction odor impacts would be short-term, would not likely be objectionable, and would be less than significant. Over the long-term, the proposed project's recreational uses and activities are not expected to generate odors, except for occasional barbecue odors from the picnic shelters. These odors would be no different from any other barbecue use and would not be considered objectionable by

a substantial number of people. Long-term odor impacts would be less than significant. No mitigation is required.

3.4 Biological Resources

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
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 Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
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 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?	☐	☐	☐	☒

Methods

Live Oak Associates conducted a literature review and database search, followed by floristic and wildlife surveys of the project area. The biological assessment methods are listed below:

1. Literature Review and Database Search. A database and literature review was conducted to include some, or all, of the following: U.S. Fish and Wildlife Service Federal Endangered and Threatened Species list (USFWS 2014), California Natural Diversity Data Base (CNDDB) (CDFW 2014), California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California (CNPS 2014), other technical studies recently completed for other projects in the area, current listings for special status species (CDFW 2014), U.S.G.S. topographic maps, Natural Resource Conservation Service (NRCS) soil maps, National Wetland Inventory Maps, etc.
2. Floristic Survey. Live Oak Associates, Inc. conducted walking surveys on the site on July 20, 2012, September 27, 2012, and May 14, 2014. During the surveys, the biotic habitats were noted, and vascular plants recorded. Particular attention was given to habitats of the project site, which would be suitable, or potentially suitable, for special status plant species (state or federally listed species, candidate species, and species with CNPS listing status).
3. Wildlife Survey. On the same dates listed above, Live Oak Associates, Inc. conducted walking surveys of the project area, during which terrestrial vertebrates and their signs were recorded. Particular attention was given to the habitats of the project site, which would be suitable, or potentially suitable, for special status animal species (state and federally listed species, species proposed for such listing, or candidate species).
4. Jurisdictional Waters Study. Live Oak Associates, Inc. conducted a study for potential waters of the U.S. on May 14, 2104. Such waters generally include navigable waters, interstate waters, drainages, impoundments of jurisdictional waters, tributaries to navigable and interstate waters, and wetlands adjacent to such waters.

Biological Evaluation Reports (Appendices C and E)

The detailed analyses summarized in this section are presented in Appendix C, River Vista Access Biological Evaluation Report (all upland elements) and Appendix E, River Vista Derelict Bridge Demolition Biological Evaluation Report. Potential impacts to aquatic biological resources are evaluated in Appendix E.

Environmental Setting

The project area is located at the eastern edge of the San Joaquin Valley immediately below the low foothills of the Sierra Nevada. The San Joaquin River forms the site's southeastern boundary. The topography of the site slopes gently from northwest to southeast toward the San Joaquin River. Site elevations vary from approximately 407 feet along the northwest side of the project site to approximately 295 feet within the bed of the San Joaquin River.

The project area, like most of California west of the Sierra Nevada, experiences a Mediterranean climate. Summers are hot and dry. Winters are cool and moist. Average annual precipitation in the general vicinity of the site is approximately 12 inches, most of which falls as rain between the months of October and April. Precipitation amounts vary considerably from year to year. During drought years, rainfall can be as little as 6-7 inches. During wet winters, rainfall can exceed 20 inches.

Human activities have substantially modified the project site and adjacent lands from historic conditions. The biotic habitats of the site all retain elements of native habitats once present; however, alterations to the hydrology of the site (from actions occurring both on and off site) have substantially affected the habitats of the channel and upper flood plain of the San Joaquin River.

The demolition of bridge remnants as part of the proposed project will occur within the San Joaquin River channel below Friant Dam. Through the multi-agency San Joaquin River Restoration Program (SJRRP), the river is undergoing a transformation to reestablish a Chinook salmon fishery. Studies, physical improvements, habitat restoration, and Friant Dam operational changes initiated by the SJRRP are on-going. All in-channel work associated with the derelict bridge demolition are planned to occur in August and September of 2016, prior to the reintroduction of a self-sustaining Chinook salmon population in the San Joaquin River. Riverbed work will take place during low flows (350 cfs or less). The depth of the river at the bridge ruins during low flows ranges from a few inches near the shore up to two or three feet in pooling areas. Riverbed work will be expedited, and is expected to be accomplished in less than one month.

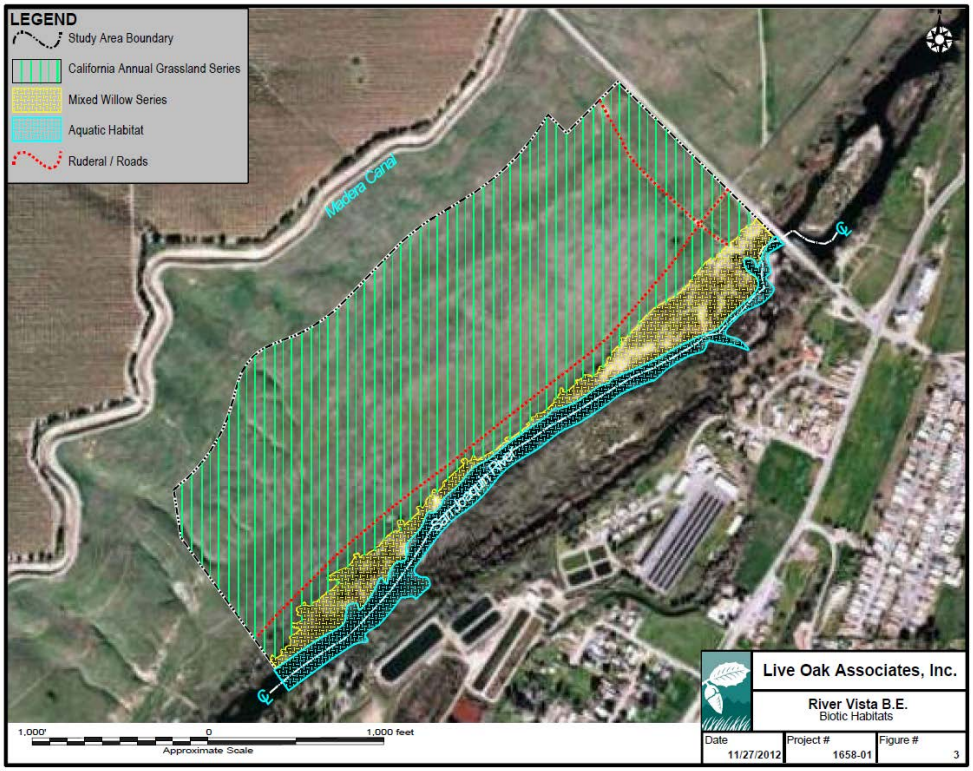
Habitat Types

Six biotic habitats were identified within the project study area, including California annual grassland series, mixed willow series(also known as valley foothill riparian), aquatic habitat of the San Joaquin River, alluvial gravel bar, bridge remains, and ruderal.

These classifications were derived from combining the habitat categories described in the Wildlife Habitat Relations program, the National Wetland Inventory, and the Manual of California Vegetation since the use of a single descriptor method did not adequately portray the site biological condition.

California Annual Grassland

The majority of the project site consists of California annual grassland habitat (Sawyer, Keeler-Wolf, and Evens 2009). Grasses and forbs of European origin dominate this habitat. Grass species



common to this habitat include ripgut brome (*Bromus diandrus*), soft chess brome (*Bromus hordeaceus*), wild oats (*Avena fatua*), and rattail fescue (*Vulpia myuros*). Common forbs associated with these grass species include red-stem filaree (*Erodium cicutarium*), broad-leaf filaree (*Erodium botrys*), and smooth cat's-ear (*Hypochaeris glabra*). Grasslands of the site would also support a large variety of native spring-flowering annuals and perennials including rusty popcorn flower (*Plagiobothrys nothofulvus*), Eastwood's fiddleneck (*Amsinckia eastwoodiae*), blow-wives (*Achyrachaena mollis*), pretty face (*Triteleia ixioides* ssp. *scabra*), and bi-color lupine (*Lupinus bicolor*), to name just a few. Annual forbs observed on the site in the summer of 2012 included Heerman's tarweed (*Holocarpha heermanii*), vinegar weed (*Trichostema lanceolatum*), and dove weed (*Croton setiger*).

Annual grasslands of the site, like grasslands throughout the region, are productive biotic habitats supporting a large diversity of native terrestrial vertebrates. Due to the poor cover provided by grasses, most terrestrial species associated with this habitat are fossorial (live in underground burrows) or are large cursorial (fast running) mammals. Still others may forage in grassland habitats but seek shelter in other habitats. In the annual grasslands of the region, insects such as ants and grasshoppers are the most common animal species. Reptiles are the most common vertebrates.

Grasslands of the site provide suitable habitat for a number of amphibian and reptile species. Rodent burrows observed throughout the site provide suitable aestivation (over-summering) habitat for western toads (*Bufo borealis*). Common reptile species likely to forage and seek cover on the site include common side-blotched lizards (*Uta stansburiana*), western fence lizards (*Scleloporus occidentalis*), western whiptails (*Aspidoscelis tigris*), gopher snakes (*Pituophis melanoleucus*), common kingsnakes (*Lampropeltis getulus*), and western rattlesnakes (*Crotalus viridis*).

Grasslands of the region provide significant foraging habitat for a variety of resident and wintering raptors, as well as large numbers of other birds. Raptors observed during the field survey include species such as the red-shouldered hawk (*Buteo lineatus*) and turkey vulture (*Cathartes aura*). Other raptor species expected in this habitat include the golden eagle (*Aquila chrysaetos*), red-tailed hawk (*Buteo jamaicensis*), ferruginous hawk (*Buteo regalis*), merlin (*Falco columbarius*), American kestrel (*Falco sparverius*), white-tailed kite (*Elanus caeruleus*), burrowing owl (*Athene cunicularia*), and barn owl (*Tyto alba*), all of which could prey on the reptiles and small birds and mammals of the project site. Other avian species observed during the field survey included the mourning dove (*Zenaida macroura*), western scrub jay (*Aphelocoma californica*), and American crow (*Corvus brachyrhynchos*), all year-round residents of the region. Spring and summer migrants that frequent the region include barn swallow (*Hirundo rustica*), western kingbird (*Tyrannus verticalis*), and California horned lark (*Eremophila alpestris actia*). Common winter migrants attracted to grasslands of the region include savannah sparrow (*Passerculus sandwichensis*), American pipit (*Anthus rebescens*), and Say's phoebe (*Sayornis saya*).

Furthermore, the dense cover of non-native grasses and forbs provide cover for large populations of small mammals that in turn attract a diversity of predatory species. California ground squirrel (*Spermophilus beecheyi*) individuals and numerous Botta's pocket gopher (*Thomomys bottae*) burrows were observed during the field surveys. It is expected that California vole (*Microtus californicus*), deer mouse (*Peromyscus maniculatus*), and house mouse (*Mus musculus*) would also inhabit the grasslands of the site. A number of mammalian predators may move through the site from time to time, including the gray fox (*Urocyon cinereoargenteus*), bobcat (*Lynx rufus*), and coyote (*Canis latrans*).

Mixed Willow Series (Valley Foothill Riparian)

Mixed willow series (Sawyer, Keeler-Wolf, and Evens 2009) habitat is located along the southeast border of the site, adjacent to the San Joaquin River. Sandbar willow (*Salix exigua*) and red willow (*Salix laevigata*) dominate this habitat, with Fremont cottonwood (*Populus fremontii*), valley oak (*Quercus lobata*), Oregon ash (*Fraxinus* latifolia) and white alder (*Alnus rhombifolia*) present as well. Grasses in this habitat are similar to those listed for the California annual grassland series habitat

series. Herbs and shrubs observed within the mixed willow series habitat include species such as buttonwillow (*Cephalanthus occidentalis*), curly dock (*Rumex crispus*), common mullein (*Verbascum thapsus*), rough cocklebur (*Xanthium strumarium*), Himalayan blackberry (*Rubus armeniacus*), and Heerman's tarweed, among others.

Riparian habitats along rivers provide habitat value for a number of animal species that rely on the moisture-loving vegetation for food and cover. Amphibians likely to occur in this habitat of the project site include western toads and Pacific tree frogs (*Pseudacris regilla*). Reptiles likely to occur in this habitat would be those described for California annual grassland, with the addition of the common garter snake (*Thamnophis sirtalis*) and striped racer (*Coluber lateralis*); the latter was observed during the May 2014 field survey. Songbirds likely to use the riparian habitat of the project site include many of those described for California annual grassland; additionally, cover-associated species such as the Bewick's wren (*Thryomanes bewickii*) (observed), house wren (*Troglodytes aedon*) (observed), and lesser goldfinch (*Spinus psaltria*) and riparian-associated species such as the song sparrow (*Melospiza melodia*) and common yellowthroat (*Geothlypis trichas*) are expected. Raptors commonly associated with riparian corridors include the red-shouldered hawk (*Buteo lineatus*); this species was observed during the September 2012 field visit. Small mammals and mammalian predators expected to occur in the riparian habitat of the project site would be of a similar complement to that described for California annual grassland.

Riparian habitat of the project site is part of a larger riparian corridor used by a number of wildlife species during migration and dispersal events. Large mammals moving along the San Joaquin River (and through the riparian habitat of the project site) would include mule deer (*Odocoileus hemionus*), coyote, gray fox, and the occasional mountain lion (*Felis concolor*). The riparian corridor also facilitates dispersal movements of many smaller mammals ranging from striped skunk (*Mephitis mephitis*) and raccoon (*Procyon lotor*) to vagrant shrew (*Sorex vagrans*) and small rodents. Cumulatively, the San Joaquin River Parkway is intended to eventually conserve a riparian corridor extending from Friant Dam to State Route 99, of which the project area is one component.

Aquatic Habitat Series

The aquatic habitat of the San Joaquin River is highly variable from season to season and from year to year, because the amount of flow is highly regulated by the Bureau of Reclamation, the federal agency responsible for releasing water from Friant Dam. During the spring, when the Bureau of Reclamation is releasing substantial amounts of water to make room in the pool behind Friant Dam for the late spring early summer snowmelt, the entire low flow channel may be filled with rushing water. By late summer, flows have diminished significantly and one could easily wade across a channel lined with emergent vegetation. Although the aquatic habitat of the low flow channel is largely unvegetated, some aquatic plants were observed in the river during the summer of 2012. These species included water smartweed (*Polygonum* sp.), duckweed (*Lemna* sp.) and mosquito fern (*Azolla filiculoides*). Emergent vegetation growing from the river's edge was well established in the summer of 2012 and included narrow-leaved cattail (*Typha angustifolia*), Pacific rush (*Juncus effusus* ssp. *pacificus*), Mexican rush (*Juncus mexicanus*) and creeping spikerush (*Eleocharis macrostachya*). Buttonwillow, sandbar willow, hairy willowherb (*Epilobium ciliatum*) and tall umbrella sedge (*Cyperus eragrostis*) were all rooted in the gravelly soils of the riverbank.

The aquatic/emergent marsh habitat provides considerable value to a variety of aquatic and terrestrial vertebrate species, although a number of native species, particularly fish, are no longer present. Hardhead (*Mylopharadon conocephalus*), a native species of fish, occurred here historically and was documented in the river as recently as 1981. This species may still be present, but its numbers have been greatly diminished. Native fish that may still be present in the river include Western sucker (*Catostomus* spp.), Sacramento squawfish (*Ptychocheilus grandis*), and California roach (*Herperoleucus symmetricus*) (Brown and Moyle 1989). Planted species may include largemouth blackbass (*Micropterus salmoides*), mosquitofish (*Gambusia affinis*), European brown trout (*Salmo trutta*), white catfish (*Ictalurus catus*), and rainbow trout (*Oncorhynchus mykiss*) (Storer 1963).

The highest diversity of amphibians within the project site would occur in the aquatic habitat and the adjacent emergent marsh on the river's edge. Numerous bullfrogs *(Rana catesbeiana)* and their tadpoles were observed in or adjacent to this habitat. Western toads (*Bufo boreas*) and Pacific treefrogs (*Hyla regilla*) would breed in this habitat. Although not observed during the field survey, western pond turtles (*Emys marmorata*) are known to occur in the San Joaquin River below Friant Dam (Dr. Mark Jennings, pers. communication). The aquatic habitat of the project site is suitable for this species, and it is likely to be present. Common garter snakes (*Thamnophis sirtalis*) would forage in this habitat for amphibians, small birds and small mammals.

A large number of birds occur within the habitats of the low flow channel. Many of these species seek the cover of the mixed riparian woodland, but forage in and over the aquatic habitat of the river. Belted kingfishers (*Megaceryle alcyon*), which were observed during the September field visit, commonly forage for small fish from perches on overhanging tree branches. Black phoebes (*Sayornis nigricans*) were observed hawking insects over the river from perches in riparian bushes growing from the bank. Though not observed, red-wing blackbirds (*Agelaius phoeniceus*) may nest in cattails and bulrushes growing along the river. A number of great blue herons (*Ardea herodias*) were observed during the September field visit; other wading birds common in this habitat include green herons (*Butorides striatus*), great egrets (*Ardea albas*) and cattle egrets (*Bubulcus ibis*). Double-crested cormorants (*Phalacrocorax auritus*) were observed along the river corridor during the September field visit. American coots (*Fulica americana*) would be expected, but were not observed on-site. The river is used by a diversity of waterfowl between the months of November and March. Ring-necked ducks (*Aythya collaris*), lesser scaup (*Aythya affinis*), common goldeneye (*Bucephala clangula*), buffleheads (*Bucephala albeola*) and common mergansers (*Mergus merganser*) are all species that breed elsewhere, but return every winter to aquatic habitats of the Central Valley. Waterfowl occurring in the river during the winter serve as prey for bald eagles (*Haliaeetus leucocephalus*) that roost in the foothills around Lake Millerton from November to April.

Mammals, although common to the mixed riparian woodland adjacent to the aquatic habitat, are not common in the aquatic habitat itself. The aquatic habitat nonetheless provides drinking water and foraging habitat for many species. For example, a number of species of bats are attracted to the aquatic habitat of creeks and rivers, because these habitats sustain large insect populations on which bats feed. Ornate shrews (*Sorex ornatus*) would be common in dense herbaceous vegetation along the river's edge. The tracks of raccoons (*Procyon lotor*) were observed in the damp sand along the river.

Ruderal Habitat

Ruderal areas of the project site are limited to rarely used dirt roads. Where vegetated, disturbed roads support species adapted to ongoing disturbance. Grasses and forbs common to ruderal areas of the project site likely include Bermuda grass (*Cynodon dactylon*), ripgut, soft chess, barnyard barley (*Hordeum murinum ssp. leporinum*), sow thistle (*Sonchus oleraceus*), and prostrate knotweed (*Polygonum aviculare*), among others.

Ruderal areas of the type observed on the project site do not provide significant habitat for native terrestrial vertebrate species. However, those species occurring in natural biotic habitats elsewhere on the project site no doubt pass through the site's ruderal areas occasionally while foraging.

Alluvial Gravel Bar

Alluvial gravel bar occurs in unvegetated areas directly adjacent to the valley foothill riparian habitat. Loose, unconsolidated sedimentary river rocks have been deposited in these areas within ordinary high water but above the low flow channel. These fluvial (riverine) deposits generally do not support growth of vegetation. Therefore, regular use by native wildlife is minimal and limited to movement through this habitat into neighboring habitats.

Bridge Remains

The majority of the bridge ruins to be demolished and removed from the site lie below the ordinary high water line. These irregularly-shaped concrete bridge remains were themselves unvegetated. However, in places riparian trees and shrubs were rooted beneath the concrete and have grown around the large pieces of concrete. In other places, flows of the San Joaquin River around the rubble have resulted in irregular eddies and undermining. Sandy alluvial soils lie beneath the bridge remains and some portions of the irregularly-shaped remains shaded the underlying aquatic and riparian habitat. Review of historic Google Earth imagery revealed that the pieces lying within the bed of the river itself are mostly submerged during high flows. Other portions remain elevated above the rushing river.

Due to the lack of soil and vegetation on the structures themselves, the bridge remains generally do not offer significant wildlife habitat value for birds, reptiles, amphibians, or most types of mammals. A few common avian species could nest on the structures including house sparrows and house finch. Various species of bats, such as pallid bat (Antrozous pallidus), hoary bat (Lasiurus cinereus), western small-footed myotis (Myotis ciliolabrum), or Yuma myotis (Myotis yumanensis) might be attracted to roost within the many crevices found on the structures.

Regulatory Setting

USACE

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

The USACE and the EPA jointly define wetlands as:

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

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

“(1) All waters which are currently used, or were used in the past or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (2) All interstate waters including interstate wetlands; (3) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce...” (33 CFR, Section 328.3(a))

A preliminary delineation of waters of the U.S., including wetlands, was prepared for the proposed project in fall 2014, in anticipation of applying for a Section 404 permit prior to project construction. Approximately 0.72 acres of jurisdictional waters would potentially be temporarily filled and then restored by the proposed project.

1602 Streambed Alteration Agreement

Under Section 1602 of the California Fish and Game Code, any state or local governmental agency or public utility must notify the California Department of Fish and Wildlife (CDFW) prior to any construction project that may do one or more of the following: (1) divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake; (2) change or use any material from the bed, channel, or bank of any river, stream, or lake; (3) result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake. Generally, the notification requirement applies to any work undertaken within the annual highwater mark of a wash, stream, or lake, which contains or once contained fish and wildlife or supports or once supported riparian vegetation. Based on the information contained in the notification form and a possible field inspection, the DFW may propose reasonable modifications in the proposed construction as would allow for the protection of the fish and wildlife resources. Upon request, the parties may meet to discuss these modifications. If the parties cannot agree and execute a Lake or Streambed Alteration Agreement, then the matter may be referred to arbitration.

Endangered Species Act—state and federal

State and federal "endangered species" legislation has provided CDFW and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting plant and animal species of limited distribution and/or low or declining populations. Species listed as threatened or endangered under provisions of the state and federal endangered species acts, candidate species for such listing, state species of special concern, and some plants listed as endangered by the California Native Plant Society are collectively referred to as "species of special status." Permits may be required from both the CDFW and USFWS if activities associated with a proposed project will result in the "take" of a listed species. "Take" is defined by the state of California as "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill" (California Fish and Game Code, Section 86). "Take" is more broadly defined by the federal Endangered Species Act to include "harm" (16 USC, Section 1532(19), 50 CFR, Section 17.3). Furthermore, the CDFW and the USFWS are responding agencies under CEQA. Both agencies review CEQA documents in order to determine the adequacy of their treatment of endangered species issues and to make project-specific recommendations for their conservation.

Migratory Bird Treaty Act

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

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

Birds of Prey

Birds of prey are also protected in California under provisions of the State Fish and Game Code, Section 3503.5, (1992), which states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "taking" by the CDFW.

BR-SC 1: If feasible, Construction will be scheduled to avoid impacts to nesting birds by avoiding disturbance or removal of vegetation during the nesting season, unless surveys and monitoring have determined that breeding birds are not present. In-stream bridge demolition (expected duration less than one month) will be scheduled to avoid time periods when reintroduced experimental populations of salmon can be expected to be in the project area.

Impact Analysis

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 or U.S. Fish and Wildlife Service?

Less than Significant with Mitigation. The proposed facilities and improvements are concentrated in areas previously disturbed, including existing dirt roads, paths, and paved areas. However, some parts of the site are less disturbed (including valley foothill riparian, alluvial and aquatic habitat) and will be temporarily impacted by the project. Work within the channel for bridge demolition will be of short duration (within one month), and on a small footprint on one side of the channel. The proposed project will not impede the movement of fish in the river, as no coffer dams or dewatering is proposed during project implementation.

The project site occurs outside of designated USFWS Critical Habitat for federally listed species, including vernal pool fairy shrimp, California tiger salamander and succulent owls clover. Therefore, the project will have no adverse effects on designated Critical Habitat.

A number of special status plants and animals occur in the vicinity of the project site. These species, and their potential to occur in the project site, are listed in Appendix C, Table 3 and Appendix E, Table 3, with each appendix providing an analysis of the ecological needs of the species, the species' occurrence on the proposed project site, and an evaluation of potential impacts. Potential impacts of the project on aquatic habitat are discussed in Appendix E.

Potential Project Impacts to Special Status Plant Species

Appendices C and E identify fifteen special status vascular plant species known to occur in the general project vicinity. With the exception of Sanford's arrowhead, the habitats required for these special status plants are absent from the project site, observations within the vicinity of the project site are old (40+ years), or observations are over 10-miles away (CDFG 2012a; CDFG 2012b; CNPS 2012). The installation of a parking lot and facility adjacent to Road 206 will occur in an area already disturbed by an access road and foot traffic accessing the San Joaquin River. The installation of a river access trail will likely occur within ruderal habitat of the site along an existing road. Although aquatic habitat (suitable habitat for the Sanford's arrowhead) will be affected by implementation of the project, this species can be considered absent since it was not observed within the project site during the field survey in May of 2014, a time of year when this species would be identifiable.

No special status plant species are expected to occur in areas to be impacted on the site and the proposed project will have no adverse effect on regional populations of any special status plants. Therefore, mitigation measures are not warranted.

Potential Project Impacts to Special Status Animal Species Absent or Unlikely to Occur on Site

Thirty special status animal species occur regionally (see Appendices C and E). Of these 30 species, eight would not occur on the study area due to the absence of suitable habitat. These species are the vernal pool fairy shrimp, vernal pool tadpole shrimp, valley elderberry longhorn beetle, steelhead, Western yellow-billed cuckoo, Fresno kangaroo rat, and San Joaquin kit fox. Two other species, the California tiger salamander and the western spadefoot, would be absent because the site lacks suitable breeding habitat, and significant barriers in the form of extensive pistachio orchards, Madera Canal, and the San Joaquin River are present between the project area and the nearest known breeding habitat, such that they would not aestivate on site.

The proposed project would have no adverse effect on regional populations of these ten species that are absent from or unlikely to occur on the project site. Mitigation measures are not warranted.

Potential Project Impacts to Special Status Animal Species that May Forage on the Site, but would Breed Elsewhere

Three special status species may occasionally forage within the site, but would breed elsewhere. These species are the peregrine falcon, northern harrier, and golden eagle. The site does not provide regionally important foraging habitat for any of these three species. Project construction may, at most, temporarily disrupt available foraging habitat or foraging patterns for some of these species. The project would not result in direct mortality of any of these species because breeding habitat for these species does not occur within the project site.

The project will have no adverse effect on regional populations or result in the direct mortality of the three special status species that may utilize the site for foraging, but would breed elsewhere. Therefore, the project would have a less than significant impact on these three special status species, if present, and mitigation measures are not warranted.

Potential Project Impacts to Chinook Salmon

As discussed in Appendices C and E, spring-run and fall-run Chinook salmon may both occur in the reach of the San Joaquin River flowing through the project site as a result of SJRRP reintroduction efforts, but their potential for occurrence would fluctuate considerably throughout the year. In the early years of the reintroduction program, reintroduced spring-run juveniles would be expected to occur on-site only during the spring and early summer months, while transported fall-run adults and their offspring would be expected to occur on-site only between October and May. The released spring-run Chinook salmon are defined as an experimental population; therefore any take incidental resulting from otherwise lawful activities is not a violation of the law per 70 FR 79622, December 31, 2013.

Beginning in 2017, spring-run adults released by the SJRRP may begin returning from the ocean to the river; however, under most conditions, these salmon would not be expected to occur in the project area because connectivity between downstream and upstream portions of the river will not yet be re-established by the SJRRP. Once connectivity is re-established, spring-run Chinook salmon would have the potential to be present in the project vicinity throughout the year. However, until that time during August and September individuals of both populations would be expected to be absent.

All work in the river bed will take place in August and/or September, when both fall-run and spring-run Chinook salmon would be expected to be absent from the reach of the San Joaquin River flowing through the project site. Therefore, the project does not have the potential to result in injury or mortality of fall-run or spring-run Chinook salmon.

Removal of concrete rubble from the river channel may result in localized hydrological changes, altering the configuration of faster- and slower-moving water at the site of the collapsed bridge. These changes are not expected to significantly affect spring-run or fall-run Chinook salmon. Potential spawning and rearing habitat will continue to be available on and adjacent to the project site following project completion. Aside from these localized changes, all other project impacts to aquatic habitat will be temporary. Therefore, loss of habitat for Chinook salmon is considered a less than significant impact.

Since the project will take place prior to full reintroduction of self-sustaining populations of Chinook salmon and prior to the downstream improvements that will allow returning adults to migrate upstream, and the potential impact of the project on aquatic habitat is limited to temporary, short-duration demolition activities on a small footprint on one side of the channel, and construction would be scheduled when the salmon not are present, the project will have a less than significant impact on salmon species and no mitigation is required.

San Joaquin Roach (Lavinia symmetricus ssp. 1); State Species of Special Concern

The project site provides suitable habitat for San Joaquin roach. This species is known to have occurred here historically; however, surveys conducted in 2005 did not detect this species. While there are no recent records of this species in this portion of the San Joaquin River, comprehensive surveys have not been conducted and the potential exists for it to still be present. If San Joaquin roach were to be present within the project area at the start of the project, construction could result in mortality. Given the small footprint of the project within the river (0.72 acre), the potential impacts to populations of this species, if present, are very limited. Additionally, suitable habitat for this species will remain undisturbed, throughout this reach of the river. Furthermore, impacts to San Joaquin roach habitat will be temporary.

Since the potential impact of the project on aquatic habitat is limited to temporary, short-duration demolition activities, and these activities will impact a small footprint on one side of the channel, potential project impacts to San Joaquin roach, if present, are less-than significant; therefore, no mitigation is warranted.

Kern Brook Lamprey (Entosphenus hubbsi); State Species of Special Concern

The Kern brook lamprey prefers silty backwater habitats. As ammocoetes (larvae), they burrow down into sand or mud bottomed backwaters and stream edges, where they begin their life as filter feeders. Kern Brook Lamprey could use portions of the project area. In particular, ammocoetes could be burrowed into stream edges and backwater habitats of the project area, and would be unable to move out of the way during construction. As such, if ammocoetes are present within the project area, construction could result in mortality. Given the small footprint of the project within the river (0.72 acre), only a portion of which is suitable for Kern brook lamprey, the potential impacts to populations of this species, if present, are very limited. Additionally, suitable habitat for this species will remain undisturbed, throughout this reach of the river. Furthermore, impacts to Kern brook lamprey habitat will be temporary.

Since the potential impact of the project on aquatic habitat is limited to temporary, short-duration demolition activities, and these activities will impact a small footprint on one side of the channel, the project will have a less than significant impact on Kern brook lamprey, if present, and no mitigation is warranted.

Western Pond Turtle (Emys marmorata); State Species of Special Concern

Western pond turtles likely occur in the aquatic habitat of the project site, and could use uplands of the site from time to time. Most of the site's uplands would be considered marginal to unsuitable for this species; tall, dense vegetative growth would likely preclude nesting in the California annual grassland of the site, and lack of refugia such as duff and leaf litter would discourage overwintering in both grassland and ruderal habitats. Turtles do have the potential to overwinter or bask in the valley foothill riparian habitat of the project site, and could nest in ruderal areas; however, these habitats comprise less than one acre of the project site, and most impacts in these areas will be temporary. Loss of upland habitat for the western pond turtle is therefore considered a less than significant impact under CEQA. All project impacts to aquatic habitat will be temporary; therefore, loss of aquatic habitat for the western pond turtle is also considered a less than significant impact.

Western pond turtles are at risk of construction-related injury or mortality, particularly when work is occurring in aquatic or valley foothill riparian habitats of the project site, where the species is most likely to occur. Injury or mortality of western pond turtles as a result of project activities is considered a potentially significant impact under CEQA.

Mitigation measures included below to avoid or relocate pond turtles if present prior to or during construction will ensure the project will have a less than significant impact on Western pond turtles.

Potential Project Impact to Nesting Birds

The project site provides nesting habitat for numerous bird species protected under the federal Migratory Bird Treaty Act and related state laws. Among these are the Swainson's hawk and bald eagle, which are afforded additional protections under the California Endangered Species Act, the white-tailed kite, which is California Fully Protected, and the loggerhead shrike, yellow warbler, and tricolored blackbird (which was recently granted emergency protection by the State), which are California Species of Special Concern. In the event that special status or other migratory birds were to be nesting on site at the time of construction, individuals would be at risk of construction-related injury or mortality. In addition to direct "take" of nesting birds, project activities could disturb birds nesting within and adjacent to work areas such that they would abandon their nests. Project-related nest abandonment and mortality of individual birds would constitute a violation of California Fish and Game Code and the federal Migratory Bird Treaty Act, and would be considered a significant impact of the project under CEQA.

Mitigation measures included below will reduce potential project impacts to nesting migratory birds, including special status bird species, if present, to a less than significant level.

Potential Project Impacts to Burrowing Owl

Although burrowing owls were not observed on the project site during the field surveys, the California annual grassland of the site offers potentially suitable nesting,

roosting, and foraging habitat for this species. The majority of project impacts will be temporary in nature. The small area of permanent impacts associated with construction of the road turnout will be concentrated in ruderal roadside habitats that would be marginal, at best, for the burrowing owl. Therefore, loss of habitat for the burrowing owl would be considered a less than significant impact.

If burrowing owls were present at the time of construction, they would be at risk of construction-related injury or mortality. These small raptors are protected under the Federal Migratory Bird Treaty Act and California Fish and Game Code. Mortality of individual owls would be a violation of state and federal law, and would constitute a significant impact.

Implementation of the mitigation measures listed below and adapted from the Staff Report on Burrowing Owl Mitigation (CDFG 1995 and 2012) will reduce potential project impacts to the burrowing owl, if present, to a less than significant level.

Potential Project Impact to American Badger

Although no evidence of the American badger was observed on the project site during the field surveys, the California annual grassland of the site offers suitable foraging and denning habitat for this species. The small area of permanent impacts associated with construction of the road turnout will be concentrated in ruderal roadside habitats that would be marginal, at best, for this species. The limited loss of marginal habitat for the American badger is considered a less than significant impact.

In the unlikely event that one or more badgers were to be denning on the project site at the time of construction, these individuals would be at risk of construction-related injury or mortality. Construction mortality of badgers would be a potentially significant impact of the project.

Implementation of the mitigation measures will reduce potential project impacts to the American badger, if present, to a less than significant level.

Potential Project Impact to Roosting Special Status Bat Species

The crevices and ledges occurring on the bridge remains provide suitable roosting habitat for four species of special status bats, including pallid bat, spotted bat, western mastiff bat, and California mastiff bat. The California mastiff bat may also use riparian trees along the San Joaquin River for roosting. Although no bats, or evidence of, were observed on the project site during the site survey, absence of bats cannot be determined from reconnaissance level surveys. If roosting colonies of any of these species is present, then the project could result in a significant impact to special status bat species.

Implementation of the mitigation measures will reduce potential project impacts to bat species, if present, to a less than significant level.

Implementation of the following measures will reduce potential project impacts to special status species to a less than significant level:

MM-BR 1 – Avoidance. If feasible, project activities will occur outside of the typical avian nesting season, or between September 1 and January 31. If the project is constructed entirely outside of the nesting season, there will be no impacts to nesting birds, and no further mitigation is required.

MM-BR 2 - Pre-construction Surveys. Pre-Construction surveys for nesting birds, western pond turtles, bats and American badgers shall be conducted by a qualified biologist within 30 days of the onset of construction. The survey will include the project site and surrounding lands within a radius of one half-mile for the Swainson's hawk, bald eagle, and white-tailed kite, and a radius of 500 feet for all other avian species.

MM-BR 3 – Buffers. If during the pre-construction survey active nesting bird nests or active American Badger Dens are found then a construction-free buffer will be established based on DFW guidelines, visibly identified (e.g., temporary fencing) on the ground, and maintained until a qualified professional has determined the young have fledged, dispersed, or the nest or den has been abandoned. If western pond turtles are found, they shall be avoided and if necessary, relocated to suitable habitat by a qualified professional.

MM-BR 4 - Relocation of Burrowing Owls. During the non-breeding season (September 1-January 31), resident owls occupying burrows in project impact areas may be passively relocated to alternative habitat in accordance with a relocation plan approved by DFW. Passive relocation may include one or more of the following elements: 1) establishing a minimum 50 foot buffer around all active burrowing owl burrows, 2) removing all suitable burrows outside the 50 foot buffer and up to 160 feet outside of the impact areas as necessary, 3) installing one-way doors on all potential owl burrows within the 50 foot buffer, 4) leaving one-way doors in place for 48 hours to ensure owls have vacated the burrows, and 5) removing the doors and excavating the remaining burrows within the 50 foot buffer.

MM-BR 5 - Bat Exclusion Plan. If bats are found to be using the bridge remains as night roosts, construction can proceed during daylight hours with no impact. In the event that either trees or the bridge remains are being used as day roosts, a plan will need to be developed by a qualified biologist to exclude bats from these areas before construction can proceed. If no bats, or evidence of, are found during preconstruction surveys, the project will result in no impacts to bats.

MM-BR 6 - Employee Education Program. Prior to the start of project activities, a qualified professional shall train all construction staff on the mitigation measures and requirements relating to special status species and protected habitats. Training shall include identification, life history, habitat needs, and legal context, as well as procedures to follow if species are observed within or near the work area during project activities.

MM-BR 7 - Section 7 Consultation. Section 7 consultation with the U.S. Fish and Wildlife Service and National Marine Fisheries Service (NMFS) will be initiated by the U.S. Army Corps of Engineers (USACE) in conjunction with the Conservancy's application for a 404 permit.

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

Less than Significant with Mitigation.

Potential Project Impacts to Essential Fish Habitat

The proposed project could have a temporary impact on Essential Fish Habitat. Construction will have a temporary effect on potential spawning habitat for Chinook salmon, however, work in the river bed will take place while these species are absent

from the river. Removal of concrete rubble from the river channel may result in localized hydrological changes, altering the configuration of faster and slower-moving water at the site of the collapsed bridge. These changes are not expected to significantly affect Essential Fish Habitat. Potential spawning and rearing habitat will continue to be available on and adjacent to the project site following project completion. In fact, there will be a permanent net increase in potential spawning habitat as a result of removal of bridge remains. Bridge demolition and removal will not impede movement of fish in the river, as no coffer dams or dewatering is proposed during project implementation. Therefore, temporary impacts to designated Essential Fish Habitat would be considered less than significant.

Nonetheless, authorization from the NMFS will be necessary through Section 7 consultation initiated by the USACE. An Essential Fish Habitat Assessment will be prepared as part of the 404 permit application, which the USACE will submit to NMFS for their evaluation of impacts (MM-BR 12).

Potential Project Impact to Natural Communities of Special Concern

Riparian and aquatic habitats (considered natural communities of special concern), are present within the boundaries of the project site. Seven mature native riparian trees identified within the demolition project boundaries cannot be avoided during demolition. Four trees are white alder, one is Goodding's black willow and two are Oregon ash. These trees are located within a 2,400 square foot area that will require vegetation removal. Impacts to riparian and aquatic habitat are considered potentially significant.

The following measures will be implemented to mitigate for impacts to riparian and other sensitive habitats to reduce potential impacts on habitat to less than significant levels.

MM-BR 8 – A site restoration plan will be developed that includes revegetation of disturbed areas. The river edge is anticipated to revegetate naturally with freshwater emergent species. The remainder of the site will be hydroseeded with a native seed mix of species found in the region. The revegetation effort will serve to stabilize the disturbed soils.

The Conservancy shall provide compensation for removal of riparian trees. Replacement planting will be implemented on-site at a ratio of 3:1 for trees between 4-24 inches in diameter at breast height (DBH), and at a ratio of 10:1 for trees greater than 24 inches in DBH, or as required by the CDFW streambed alteration agreement. It is estimated that seven trees between 4-24 inches in DBH may be removed, resulting in replacement planting of 21 trees. If additional trees are removed, then they will be compensated for by following these same replacement guidelines. Species chosen for the plant pallet will include native riparian trees such as valley oaks, Oregon ash and Fremont's cottonwoods and will be gathered or propagated from appropriate stock. A revegetation plan shall be completed, which will detailing the maintenance, monitoring, performance criteria and success rate for mitigation plantings.

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 with Mitigation. The project is anticipated to result in temporary construction impacts to approximately 0.72 acre of jurisdictional waters (below ordinary high water). Temporary impacts to aquatic habitat will consist of placement of fill for a work pad for excavators within an area of approximately 3,500 square feet within the channel and adjacent to the bridge remnants to be removed. The material for the temporary fill work pad will be taken from a 3,500 square foot area within the alluvial gravel bar (above ordinary high water), and replaced to the same location upon project completion. The existing riverbed will be covered with a geotextile, temporary fill placed on the textile, and all fill will be removed post-construction. Once the temporary fill has been removed, the river bed will be restored to its original contours.

The project is essentially a self-mitigating project due to the largely temporary nature of the project. Implementation of the following mitigation measures will reduce impacts to federally protected wetlands and jurisdictional waters to a less than significant level and ensure that the project is in compliance with state and federal laws protecting this resource.

MM-BR 9 – Temporary impacts to jurisdictional waters will be mitigated through implementation of satisfactory erosion control measures during demolition activities (such as use of geotextile mats, impermeable containment barriers, and turbidity curtains). Limits of disturbance within and adjacent to the river will be clearly identified with highly visible markers prior to commencement of construction activities within waters of the U.S. Markers will be maintained properly until construction is complete and soils have been stabilized. All activities that could impact waters of the U.S. outside of the permit limits will be prohibited. Geotextile mats will be placed on the surface of the riverbottom where the temporary landing will be constructed. Impermeable floating containment barriers or mats will be installed immediately downstream of the work area in order to contain fallen debris during demolition. Turbidity curtains will be installed along the downstream perimeter of the floating containment barriers to minimize the spread of sediment into downstream waters.

MM-BR 10 - A restoration plan will be prepared that demonstrates how all temporary fills and structures will be removed and how the area will be restored to pre-project conditions, as required to secure a 404 permit from the USACE.

MM-BR-11 - After construction, all disturbed areas will be restored. The river edge is anticipated to revegetate naturally with freshwater emergent species. The remainder of the site will be hydroseeded with a native seed mix of species found in the region. Tree compensation will be provided as described the mitigation measures in section b).

MM-BR 12 - Compliance with State and Federal Regulations; Section 404 and Section 401 Clean Water Act Permits and Streambed Alteration Agreement. Construction activities involving grading or deposition of fill within jurisdictional waters are regulated by the USACE. The Conservancy shall secure and comply with a Clean Water Act section 404 permit from the USACE. Although it is ultimately up to the discretion of the USACE to determine which permit may apply, the project appears to meet the qualifications for a Nationwide Permit 33, which authorizes temporary construction and access in jurisdictional waters.

As required to secure a 404 permit, the Conservancy shall also secure a Section 401 Water Quality Certification from the Central Valley Regional Water Quality Control Board (RWQCB).

The Conservancy shall also secure and comply with a CDFW streambed alteration agreement.

Impacts to jurisdictional waters will be mitigated through compliance with all terms and conditions outlined in all state and federal permits to be issued for the project.

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. The project site is part of the San Joaquin River corridor, a regionally important movement corridor for a number of wildlife species. Development that inhibits the movements of native terrestrial vertebrate species or diminishes the current habitat values of the project site for such species (e.g., removing riparian vegetation) could contribute to declining populations.

The Conservancy will conserve the River Vista project site in perpetuity for open space and low-impact recreational use.

Facility improvements will be located outside the riparian corridor. The proposed River Vista trail will be constructed on an existing road bed between 35 and 200 feet from the outer riparian corridor, a distance generally consistent with the buffers required in the Parkway Master Plan and intended to reduce impacts by utilizing an existing disturbed, unvegetated area. Restrooms and parking will also be constructed in a disturbed, unvegetated location. Overlooks will be constructed outside of the existing road bed, but will be situated no closer to the edge of riparian habitat than 35 feet, and will result in extremely minimal additional impacts overall. Road 206 improvement activities will take place more than 100 feet from the edge of the riparian canopy, and are not expected to disrupt native wildlife movements within the San Joaquin River corridor. The location of the improvements, combined with the anticipated low intensity of trail use, will ensure that impacts to the San Joaquin River wildlife movement corridor will be less than significant.

Although demolition, crushing, and salvage activities may temporarily disrupt the movements of native wildlife in this corridor, there are no permanent impacts associated with these project components, and wildlife would be expected to resume normal movement patterns when the activities cease. Demolition, crushing, and salvage work is expected to have a duration of only five weeks; therefore, the period of potential disruption will be very brief. Any riparian vegetation removed during construction will be replaced (MM-BR 8). Bridge demolition and removal will not, even temporarily, impede movement of fish in the river, as no coffer dams or dewatering is proposed during project implementation.

Project impacts to fish and native wildlife movement corridors will be less than significant. Mitigation measures are not warranted.

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

No Impact. There are no local ordinances relevant to biological resources protection. The proposed project is designed to be consistent with policies of the County of Madera General Plan (1995) and San Joaquin River Parkway Master Plan (SJRC 2000). Habitat enhancements and replacement planting are proposed that will include planting of riparian trees along the trail, riverbank, and riparian corridor, and

that will maintain over the long-term the riparian corridor for wildlife movement and habitat connectivity. Therefore, there is no adverse impact associated with local habitat protection requirements, and mitigation measures are not warranted.

f) *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

No Impact. There is no Natural Community Conservation Plan or Habitat Conservation Plan underway in Madera County. No impacts in this regard would occur.

3.5 Cultural Resources

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
Cultural Resources *Would the project:*				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

Environmental Setting

Cultural Resources Study

Between September 27 and October 2, 2012, a cultural resources survey was performed on the River Vista project site, by Sierra Valley Cultural Planning (Appendix B). The assessment was performed by a professional who meets the Secretary of the Interior's Professional Qualification Standards for both archaeology and architectural history.

Study Conclusions

Two Native American archaeological resources and two historic-period resources were identified within the project study area as a result of the current survey. Site RVT-1 is a large occupation site with a minimum of seven bedrock milling features with over 350 mortar cups, an area of anthropogenic (midden) soil, and a sparse scatter of flaked stone. Isolate RVT-2 includes a small granite boulder with a single milling slick.

The two historic-period resources include remnants of a concrete slab foundation with associated debris (RVT-3), and the broken segments of the old concrete Friant Bridge (RVT-4). RVT-3 is a historic trash scatter surrounding remnants of a concrete slab foundation. The scatter includes a variety of materials such as broken bottle glass, china plate fragments, and a variety of metal items including wire and cans, plastic items, bricks, and fence remnants. The site may date to as early as the late 1800s; an 1891 atlas map of the area depicts a structure in the general location of the site.

Several very large segments of the concrete old Friant Bridge (RVT-4) are present within the project study area; the bridge segments are located just downstream of the Road 206 bridge. The bridge was located near the old Converse Ferry crossing, which was a major crossing on the Stockton-Los Angeles Road.

Site RVT-1 is likely eligible for listing on the California Register of Historic Resources due to the very large number of milling features present, in addition to the midden deposit and flaked stone scatter. These large sites, which possess traditional cultural value for local Native American tribes, also offer striking evidence of intensive Native American use and occupation of the area, and thus present interpretive opportunities for visitors. Development of recreational facilities should avoid potentially adverse impacts to this site. Potential adverse impacts would include moving or destroying a milling feature, or somehow defacing these features. Actions involving minimal ground disturbance within or adjacent to these sites, such as trail maintenance or placement of interpretive signage, would not require additional cultural review. Actions requiring extensive ground disturbance within or adjacent RVT-1 should be preceded by additional archaeological review and monitoring as appropriate.

The single milling slick recorded as RVT-2 is considered an isolated find. By definition, isolated finds are not eligible for listing on the California Register; however, RVT-2 does have interpretive value.

RVT-3, the historic trash scatter and concrete slab foundation remains, has been extensively disturbed. Burned debris and vegetation lie across concrete foundations, obscuring most of these features and other material as well. The integrity of the site has been altered by the removal and subsequent burning of the structure and associated remains. It is unknown if subsurface remains are present at this site. Due to its lack of integrity, it is unlikely that this resource is eligible for listing in the California Register of Historic Resources.

The old Friant Bridge, RVT-4, was destroyed by a flood in the early 1950s. It was broken into several segments, portions of which were removed by the County of Fresno. The remains have been vandalized and graffiti is present. In a letter dated August 17, 2012, to the Conservancy the California State Historic Preservation Office (SHPO) determined the collapsed bridge remains were not eligible for listing on the California Register of Historic Places or the National Register of Historic Places due to the lack of structural and architectural integrity (Appendix B attachment).

Despite the fact that historic-period resources RVT-3 and RVT-4 have been extensively damaged, they do offer associative values as elements of the built historic landscape, and may be incorporated as interpretation features of the proposed project. The bridge support is planned to remain intact to be used as an overlook and interpretive feature.

Soils within the project study area are composed predominately of entisols which are soils formed on recent alluvium; buried cultural deposits may be present beneath the land surface and not detected through surface inspection alone. In addition, dense grasses obscured much of the soil surface during the survey. For these reasons, there is a potential for buried cultural resources, and any actions requiring subsurface excavation should at a minimum be monitored by a qualified archaeologist.

Regulatory Setting

In the event that buried archaeological deposits are encountered within the proposed project area during project-related activities, work in the immediate vicinity of the discovery must cease until the finds can be evaluated by a qualified archaeologist for cultural importance. Should human remains be encountered within the project area, the County Coroner must be contacted immediately; if the remains are determined to be Native American, then the California Native American Heritage Commission (NAHC) must be contacted as well.

Standard Conditions

CR-SC 1: In accordance with the California Health and Safety Code and the California Public Resources Code (PRC), if human remains are encountered during excavation activities at the project site, all work shall halt and the County Coroner shall be notified (PRC §5097.98). The Coroner will

determine whether the remains are of forensic interest. If the Coroner, with the aid of the County-approved Archaeologist, determines that the remains are prehistoric, he/she will contact the NAHC. The NAHC will be responsible for designating the most likely descendant (MLD), who will be responsible for the ultimate disposition of the remains, as required by Section 7050.5 of the California Health and Safety Code. The MLD will make his/her recommendation within 48 hours of being granted access to the site. The MLD's recommendation shall be followed if feasible and may include scientific removal and non-destructive analysis of the human remains and any items associated with Native American burials (California Health and Safety Code §7050.5). If the Conservancy rejects the MLD's recommendations, the Conservancy shall rebury the remains with appropriate dignity on the property in a location that will not be subject to further subsurface disturbance (California Public Resources Code §5097.98).

CR-SC 2: If during the grading or trenching work archeological evidence is found, all work shall stop and the Conservancy and Coroner shall be notified within 24 hours, or on the first workday following weekends and holidays.

CR-SC-3: Any actions requiring subsurface excavation shall be monitored by a qualified monitor.
Impact Analysis

Would the project:

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

Less than Significant. The study performed by Sierra Valley Cultural Planning concluded that there are two Native American archeological resources and two historic-period resources on-site. The archeological resources will not be impacted by ground disturbance or excavation. Remains of the concrete foundation, associated trash scatter, and the remnants of the derelict bridge have nominal historic value, but provide the opportunity for historic interpretation at the proposed public access site. The impact is considered less than significant.

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

Less than Significant. As described above in (a), the project has identified four cultural resources on-site; however, no development or ground disturbance is to occur within the area of the known archeological resources. Public access upland of the planned trail, where archeological resources may exist covered by soil and grasses, will be discouraged by fencing, boundary signs, and grassland cover. Site management will reduce and address graffiti and other vandalism, signs will inform visitors of prohibitions, and managed low-impact recreation will provide interpretive and educational opportunities. The impact is considered less than significant.

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

Less than Significant. The study conducted by Sierra Valley Cultural Planning did not reveal evidence of a unique paleontological resource. There will be minimal ground disturbance associated with the proposed project. The impact is considered less than significant.

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

Less than Significant. The cultural resources study performed by Sierra Valley Cultural Planning did not reveal the presence of any human remains on the project site. Due to the potential for subsurface cultural or historic resources at the site, a

qualified monitor shall be present during any trenching or excavation in accordance with standard conditions listed above. If during the grading or trenching work archeological evidence or human remains are found, the standard conditions require that all work must stop and appropriate authorities be notified. Standard protocols in compliance with existing regulations require a discovery of human remains to be immediately reported to the Madera County Coroner. (If the remains are determined to be Native American in origin, both the NAHC and any identified descendants shall be notified by the coroner, and recommendations for treatment solicited (CEQA Section 15064.5; Health and Safety Code Section 7050.5; Public Resources Code Section 5097.98). Compliance with these regulations allow for this potential impact to be considered less than significant.

3.6 Geology and Soils

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
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 Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

Environmental Setting

The project area is within the San Joaquin Valley, a flat expanse between the Sierra Nevada Mountains and Coastal Ranges consisting of various sediments that have been deposited over millions of years. On the eastern side of the Valley, the soil is composed predominantly of soils derived from a granitic parent material originating from the Sierra Nevada. Over its geologic history, rivers have moved back and forth, depositing sediment worn from the mountains above, fanning out into large alluvial floodplains. This process contributed to the flat topography and the rich agricultural soil found today. In the eastern reach, the river has incised the floodplain from ancient sediment. The project area is located on the eastern edge of the Valley and transitioning to the foothills of the Sierra Nevada. Steeper slopes limit the river's floodplain in the project area. In areas, granite bedrock can be found in the project area. Ground surface levels within the project area and vicinity range from 295 feet at the river low water level to 407 feet at the northwest corner of the project area.

Seismic Ground Shaking

The project site is located in a region of low seismicity, mainly due to the significant distance of the project site to active faults in the region. The project site is not located within an Alquist-Priolo Earthquake Fault Zone. Specifically, the project site is categorized by the California Building Code as being located within Seismic Zone 3, which is generally considered to be one of the least seismically active areas in California. Nonetheless, similar to most of California, the project site is expected to experience moderate seismic ground shaking at least once during the life of the proposed project. Based on a probabilistic seismic hazard analysis prepared by the California Geologic Survey, this site is expected to experience ground shaking about 0.17g2 with a ten percent chance of exceedance in 50 years. Not considering activity on the Clovis fault due to its relative inactivity, the San Andreas fault and San Joaquin fault would be expected to produce the highest levels of ground shaking at the project site. Although ground shaking is a hazard that cannot be eliminated completely, it can be reduced to an acceptable level of risk through proper seismic structural design and observance of good construction practice.

Standard Conditions

GS-SC 1: The proposed project shall be designed and constructed in compliance with all applicable requirements of the County of Madera Building Code or requirements of the Office of the State Architect, which incorporate the most recent California Building Code and other applicable codes at the time of construction.

GS-SC 2: The proposed project shall comply with the California standards for the design and construction of water and sewer systems, storm drains, and recycled water systems in any buildings, as applicable.

GS-SC 3: The proposed project shall meet the standards set by the County of Madera's Grading Guidelines, which require that grading and drainage plans be designed to eliminate an inundation, overflow, or erosion hazard and prevent erosion and sediment transport onto adjacent properties, adjacent roadways, storm drain systems, and natural drainage courses during the rainy season.

GS-SC 4: The proposed project shall comply with National Pollutant Discharge Elimination System (NPDES) stormwater quality management requirements, including securing any required stormwater quality management General Construction Permit and preparing and implementing a Storm Water Pollution Prevention Plan (SWPPP).

Impact Analysis

Would the project:

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

i) *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*

ii) *Strong seismic ground shaking?*

iii) *Seismic-related ground failure, including liquefaction?*

iv) *Landslides?*

No Impact. Madera County is classified as a low-severity earthquake zone, and no active faults are known to occur in the project site. The proposed project is not located on or near an Alquist-Priolo fault zone and is considered to be an area with only low-severity ground shaking. The nearest faults to the project site are the Ortigalita Fault Zone and the San Andreas (Creep) Fault Zone, approximately forty-seven miles southwest and sixty-seven miles southwest of the project site, respectively. This condition precludes the possibility of exposure to fault rupture on the project site. No impacts in this regard would occur. No mitigation is required.

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

Less than Significant with Mitigation: The project proposes a trail and interpretive facilities, some of which may be located adjacent to bodies of water or drainages, or on slight slopes.

Stormwater runoff from impervious improvements, including the paved portions of the proposed trail, overlooks, and access roads poses a potential impact resulting in soil erosion, ultimately leading to the sedimentation of the San Joaquin River.

As stated in GS-SC 3, the County of Madera's Grading Guidelines require that grading and drainage be designed to eliminate erosion hazards and prevent erosion and sediment transport onto adjacent properties, adjacent roadways, storm drain systems, and natural drainage courses during the rainy season. Meeting these guidelines will prevent substantial soil erosion from proposed facilities and other improvements. As discussed further in Section 3.9, Hydrology and Water Quality, a ground disturbance area of one acre or more to construct the proposed project would require coverage under NPDES General Construction Permit. Construction and post-construction Best Management Practices (BMPs) would be implemented on the project site as identified in the SWPPP to minimize erosion in accordance with NPDES requirements, as described in GS-SC 4.

Mitigation Measures

MM-GS 1: Grading and excavation activities shall be avoided during the rainy season (October 15 to April 15), but if storms are anticipated during construction or if construction must occur during winter months, "winterizing" will occur, including the covering (tarping) of any stockpiled soils and the use of temporary erosion control methods to protect disturbed soil, or other acceptable BMPs.

MM-GS 2: Temporary erosion control measures will be installed along the perimeter of the construction site and around areas where ditches or culverts could channel site runoff into nearby wetlands or sensitive biological communities. Temporary erosion control measures shall be used during all soil disturbing activities and until all disturbed soil has been stabilized (recompacted, revegetated, etc.) These BMPs may include, but will not be limited to, the use of silt fences, geotextile mats or blankets, hydroseeding, weed free straw bales, or rice straw or coir wattles or fiber rolls, to

prevent soil loss and siltation into nearby water bodies. The proper use and installation of these devices are available in the California Stormwater Quality Association's Stormwater Best Management Practice Handbook for Construction (CSQA 2003), at https://www.casqa.org/resources/bmp-handbooks.

MM-GS 3: Permanent BMPs for erosion control shall include, but not be limited to, properly engineered structures as necessary to prevent erosion and landsliding, compacting disturbed areas, or revegetation of disturbed soil areas with native species using seed collected locally (San Joaquin Valley). Final design plans will include specific BMPs to be incorporated into the project. The BMPs established for post-construction erosion control will be assessed annually and maintained as needed for a period of three years following construction.

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?*

Less than Significant Impact. Collapsible soils undergo a volume reduction when the pore spaces become saturated, causing loss of grain-to-grain contact and possibly dissolving of interstitial cement holding the grains apart. The weight of overlying structures can cause uniform or differential settlement and damage to foundations and walls. The proposed project improvements do not involve structures with foundations or walls (they consist of parking areas, trails, signage) or involve small and/or non-habitable structures (such as benches, picnic tables, overlooks, bathrooms) that do not pose a substantial risk of adverse effects in the event of lateral spreading, subsidence, or soil collapse.

The design and construction of all proposed structures and infrastructure would be subject to the requirements of the State of California Office of the State Architect or County of Madera Building Codes, which incorporate the California Building Code requirements. Compliance with building code requirements (GS-SC 1) will ensure that potential seismic and geologic constraints are evaluated and considered in the project design and construction, and ensure that neither people nor structures are exposed to significant geologic hazards. Less than significant impacts would occur, and no mitigation is required.

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

No Impact. The planning area contains Alamo and San Joaquin soils with poor shrink-swell ratings, both indicating the greatest potential limitation (USDA- NRCS Soil Survey) to structural foundations. The project will adhere to the grading and foundation requirements of the California Building Standards Code. These requirements set forth standards for soil engineering that ensure building foundations are adequately supported. Adherence to the Building Code would ensure that persons and structures are not exposed to hazards from shrinking and swelling of soils. There will not be any substantial risk to life or property.

e) *Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*

No Impact. The proposed project includes no septic systems. The proposed project includes a self-contained vault toilet restroom near the entrance and parking area.

3.7 Greenhouse Gas Emissions

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐

Environmental Setting

Significant changes in global climate patterns are associated with global warming, an increase in the average temperature of the atmosphere near the Earth's surface. This has been attributed to accumulation of greenhouse gases (GHGs) in the atmosphere. The most prevalent GHG is carbon dioxide; other GHGs include methane, ozone, water vapor, nitrous oxide, and chlorofluorocarbons. GHGs trap heat in the atmosphere, which in turn heats the surface of the Earth. While the greenhouse effect is a naturally occurring process that aids in maintaining the Earth's climate, human activities, such as burning fossil fuels and clearing forests, generate additional GHG emissions which contribute to the greenhouse effect and result in increased average global temperatures. Global surface temperatures have increased 0.8°C (1.4°F) in the past century, and 0.6°C (1.1°F) in the past three decades. Temperatures are expected to continue to increase as a result of increasing concentrations of GHGs. The increased temperatures are anticipated to lead to modifications in the timing, amount, and form (rain vs. snow) of precipitation; changes in the timing and amount of runoff from storm events and from snowmelt; deterioration of water quality; and elevated sea levels. In turn, these changes could be associated with increased flooding and other weather-related events, increased salinity levels in coastal groundwater basins, changes in water supply availability, and changes in cropping patterns.

Regulatory Setting

In order to reduce GHG emissions and associated climate changes, the State of California adopted the California Global Warming Solutions Act of 2006, widely known as AB 32. This act requires that statewide GHG emissions be reduced to 1990 levels by the year 2020, and requires the California Air Resources Board to adopt rules and regulations that will ensure this reduction target is met. The state has adopted other policies and regulations related to achieving reductions in GHG emissions, such as the Low Carbon Fuel Standard, a bill intended to reduce GHG emissions from motor vehicles, bills related to land use planning, and energy conservation standards.

Standard Conditions

GG-SC 1: The proposed project shall comply with all California Energy Commission Title 24 Building Energy Efficiency Standards in effect at the time of application for building permits/submission to the

Office of the State Architect (Title 24). Title 24 covers the use of energy-efficient building standards, including ventilation, insulation, and construction and the use of energy saving appliances, conditioning systems, water heating, and lighting. Title 24 also includes the Title 24 Green Buildings Standards on planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental quality. Plans submitted for building permits shall include written notes demonstrating compliance with energy and green building standards, and shall be reviewed and approved by the Madera County Building Department prior to building permit issuance.

GG-SC 2: The proposed project's facilities and other improvements will include the use of landscape techniques that promote water and energy conservation. These techniques include installation of smart irrigation controllers, drought-tolerant native plant landscaping where feasible, and Low Impact Development standards. Restoration planting and landscaping shall only include native plants and irrigation as necessary to establish self-sustaining vegetation.

Impact Analysis

Would the project:

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

Less than Significant. GHG emissions during construction of the proposed project would primarily be generated by worker vehicle trips to the site and by emissions from operation of gas and diesel-powered construction equipment.

The proposed project is a low-impact development of a singular trail system with minimal development of ancillary facilities. The impact due to construction-related emissions would be temporary and less than significant.
The proposed project area, utilized for low impact recreation and conserved in open space in perpetuity will generate significantly less GHG than low-density development for other uses.

The proposed project will have a beneficial effect on the region's adaptation to climate change by increasing carbon sequestration through reforestation, and improving habitat, diversity, and wildlife movement corridors to link protected habitats and broaden seasonal ranges for wildlife.

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

Less than Significant. Statewide plans and regulations such as GHG emissions standards for vehicles (AB 1493) and the Low Carbon Fuel Standard are being implemented at the Statewide level, and compliance at the plan or project level is not necessary. Therefore, the proposed project does not conflict with these plans and regulations.

SB 375 is also being addressed at the State and regional levelThe proposed facilities and other improvements under the project would provide recreational opportunities to serve residents of the surrounding areas, resulting in shorter vehicle trips and reducing regional vehicle miles traveled, another goal of SB 375. The proposed project's planned recreational uses are also consistent with efficient land use envisioned by SB 375. The proposed project would not conflict with SB 375, or the Adopted Regional Transportation Plan and Sustainable Communities Strategy adopted in July 2014 by the Madera County Transportation Commission. The regulations, plans, and polices adopted for reducing GHG emissions that are directly

applicable to the proposed project include:

- Title 24 Energy Efficiency Standards for Residential and Nonresidential Buildings and
- Title 24 California Green Building Standards Code.

By implementing GG-SC 1 and GG-SC 2, the proposed project facilities and improvements would comply with both of these requirements.

3.8 Hazards and Hazardous Materials

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
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 accident conditions involving the likely 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 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?	☐	☐	☒	☐

Environmental Setting

The project area is located in a rural area near the unincorporated community of Friant. Past land use has been unirrigated rangeland. The site contained a single family home, the remains of which have been demolished and the septic system properly abandoned.

Hazardous Materials

The project site is not listed on a local, state, or federal hazardous materials database. The regulatory search did not identify any listing.

Airport Safety Hazards

The project site is not located within an airport land use zone, or within 2 miles of an airport. The nearest airport is located approximately 10.5 miles southwest of the project area. Aircraft from this airport and other airports in Madera County and Fresno County could fly over the project site.

Schools

There are no schools located in the immediate project vicinity.

Regulatory Setting

Hazardous materials and hazardous wastes are regulated by many state and federal laws. These include not only specific statutes governing hazardous waste, but also a variety of laws regulating air and water quality, human health, and land use. The primary federal laws regulating hazardous wastes/materials are the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA). The purpose of CERCLA, often referred to as Superfund, is to clean up contaminated sites so that public health and welfare are not compromised. RCRA provides for “cradle to grave” regulation of hazardous wastes.

Other federal laws include:

- Community Environmental Response Facilitation Act (CERFA) of 1992

- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety & Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

In addition to the acts listed above, Executive Order 12088, Federal Compliance with Pollution Control, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved. Hazardous waste in California is regulated primarily under the authority of RCRA and the California Health and Safety Code. Other California laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning. Worker health and safety and public safety are key issues when dealing with hazardous materials that may affect human health and the environment. Proper disposal of hazardous material is vital if it is disturbed during project construction. This section contains a description of the existing potential hazards in the area, including hazardous materials and wildfires, and evaluates the potential impacts associated with the proposed project.

The Madera County Fire Department has adopted building and operations requirements designed to reduce the risks of wildfires.

Standard Conditions

HM-SC 1: The parking facility may require the placement of a water storage tank for fire suppression. The Conservancy will consult with the Madera County Fire Department or Fire Marshall to determine if a water storage tank will be required, and the appropriate location and size of any required tank.

Impact Analysis

Would the project:

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. The proposed habitat conservation, restoration, and site improvements (i.e., signage, trails, picnic areas, parking area, overlooks) would not involve the routine transport, use, or disposal of hazardous materials. Facility maintenance activities are likely to utilize hazardous materials in limited quantities, such as paints, thinners, cleaning solvents, fertilizers, pesticides, motor oil, and automotive substances. These hazardous materials would be stored off-site and used at individual sites throughout the proposed project area. Construction activities associated with the proposed facilities and improvements would involve the use of hazardous materials during short-term construction activities. These hazardous materials would include paints, thinners, solvents, acids, curing compounds, grease, oils, and other chemicals that could pose risks to construction workers. Lead may also be present in some materials utilized at the site, which has the potential to cause soil and groundwater contamination if not properly stored, used, or disposed of.

Compliance with existing hazardous material regulations would prevent undue hazards. A number of existing regulations would ensure that hazardous material users, generators, and transporters provide operational safety and emergency response measures so that no significant threats to public health and safety are created. The transport of contaminated soils would be governed by federal and State regulations, primarily the Hazardous Materials Transportation Act; although, none are

anticipated at the project site. With application of applicable safety protocols, the potential risk related to release of hazardous materials into the environment during transportation and handling would be reduced to the maximum extent practicable. Impacts would be less than significant since hazardous material use, transport, and disposal would occur in accordance with existing regulations. No mitigation is required.

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

Less than Significant Impact. As discussed above, hazardous material users would be subject to various State, federal, and County regulations on storage, use, handling, transport, or disposal of hazardous materials and hazardous wastes. Compliance with pertinent regulations would avoid the creation of a significant hazard to the public and reduce the potential for 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?*

No Impact. No schools are located within one-quarter mile of the project area. No hazardous emissions, acutely hazardous materials, or wastes will be emitted by the project.

d) *Be located on a site which is included on a list of hazardous materials lists compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

No Impact. No part of the proposed project area is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 (Cortese List). No area within the project site is currently restricted or known to have hazardous materials present.

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 area is not located within an airport land use plan, within two miles of a public airport, or near a private air strip. The closest airport is Sierra Sky Park, located 10.5 miles to the southwest.

f) *For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working the project area?*

No Impact. No private airstrip is located near the planning area. Therefore, no impact will result from private airstrips and conflicting land uses.

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

Less than Significant Impact. Road 206 runs east-west along the northern boundary of the proposed project area. These routes provide important east/west and north/south evacuation routes. The proposed project facilities would be located where there is existing access to public roadways and would not interfere with emergency response or evacuation of adjacent sites. Site facilities and other

improvements would not interfere with emergency response or evacuation of adjacent sites.

With the exception of Road 206 improvements, all construction activities associated with the proposed project would occur within the boundaries of the project area, and work would not restrict access to, cause delays, or block any public road outside the immediate construction area. Impacts to traffic due to construction of improvements required for turn and acceleration/deceleration on Road 206 would be short term, minor delays, and would include construction traffic safety controls. Therefore, the impact of this project would be less than significant.

The site would be closed to the public during emergency flood release operations from Friant Dam, and therefore would not interfere with emergency flood response operations.

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 proposed project will generate a significant amount of new visitors, relative to the existing informal recreational use of the river adjacent to the project site. Many of these visitors are expected to travel to the site via automobile. According to the Madera County Fire Marshall, automobiles involve a higher risk of fire danger than non-vehicular modes of transportation. The proposed project area is adjacent to an urbanized area (Friant) and agricultural areas with a low risk of wildland fires (wildfires). Currently, vacant parcels to the west are planned to be developed into the planned community of Rio Mesa. The proposed project trail will be maintained along with all other trails in the circulation system of the project, including clearing the shoulders of all brush and trash. Internal circulation will provide access by fire response vehicles to all areas of the site. Furthermore, use onsite is limited to daytime use, and camping and campfires will be prohibited.

3.9 Hydrology and Water Quality

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
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 which would not support existing land uses or planned uses for which permits have been granted?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☒	☐	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒

h) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?	☐	☐	☒	☐
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☒	☐

Environmental Setting

The proposed project is located on the Madera County (right) bank of the San Joaquin River. Friant Dam and Millerton Lake reservoir are located approximately 1 mile upstream. Flows in this section of the river are significantly affected by releases from the dam. River flows in the project area fluctuate from season to season, but generally have a low flow of 350 cfs and a high flow of 8,000 cfs. Low flow conditions typically occur in the summer and fall; high flow conditions are typically in the spring.

The lower-elevation portion of the project area has been designated by the Federal Emergency Management Agency (FEMA) to be within a 100-year flood zone. The base flood elevation ranges from 324 feet in the upstream portion of the site, to 321 feet in the downstream portion. The planned structures will all be located above the base flood elevation and regulated floodway. The demolition of the remnants of the old Friant bridge will occur within the regulated floodway.

Routine water quality monitoring performed by the Fresno Metropolitan Flood Control District has determined that river water quality is very high in the project area. The San Joaquin River is considered an anadromous fishery, and water quality is an essential component of maintaining this function of the river. Until the 1940s, the river sustained large populations of Chinook salmon, but salmon populations became extirpated in the project area when Friant Dam was completed and diverted the majority of stream flows. The San Joaquin River Restoration Program is implementing studies, operational changes at the dam, management strategies, and improvements to reintroduce Chinook salmon.

Regulatory Setting

Water Quality and Storm Water Runoff

The primary federal law regulating water quality is the Clean Water Act. Section 401 of the Act requires a water quality certification from the State Water Resources Control Board (SWRCB) or Regional Water Quality Control Board (RWQCB) when a project: (1) requires a federal license or permit (a Section 404 permit is the among the most commonly required federal permits projects along the river); and (2) will result in a discharge to waters of the United States. Additional laws regulating water quality in California include the Porter-Cologne Water Quality Act, Safe Drinking Water Act, and Pollution Prevention Act. State water quality laws are codified in the California Water Code. The Porter-Cologne Water Quality Control Act, passed in 1969, established California's SWRCB and the nine Regional Water Quality Control Boards (RWQCBs), which are responsible for protection of the State's surface water and groundwater supply. The project area is within the Central Valley RWQCB jurisdiction. The SWRCB is required under section 303 of the Clean Water Act, and the California Water Code (§13240) to adopt water quality standards. In response to these requirements the RWQCBs have prepared Water Quality Control Plans (Basin Plans) that designate the beneficial uses of waters to be protected, establish water quality objectives for the reasonable protection of the beneficial uses, and establish a program of implementation for achieving the water quality objectives.

These standards and objectives are listed in the Central Valley RWQCB Basin Plan for the Sacramento River and San Joaquin River Basins (Fourth Edition 1998).

Total Maximum Daily Loads (TMDLs) have not been applied to this reach of the San Joaquin River, although some have been enacted much farther downstream, including mercury/methylmercury TMDLs and a Delta Mercury Control Program with a boundary that begins at the San Joaquin's confluence with the Stanislaus River. Some of the watersheds tributary to the San Joaquin River downstream of the Stanislaus are considered mercury-enriched as a result of historic gold mining. The San Joaquin River above the confluence with the Stanislaus River has not been identified by the RWQCB as a mercury source.

1602 Streambed Alteration Agreement

As previously discussed in Section 3.4, Biological Resources, under Section 1602 of the California Fish and Game Code, any state or local governmental agency or public utility must notify the CDFW prior to any construction project that may do one or more of the following: (1) divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake; (2) change or use any material from the bed, channel, or bank of any river, stream, or lake; (3) result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake. Generally, the notification requirement applies to any work undertaken within the annual highwater mark of a wash, stream, or lake, which contains or once contained fish and wildlife or supports or once supported riparian vegetation. CDFW may propose reasonable modifications in the proposed construction as would allow for the protection of the fish and wildlife resources.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) is the permit system for the discharge of any pollutant (except dredge or fill material) into waters of the United States. The SWRCB issues a construction general permit for most construction activities covering areas greater than one acre (0.40 hectare). Some construction activities may require an individual construction permit. State projects that are subject to the construction general permit require a Storm Water Pollution Prevention Plan (SWPPP), while all other projects require a Water Pollution Control Program (WPCP). Subject to lead agency review and approval, the contractor prepares the SWPPP or WPCP. The WPCP and SWPPP identify construction activities that may cause pollutants in storm water, and provide measures to control the pollutants.

Report of Waste Discharge

A Report of Waste Discharge (ROWD) pursuant to California Water Code Section 13260 is required for individual projects discharging or proposing to discharge waste that could affect the quality of the waters of the State. A ROWD shall be filed, containing information which may be required by the appropriate RWQCB. The RWQCB prepares a permit, which may include operational requirements, contaminant limitations, and monitoring requirements as a conditioned permit for the discharge. Compliance with the permit requirements ensures that the discharge does not lead to water quality degradation of receiving surface water bodies, and that beneficial uses of water are protected.

California State Lands Commission Management

On April 22, 2010, the RWQCB identified the State Lands Commission (CSLC) as both a State agency that manages open water areas in the Sacramento-San Joaquin Delta Estuary and a nonpoint source discharger of methylmercury (Resolution No. R5-2010-0043), because subsurface lands under the CSLC's jurisdiction are impacted by mercury from legacy mining activities dating back to California's Gold Rush. Pursuant to a TMDL, the RWQCB is requiring the CSLC, the California Department of Water Resources, and the Central Valley Flood Protection Board to secure adequate resources to fund studies to identify potential methylmercury control methods in the Delta and to

participate in an Exposure Reduction Program. The goal of the studies is to evaluate existing control methods and evaluate options to reduce methylmercury in open waters under jurisdiction of the CSLC.

Central Valley Flood Protection Board

The Central Valley Flood Protection Board regulates the State's designated 100-year floodway on the San Joaquin River. Compliance with encroachment permit requirements ensure that no project improvements in the floodway may have the potential to significantly obstruct flood flows, reduce conveyance capacity, or break free to pose a hazard downstream.

FEMA Flood Zone Requirements

The Federal Emergency Management Agency (FEMA) flood zone regulations and federal Flood Insurance Rate Map requirements are designed to ensure that developments avoid flood prone areas, are properly protected from floods, and do not displace floodwaters or otherwise increase water surface elevations during design flood events. (Figure 3, FEMA map of project area)

Standard Conditions

HD-SC 1: Interpretive information shall be provided to raise awareness about the impact of trash and pollutants on river water quality.

HD-SC 2: Storm Water BMPs, Erosion Control, and NPDES permit. The proposed project's SWPP shall identify construction and post-construction BMPs to reduce erosion, sedimentation, and nonpoint source pollution in runoff. These storm water BMPs may include, but are not limited to, the use of porous surfaces in parking areas; directing runoff into landscaped areas; and the use of natural drainage methods, such as bioswales.

HD-SC 3: Split rail fencing shall not be used in the designated floodway because the fence materials may become dislodged during flooding events.

HD-SC 4: Prior to final project design of any structures, all plans for improvements within the 100-year flood zone and State designated 100-year floodway must comply with FEMA and CVFPB requirements for non-residential structures, as appropriate. In addition, all revegetation plans and improvements planned within the 100-year designated floodway must be reviewed for compliance with Central Valley Flood Protection Board requirements, and permits shall be secured as necessary.

Impact Analysis

Would the project:

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

Less than Significant with Mitigation. Construction of facilities and other proposed project improvements would generate short-term construction pollutants. Storm water runoff from individual construction sites could contain pollutants, such as soils and sediments that are released during grading and excavation activities, and petroleum-related pollutants due to spills or leaks from heavy equipment and machinery. Other common pollutants that may result from construction activities may include solid or liquid chemical spills; concrete and related cutting or curing residues; wastes from paints, stains, sealants, solvents, detergents, glues, acids, lime, plaster, and cleaning agents; and heavy metals from equipment.

Construction activities that disturb soil on one acre or more are required to obtain an NPDES permit from the RWQCB. A SWPPP is required for a project to be covered

under the Construction General NPDES permit and must include BMPs to reduce impacts on water quality. These requirements are implemented through the Title 24 California Green Building Standards. These BMPs include various measures to control on-site erosion; reduce sediment flows into the storm water; control wind erosion; reduce soil and debris tracking into adjacent roadways and off-site areas; and manage wastes, materials, wastewater, liquids, hazardous materials, stockpiles, equipment, and other site conditions to prevent pollutants from draining away from the project site. Inspections, reporting, and storm water sampling and analysis are also required to ensure that visible and non-visible pollutants are not discharged off-site.

The proposed project facilities and improvements shall comply with the NPDES General Permit for Storm Water Discharges Associated with Construction Activity (NPDES No. CAS000002, Order No 2009-0009-DWQ). This compliance will include implementation of an SWPPP to reduce short-term, construction-related storm water quality impacts to the San Joaquin River. Therefore, impacts would be less than significant, and no mitigation is required.

While some of the proposed improvements under the project would have beneficial impacts on storm water quality (such as post-construction storm water BMPs and bioswales) or no impacts (such as invasive vegetation removal and riparian enhancement, reintroduction of native species, and entry signage), a number of the proposed project facilities may increase runoff and generate new sources of storm water pollutants. These include the picnic areas, overlooks, and parking areas. Potential pollutants that could be generated by the use and maintenance of these proposed facilities could include, but are not limited to, bacteria/viruses, heavy metals, nutrients, pesticides, organic compounds, sediments, trash and debris, oxygen-demanding substances, and oil and grease. Specific pollutants would depend on the type of use and the specific location of each proposed site improvement; for example, parking areas would generate oil and grease, trash and vehicle fluids, and the trail would generate sediments, trash, and debris.

Development and implementation of the erosion and storm water pollution control plan, as described in the mitigation measures below, will reduce potential soil erosion and non-point source pollution impacts to a less than significant level.

Mitigation Measures

MM-HD 1: Prior to the onset of construction, a construction and post-construction erosion and non-point source pollution control plan will be prepared by a qualified engineer consistent with Madera County grading requirements of a and an NPDES General Construction Permit (issued by the RWQCB for projects in which one or more acres of land are graded), if needed. Typically, specified erosion control measures shall be implemented prior to the onset of the rainy season. At a minimum, elements of the erosion control plan will include the following:

- Protection of exposed graded slopes from sheet, rill and gully erosion, in the form of erosion control fabric, hydromulch containing the seed of native soil-binding plants, straw mechanically imbedded in exposed soils, or some combination of the three. Hay bale check dams, or other similar measure, should be installed below graded areas so that any sediment carried by surface runoff is intercepted and retained behind the check dams before it can enter the San Joaquin River.

- Protection of the San Joaquin River from sedimentation. During bridge demolition, impermeable floating containment barriers or mats will be installed immediately downstream of the work area in order to contain fallen debris. Turbidity

curtains will be installed along the downstream perimeter of the floating containment barriers to minimize the spread of sediment into downstream waters.

The project site shall be monitored periodically throughout the rainy season to ensure that the control measures are successfully preventing on-site erosion and the concomitant deposition of sediment off-site.

Post-construction runoff from developed areas will be routed to bioswales or other effective BMPs.

b) *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?*

Less than Significant. The project may include one groundwater well to provide temporary plant establishment irrigation and fire suppression capability. These needs would be intermittent, temporary, and relatively low-volume. Construction of the proposed facilities and improvements would not interfere with groundwater recharge, since project improvements will be designed to allow for recharge/infiltration of runoff from routine storm events.

Excavation and grading activities for proposed facilities and improvements may temporarily affect the underlying groundwater resources. While project facilities, such as overlook structures, are unlikely to require extensive excavation, the design for each facility has not been developed and could include relatively deep foundations. As stated previously, the RWQCB regulates the discharge of groundwater from construction and project dewatering to surface waters and into local watersheds. Under RWQCB requirements, an individual waste discharge permit will be required for projects that involve dewatering activities.

While building foundations for proposed overlook facilities may extend into the underlying groundwater, these projects would consist of relatively small structures that would not require deep piles or footings that would create barriers to groundwater movement.
Bridge demolition will not involve any dewatering activity.

Less than significant adverse impacts on groundwater supplies would occur from the proposed project facilities and improvements, and no mitigation is required.

c) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?*

Less than Significant with Mitigation. The proposed project area consists of approximately 115 acres, primarily located within the historical floodplain of the San Joaquin River. All water onsite drains into the San Joaquin River.

Existing drainage patterns of the river, floodplain, and on-site topographic drainages would not change significantly with the proposed project. In addition, the impervious areas created by the proposed facilities and improvements would be limited to one restroom, picnic shelters, and paving necessary to provide Americans with Disability Act access. While changes to the existing hydrology would occur at specific sites within the project area, this change would be localized and would not affect the

drainage patterns of the San Joaquin River or other drainages throughout the project area.

While an increase in runoff from improvements may occur, erosion or siltation is expected to affect only areas within the project area, and excess runoff will be controlled through mitigation measures MM-HD 1. Erosion control measures implemented as part of the SWPPP would reduce erosion hazards on site and off site. No significant adverse impacts to drainage patterns in the proposed project area or substantial erosion would occur. Impacts related to local changes in drainage patterns and erosion would be less than significant.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?

Less than Significant with Mitigation. See c) above.

e) Create or contribute runoff water, which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

Less than Significant. The amount of impervious surface areas in the proposed project area would increase slightly as proposed facilities and improvements introduce structures, parking facilities, and other site improvements. Thus, runoff volumes from individual sites are likely to slightly increase over existing conditions.

There is no existing or planned municipal storm water drainage system that will serve the project area.

The San Joaquin River has a 31,800-square-mile watershed. Runoff from the proposed project represents an insignificant proportion of the total area generating runoff into the San Joaquin River. Runoff from proposed project facilities and improvements would not have significant adverse impacts related to flooding or capacity of drainage systems or water bodies downstream of the site due to increases in runoff volumes and rates.

f) Otherwise substantially degrade water quality?

Less than Significant with Mitigation. See section a) above.

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 does not include any housing development. Thus, no housing units would be located within the FEMA 100-year floodplain, and no impacts would occur.

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

Less than Significant. The structures to be constructed for the proposed project, including the self-contained vault toilet restroom, picnic shelters, and possible water well, will be located above the base elevation for the FEMA 100 year flood zone (Zone AE) and above the State designated floodway. All fencing shall be parallel to the river's flow and above the floodway. The proposed trails will be at grade. The

improvements will not impede or redirect flows, and will result in a less than significant 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?

Less Than Significant: Friant Dam is located at the eastern end of the San Joaquin River Parkway, approximately one mile upstream from the project area. Maximum routine operational releases from Friant Dam are approximately 8,000 cubic feet per second, since those releases would not result in damage to housing located downstream along the river. This flow remains within the river channel at the proposed project site. Other than to remove the bridge remains, no improvements are proposed within the area affected by routine releases or the area affected by 100-year flood events. The park site will be locked and posted closed when releases from Friant Dam create unusually unsafe conditions for public river access. Under current Conservancy operational procedures, releases of 4,000 cfs or greater may result in closure.

Dam failure can result from a number of natural and/or man-made causes, including earthquake, high flood waters, structural deficiency, and other causes. Dam failure could lead to the endangerment of visitors during these events. Existing protocol implemented through the San Joaquin River Parkway includes flood warning alert and evacuation implemented by the Counties of Madera and Fresno, the City of Fresno, and the Fresno Metropolitan Flood Control District. Further, visitors and workers onsite shall be informed of the dangers of potential dam failure. If there is adequate forewarning of a dam failure, access to Parkway facilities would be closed. Implementation of the existing procedures will ensure a less than significant impact related to the exposure of persons to flood risks caused by the project.

j) Inundation by seiche, tsunami, or mudflow?

Less than Significant. The site is adjacent to an unconfined river. To address the potential effects of wave action similar to a sieche, improvements onsite will be constructed in accordance with building codes, ensuring all improvements would be flood-proof as necessary and impacts would be less than significant.

The project area is located inland and would not be subject to tsunami hazards. No impact related to tsunamis would occur.

3.10 Land Use and Planning

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
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 the general plan, Area 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 communities conservation plan?	☐	☐	☐	☒

Environmental Setting

The project area and its immediate surrounding consists of the river channel and bank, a relatively narrow floodplain, and grassland upland. The project area gradually rises from the riverbank to its boundary near the Madera Canal. Land use in Madera to the northwest, up-gradient of the canal is agricultural orchards and vineyards. Land use across the river in Fresno County consists of residential and commercial uses in the unincorporated community of Friant, with the San Joaquin Fish Hatchery in near proximity. The recreational Friant Cove hand-carried boat launch and carpool parking area are located to the northeast.

The project is located in the Rio Mesa Area Plan adopted by the County of Madera in 1995. There is significant urban development planned west of the project area within the Rio Mesa Area Plan.

Regulatory Setting

Consistency with Federal, State, and Local Plans

San Joaquin River Parkway Master Plan

The Conservancy was established in January 1993 by the State legislature to develop and manage the San Joaquin River Parkway, a planned regional 22-mile greenspace and wildlife corridor on both sides of the river extending from Friant Dam to State Route 99. The Parkway will include a trail system, recreational opportunities, and environmental education features. The Parkway Master Plan applies to the entire jurisdictional planning area and encompasses the project area. The Conservancy adopted the Parkway Master Plan and certified an associated EIR in 1997 for development and management of the Parkway. The Parkway Master Plan establishes Conservancy plans, goals, objectives, and policies for establishing conservation areas, restoring habitat, protecting natural and cultural resources and developing public river access, a trail system, and recreational and educational facilities. The proposed project is consistent with the Parkway Master Plan.

Madera County General Plan

The Madera County General Plan was adopted on October 24, 1995, and serves as the overall guiding policy document for the unincorporated areas of Madera County. Under the Madera County General Plan, the proposed project area is designated Public Open Space (POS). The approved 1995 Rio Mesa Area Plan (RMAP) is consistent with the 1995 General Plan designation for the proposed project area.

The Madera County General Plan policy document includes goals, policies, standards, implementation programs, and a land use map that constitute the County's formal regulations for land use development, and environmental quality. The goals and policies are applicable throughout the County, and all unincorporated areas in the County are also subject to the land use map. Relevant Madera County General Plan land use goals and policies related to the proposed project are identified below.

Rio Mesa Area Plan (RMAP)

The 1995 RMAP and associated EIR were developed in order to give overall definition and guidelines to the development of an approximate 15,000-acre project area surrounding the proposed project area. The proposed project area is designated within the RMAP as Public Open Space (POS).

Impact Analysis

Would the project:

a) Physically divide an established community?

No Impact. The vicinity surrounding the project area consists of planned residential and commercial development within the Rio Mesa Area Plan, Road 206, and an orchard. The project area is located close to the community of Friant, which is situated across the Road 206 bridge in Fresno County. The proposed project would not physically divide any of these uses as it is situated in an area that is planned to remain in open space on the edge of existing and planned development.

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

No Impact. The project area is owned by the State of California and managed under the jurisdiction of the Conservancy. The project area is within the San Joaquin River Parkway as administered by the San Joaquin River Conservancy and is subject to the San Joaquin River Parkway Master Plan, the guiding document for the long term development of the Parkway. The project area is also wholly within Madera County and is consistent with the open space uses identified in the Madera County General Plan.

The proposed project serves to further implement the San Joaquin River Parkway Master Plan for the subject 115 acre project area. The proposed project has been designed to be consistent with the Parkway Master Plan, including all major components of natural environment enhancement and preservation, recreation, access, and education. The table below further details the project's overall consistency with the Parkway Master Plan.

Table: Parkway Master Plan and River Vista Project Consistency

Natural Resources	
Parkway Master Plan Objectives	Proposed River Vista Project Consistency
NRO1 Protect the San Joaquin River as aquatic habitat and a water source. Enhance and protect fisheries in the river and in lakes in the Parkway.	The project will conserve aquatic habitat associated with the river and enhance aquatic habitat consistent with the goals and objectives of the San Joaquin River Restoration Program. The plan supports the SJRRP's efforts to maintain and enhance river channel, bank, and floodplain habitat. The design of the proposed project facilities is tailored to protect water quality. For example, parking areas will have bioswales or other appropriate BMPs to capture and treat runoff prior to percolating into the groundwater and the river. Riverside overlooks are designed to educate the public about river resources and the reintroduction of salmon in the river.
NRO2 Protect and manage existing publicly owned lands with suitable habitat as natural reserves and segments of the wildlife corridor.	The project is a long term plan that seeks to establish a formal public management presence onsite, and implementation of the project will help to manage the site and discourage vandalism, squatting, poaching and other illegal activities. The proposed project will preserve and enhance riparian habitat and the wildlife corridor.
NRO5 Revegetate with native species to close gaps in the wildlife corridor or enhance the effectiveness of buffer zones.	All revegetation planned onsite is to be native species suitable for the area. Where trails are planned adjacent to sensitive habitat areas, native plants such as California Blackberry may be utilized to detract visitors from disrupting sensitive areas.

Recreation	
Parkway Master Plan Objectives	Proposed River Vista Project Consistency
RO1 Locate intensive recreational activity sites away from sensitive natural resources and private residences.	The highest concentration of recreational activity within River Vista will occur along the trail traveling the length of the site. The trail will be maintained along a former road and will not pass through sensitive habitat areas. Where the trail might pass adjacent to a sensitive resource, such as a nesting area, a buffer will be maintained with visual screening (vegetation), native vegetation that provides a thorny barrier, or aesthetically appropriate fencing. There are no residences near the project boundaries.
RO2 Prevent and control undesirable activities and unlawful conduct in the Parkway.	The project is a long term plan that seeks to establish a formal public management presence onsite, and implementation of the project will help to manage the site and discourage vandalism, squatting, poaching and other illegal activities. By law, the project may not be opened to the public unless adequate resources for operation and management are secured.

Madera County General Plan

Madera County General Plan policies support the efforts of the San Joaquin River Parkway to protect the San Joaquin River and the river bottom as it relates to Madera County. Other General Plan policies support the protection of biological resources and providing for non-motorized transportation, two vital elements of the River Vista project.

The proposed project serves to further implement the San Joaquin River Parkway Master Plan and Madera County General Plan through habitat conservation and enhancement, recreational opportunities, increasing access for non-motorized transportation, and providing educational opportunities in a natural area. No adverse impact will result.

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

No Impact. No Habitat Conservation Plans or Natural Community Conservation Plans currently exist for the proposed project area. No impacts in this regard would occur.

3.11 Mineral Resources

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
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, Area Plan or other land use plan?	☐	☐	☐	☒

Environmental Setting

The San Joaquin River has a long and extensive history of sand and gravel mining. Approximately 40 million tons of sand and gravel are estimated to have been extracted from the river's bed and floodplain in the Parkway reach to date. Lost Lake Regional Park, located in Fresno County at the southern tip of the River Vista property boundary, was a source of sand and gravel used to construct Friant Dam. A broad floodplain and associated alluvial deposits of sand and gravel did not form within the project area, and therefore it is not a significant source of sand and gravel.

Regulatory Setting

The Madera County General Plan addresses the importance of economically significant sand and gravel resources.

Impact Analysis

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?

No Impact. The project area is classified by the California Geological Survey as MRZ-1, "areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence." The proposed project will preserve the subsurface condition of the site and will have no impact on mineral resources of value to the region or state.

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, Area Plan or other land use plan?

No Impact. See analysis above, section a).

3.12 Noise

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
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 applicable standards of other agencies?	☐	☒	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☒	☐	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Environmental Setting

Noise Sources

The proposed project is located primarily in a rural setting. Noise levels within the project site are dominated by vehicle traffic noise on Road 206. Noise comes from automobiles from Road 206 traveling into and out of Fresno County. Planned urbanization of the surrounding area within the Rio Mesa Area Plan will generate increased noise at the project site, primarily due to increased traffic on

Road 206. The project is not located near an airstrip or airport. The proposed project is not located near sensitive noise receptors. The nearest existing noise-sensitive and vibration-sensitive uses to the proposed project site are the residences located approximately ½ mile from the site, across the San Joaquin River.

Regulatory Setting

Short Term Noise

Construction noise typically occurs intermittently and varies depending upon the nature or phase of construction (e.g. demolition/land clearing, grading and excavation, erection). The United States Environmental Protection Agency has found that the average noise levels associated with construction activities typically range from approximately 76 dBA to 84 dBA equivalent continuous level (Leq), with intermittent individual equipment noise levels ranging from approximately 75 dBA to more than 88 dBA for brief periods.

Noise from localized point sources (such as construction sites) typically decreases by approximately 6 dBA with each doubling of distance from source to receptor. Given the noise attenuation rate and assuming no noise shielding from either natural or human-made features (e.g. trees, buildings, and fences); outdoor receptors within approximately 400 feet of construction site could experience maximum noise levels of greater than 70 dBA when onsite construction-related noise levels exceed approximately 89 dBA at the project site boundary. Construction activities that occur during the more noise-sensitive hours (10 pm – 7 am) could result in increased levels of annoyance and sleep disruption for occupants of nearby existing residential dwellings. As a result, noise-generating construction activities would be considered to have a potentially significant short-term impact. However, these impacts can be mitigated, as discussed below.

Long Term Noise

Mechanical systems and building equipment (e.g. pumps, heating, ventilation and air conditioning systems) could generate noise levels of approximately 90 dBA at 3 feet from the source. However, such mechanical equipment systems are typically shielded from direct public exposure and usually housed on rooftops, within equipment rooms, or within exterior enclosures.

Landscape maintenance, such as tractor-drawn disking and gasoline-powered mowers, , associated with the proposed operations could result in intermittent noise levels that range from approximately 80 to 100 dBA at 3 feet, respectively. Based on an equipment noise level of 100 dBA, landscape maintenance equipment (assuming a noise attenuation rate of 6 dBA per doubling of distance from the source) may result in exterior noise levels of approximately 75 dBA at 50 feet. The Madera County General Plan has identified the noise levels in the table below as standards for all Madera County projects.

Table: Maximum Allowable Noise Exposure for Non-transportation Noise Sources

		Residential	Commercial	Industrial (L)	Industrial (H)	Agricultural
Residential	AM	50	60	55	60	60
	PM	45	55	50	55	55
Commercial	AM	60	60	60	65	60
	PM	55	55	55	60	55
Industrial (L)	AM	55	60	60	65	60

	PM	50	55	55	60	55
Industrial (H)	AM	60	65	65	70	65
	PM	55	60	60	65	60
Agricultural	AM	60	60	60	65	60
	PM	55	55	55	60	55

*As determined at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards may be applied on the receptor side of noise barriers at the property line.

AM = 7:00 AM to 10:00 PM
PM = 10:00 PM to 7:00 AM
L = Light
H = Heavy

Note: Each of the noise levels specified above shall be lowered by 5 dB for pure tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g. caretaker dwellings).

Sensitive Receptors

Noise-sensitive receptors are generally considered to be humans who are engaged in activities or who are utilizing land uses that may be subject to the stress of significant interference from noise. Activities usually associated with sensitive receptors include but are not limited to talking, reading, and sleeping. Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals and places where quiet is an essential element of the intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure to excessive, disturbing, or offensive interior or exterior noise levels. Additional land uses such as parks, historic sites, cemeteries, and recreation areas are also considered sensitive to increases in exterior noise levels. Schools, places of worship, hospitals, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses.

Vibration-sensitive receptors are generally considered to be humans who are engaged in activities or who are utilizing land uses that may be subject to significant interference from vibration. Activities and land uses often associated with vibration-sensitive receptors are similar to those associated with noise-sensitive receptors. Construction vibration is generally associated with pile driving and rock blasting. Occasionally, large bulldozers and loaded trucks can cause perceptible vibration levels at close proximity. In close proximity, vibration generated by construction activity has the potential to cause structural damage (i.e., cracking of floor slabs, foundations, columns, beams, or wells) or cosmetic/architectural damage (i.e., cracked plaster, stucco, or tile). Although it is possible for vibration from construction projects to cause building damage, the vibration from construction activities are almost never of sufficient amplitude to cause more than minor cosmetic damage to buildings.

Table: California Land Use Compatibility Guidelines

Land Use Category	Community Noise Exposure L_{dn} or CNEL, dB (55, 60, 65, 70, 75, 80, 85)
Residential (Low-Density Single-Family, Duplex, Mobile Homes)	
Residential (Multi-Family Homes)	
Transient Lodging (Motels, Hotels)	
Schools, Libraries, Churches, Hospitals, Nursing Homes	
Auditoriums, Concert Halls, Amphitheaters	
Sports Arena, Outdoor Spectator Sports	
Playgrounds, Neighborhood Parks	
Golf Courses, Riding Stables, Water Recreation, Cemeteries	
Office Buildings, Business, Commercial and Professional	
Industrial, Manufacturing, Utilities, Agriculture	

Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Specified land use is satisfactory based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirement is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.	New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.	New construction or development should generally not be undertaken.

L_{dn}: day-night average sound level; CNEL: community noise equivalent level; dB: decibel

Source: OPR 2003

Impact Analysis

Would the project result in:

a) *Exposure of persons to or generation of noise levels in excess of standards established in any applicable plan or noise ordinance, or applicable standards of other agencies?*

Less than Significant with Mitigation. Future outdoor recreational users within the proposed project area could be exposed to relatively high noise levels from Road 206. The noise compatibility matrix from the State General Plan Guidelines presented in the above table provides standards for evaluating new land use development, including proposed uses for the project area. These guidelines are primarily used to assess transportation noise impacts to new developments and should be incorporated into land use planning to reduce future noise and land use incompatibilities. Where the matrix indicates that unmitigated noise levels would not be compatible with the proposed land use, noise abatement shall be provided to assure that long-term noise exposure to a noise-sensitive area is acceptable for that use.

The proposed project has been designed as a low impact recreational open space development. The primary impacts would be temporary construction impacts, in particular noise generated during bridge demolition. Implementation of the mitigation measures below would reduce the impacts to a less than significant level.

Mitigation Measures

MM-NS 1: Construction activities would be limited to daylight hours, Monday - Friday. If work during weekends or holidays is required, no work would occur on those days before 7:30 a.m. or after 6 p.m.

MM-NS 2: To reduce noise and vibration impacts due to construction, the Conservancy shall require construction contractors to implement the following measures:

- During construction, the contractor shall outfit all equipment, fixed or mobile, with properly operating and maintained exhaust and intake mufflers, consistent with manufacturers' standards.
- Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for construction shall be hydraulically or electrically powered to avoid noise associated with compressed air exhaust from pneumatically powered tools, or if pneumatic tools are used, an exhaust muffler on the compressed exhaust shall be employed.
- Stationary noise sources that could affect adjacent receptors shall be located as far from adjacent receptors as possible.
- Public access to the project area shall be precluded during construction activities.

b) *Exposure of persons to, or generation of, excessive ground borne vibration or ground borne noise levels?*

Less than Significant with Mitigation. Temporary construction activity, in particular bridge demolition, could be a source of ground borne noise and vibration. These temporary impacts shall be mitigated to less than significant levels through the measures in section a) above.

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

Less than Significant with Mitigation. After construction, ambient noise levels within the open space, low-impact recreational area shall not be substantially increased over existing levels. Temporary increases shall be mitigated as described in section a) above.

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

Less than Significant with Mitigation. See section a) above.

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 proposed project area is not located near an airport or private airstrip. The nearest airport is Sierra Skypark, located approximately 10.5 miles southwest of the project area at 7535 Spy Glass Fresno, CA 93711 in Fresno County. Noise from aircraft flying over the project area is occasionally audible but does not adversely affect existing recreational uses. No impacts to airport or aircraft operations would occur with the proposed facilities and improvements under the project, and the project would not expose site visitors to excessive noise levels from aircraft. No impacts would occur.

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. The nearest private airstrip, Sierra Skypark, is a privately owned public use airport 10.5 miles from the project area. See section e) above.

3.13 POPULATION AND HOUSING

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
Population and Housing ***Would the project:***				
a) Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Environmental Setting

There are no housing units or other permanent or temporary residences in the project area; therefore, there is no resident population at the site. The future population of the site shall consist of daytime visitors.

Regulatory Setting

There are no relevant programs and policies related to population and housing that may be applicable to the project site, since there are no housing units in the proposed project area and the site does not support a resident population. The project does not propose to displace any existing facilities or uses at the project site. The project area is zoned Public Open Space.

Impact Analysis

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)?*

No Impact. The project does not propose housing development or public infrastructure to support development; therefore, it would not result in direct or indirect population growth.

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

No Impact. As noted above, there are no existing housing units within the proposed project area. Therefore, implementation of the proposed project programs, facilities, and improvements would not result in displacement of housing, households, or people. No housing displacement impacts would occur.

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

No Impact. The project does not propose the relocation or displacement of existing facilities and recreational uses. Thus, no displacement of existing users, businesses, or employment would occur.

3.14. Public Services & Recreation

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
Public Services *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*				
a) Fire Protection?	☐	☐	☒	☐
b) Police Protection?	☐	☐	☒	☐

c) Schools?	☐	☐	☐	☒
d) Parks?	☐	☐	☒	☐
e) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
f) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☒	☐

Environmental Setting

The project area is located in Madera County. There are no residences, schools, or government facilities within the project area. The nearest schools, parks, and public safety and emergency providers are described below.

Fire Protection

The Madera County Fire Department (MCFD) provides fire protection and emergency services to most areas of unincorporated Madera County, including the project area. In total, MCFD is comprised of 17 fire stations, a fleet of approximately 56 fire apparatus and support vehicles, 32 career fire suppression personnel,175 paid on-call firefighters, and seven support personnel. The department is administered, and career suppression personnel are provided, through a contract with the California Department of Forestry and Fire (CAL FIRE).

Law Enforcement Services

The Madera County Sheriff's Department (MCSD) would provide law enforcement services to River Vista. In general, the MCSD is responsible for the investigation of crimes that occur within its jurisdiction and the arrest of perpetrators in unincorporated areas of the County. MCSD is part of California's law enforcement Mutual Aid System (Region 5), which encompasses Kern, Tulare, Kings, Fresno, Mariposa and Merced counties. The MCSD headquarters are located at 14143 Road 28 in the City of Madera, approximately 22 miles west of the project area. This facility houses the Valley Patrol Division, the Administration Section, the Records Unit, and the 911 communications center.

Madera County Code Relating to River Vista Security

Firearms are prohibited from use within the project area per Madera County Code (MCC) section 9.28.210, which restricts use within a ½ mile from any boating areas, including the San Joaquin River. Boating is restricted to five miles per hour in boating areas onsite per MCC section 9.28.230. Smoking near vegetation is prohibited via MCC section 9.32.010. In addition to Madera County public safety personnel, the MCC may also be enforced by California Department of Fish and Wildlife Game wardens and California State Parks officers.

California Department of Fish and Wildlife

California Game Wardens have statewide authority as sworn peace officers, as defined in California Penal Code Section 830.2, to enforce all state laws, and are foremost, entrusted to maintain public safety. Like all peace officers, Wardens carry and use firearms. Game Wardens provide backup to

all other local, state, and federal officers from all law enforcement agencies. The mission of the Department of Fish and Wildlife Law Enforcement Division is to protect the habitat, water, wildlife and aquatic life of the State while providing public safety and maintaining a highly trained and professional work force to continue that protection into the future. They enforce all Fish and Wildlife laws related to hunting, recreational and commercial fishing, trapping, pollution, falconry, and exotic animal laws. One warden patrols the San Joaquin River Parkway, including the proposed project area.

Schools

The project site is located within the Chawanakee Unified School District boundaries for elementary (grades K-6), middle (grades 7-8), and high schools (grades 9-12).

Parks

The proposed project is located approximately 38 miles south of the 750,000-acre Yosemite National Park and approximately 12 miles from the 1.3 million-acre Sierra National Forest. The proposed project is located less than one mile southwest of the nearest boundary of Millerton Lake State Recreation Area, and the project may be operated in coordination with the State Department of Parks and Recreation. The proposed project is located less than 1/4 mile from the Conservancy's Friant Cove hand-carried boat launch, and approximately 1 1/2 miles from the County of Fresno's Lost Lake Regional Park, both of which are part of the planned San Joaquin River Parkway.

The proposed project is part of the planned regional Parkway. In accordance with the goals and objectives of the Parkway Master Plan, the proposed project will provide managed low-impact public recreation and access to the river. Picnicking, hiking, fishing, nature observation, and non-motorized boating (facilitated by launching hand-carried boats from the riverbank) will be accommodated by the proposed project. Natural history and cultural resources interpretation will be provided through signs and access for educational programs. Demolition of the bridge remnants will facilitate safe recreational boating and other recreational uses of the river.

Standard Conditions

PSR-SC 1: The trail as designated in the project shall provide for emergency access, site patrol, and use by maintenance vehicles. Law enforcement officers may utilize the trail for emergency services and patrol. The trail provides for adequate width to allow for all vehicular emergency access, including appropriate turning radii for fire trucks.

PSR-SC 2: The project is proposed as a day use facility and will be managed via contract with the California Department of Parks and Recreation from the Millerton Lake State Recreation Area, or other suitable service provider.

PSR-SC 3: Security lighting will be located at places where night visibility is necessary for vehicle safety and to discourage vandalism and illegal activity. This includes the onsite restroom, the parking lot, and fee collection booths.

PSR-SC 4: A signage program will be developed for informational signs on boating safety and regulations, trail safety, firearm restrictions, open fire and fireworks prohibitions, and trespassing notices for adjacent private land.

PSR-SC 5: Any trail located within fifty feet of private property shall be bordered by a weed-free shoulder to prevent wildfire, a combination of split rail fencing (or a similar type of fencing that allows for wildlife movement) and native, drought tolerant vegetation in order to discourage visitors from trespassing on private property.

Impact Analysis

Would the project:

Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

a) Fire Protection?

Less than Significant. The proposed project would have a minimal impact on fire protection and emergency response facilities due to its size and general open space nature. If required by the Madera County Fire Department or Fire Marshall, a water storage tank will be maintained at the project entrance adjacent to the parking facility or equivalent measure will be implemented to provide a water supply for fire suppression. The shoulders of roadways and trails shall be disked or mowed prior to the dry season.

b) Police Protection?

Less than Significant. Law enforcement impacts associated with the proposed project would be considered less than significant. Prior to opening the facility, the Conservancy will have a contract in place with the California Department of Parks and Recreation or other suitable service provider to provide management, supervision, and public safety services throughout the project area.

c) Schools?

No Impact. The proposed project will not generate housing or new growth that will affect the Chawanakee Unified School District. The project area is also located away from communities that are served by the Chawanakee Unified School District, thus traffic impacts associated with the project will not affect transportation (i.e. bussing and private transportation) to schools. The project will create an educational resource that Chawanakee Unified and other regional school districts may utilize to further learning about historical, environmental, natural resource, and cultural issues.

d) Parks?

No Impact. The proposed project consists of the construction of a regional open space park facility for low-impact recreation. The proposed project will not result in a demand for or require construction of additional parks. Therefore, there is no impact associated with parks.

e) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

f) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

Less than Significant. The proposed project would increase the amount of recreational facilities provided in the area. Since the project would increase park facilities in the project vicinity, would not affect the potential for the other recreational facilities to be established in the surrounding area, and would not increase residential population, impacts to recreational facility demand would be less than significant.

3.16 Transportation/Traffic

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
Transportation/Traffic *Would the project:*				
a) Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☒	☐
b) Exceed, either individually or cumulatively, a level of service standard 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) Result in inadequate parking capacity?	☐	☐	☒	☐
g) Conflict with adopted policies, plans or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?	☐	☐	☐	☒

Environmental Setting

The proposed project would be constructed along the river immediately downstream of the Road 206 Bridge in Madera and Fresno counties. Road 206 will provide the public vehicular access and egress to the proposed project.

Regulatory Setting

Roads are classified by the purpose of the road and by the road's level of service (LOS). The LOS describes the flow of traffic during particular times of use and varies depending on the type of road (Table 8). The LOS can change due to increases or decreases in traffic, and can increase in severity during road blockages and maintenance projects. Road 206, Road 145 to Friant Road segment, is classified as an arterial with a daily volume in 2011 of 4,000 vehicles per day, and an "A" LOS. LOS A indicates a relatively free flow of traffic, with little or no limitation on vehicle movement or speed. In general, an increase of approximately 400 vehicles per hour on a major road segment is needed to increase the severity of the LOS.

Standard Conditions

TT-SC 1: The proposed project's access point on Road 206 shall be constructed a minimum of 600 feet west of the existing Road 206 bridge abutment on the Madera County side.

TT-SC 2: The proposed project shall include the construction of a decellaration lane a minimum of 150 feet long eastbound along Road 206 to the project entrance, and an acceleration lane eastbound a minimum of 100 feet long exiting the project site.

TT-SC 3: An encroachment permit from the Madera County Road Department shall be obtained prior to the construction of any necessary road improvements to Road 206.

Impact Analysis

Would the project:

a) *Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?*

b) *Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?*

Less than Significant. The River Vista project is a small low-impact open space recreational project. It is not anticipated to cause a substantial increase in traffic above what the capacity of Road 206 is planned or built to accommodate. Therefore this is a less than significant impact and no mitigation is warranted.

c) *Result in change in air traffic patterns, including either an increase in air traffic levels or a change in location that results in substantial safety risks?*

No Impact. The project area is located approximately 10.5 miles northeast of the nearest airport(Sierra Sky Park),and is not within the Airport Influence Area for the Sierra Sky Park land use plan, as defined by the Fresno County Airport Land Use Commission (ALUC). There are no other airports or airfields near the project area that may pose a safety hazard for employees or project visitors or that may be affected by proposed facilities and improvements in the project area. In addition, the proposed project facilities and improvements would not create a demand for air travel. No impacts related to airport or aircraft hazards would occur as a result of the proposed project.

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

Less Than Significant. Implementation of the proposed standard project conditions (TT-SC 1-3) will reduce an increase in any traffic hazards due to any design features to an insignificant level.

e) Result in inadequate emergency access?

Less Than Significant. As discussed above, the proposed project would improve emergency response and rescue access to the project area. The project improvements would lead to improved access for enforcement and emergency response into and out of the project area. Thus, impacts would be less than significant.

f) Result in inadequate parking capacity?

Less Than Significant. The Madera County Code does not include parking requirements for open space/recreational areas such as the proposed project. The Institute of Travel Engineers (ITE) average daily trip estimate for state parks is estimated at 0.07 trips per acre during the peak hour. Using the ITE information, the maximum amount of trips to the project area during the busiest hour of operation would be eight.

The parking area will allow for up to 27 automobiles and two buses. The parking area as envisioned in the project will accommodate for excess parking capacity not accounted for by ITE trip estimates, therefore parking capacity impacts would be less than significant

g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?

No Impact. The proposed project will not conflict with adopted alternative transportation plans or facilities related to alternative transportation (bus/train routes or facilities, bicycle routes, etc.), but will enhance alternative transportation opportunities as the San Joaquin River Parkway and regional trail linkages are implemented.

3.17 Utilities and Service Systems

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
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, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

Environmental Setting

The proposed project area is located in a rural setting in Madera County. The area is zoned Public Open Space by the County of Madera. There are no public utilities or services provided in the project area. Public utilities and services will be provided to the future development in the vicinity through one or more community service districts or similar entities.

Standard Conditions

US-SC 1: All water that may be provided onsite for public drinking must meet public drinking water standards as administered by the State Water Resources Control Board Division of Drinking Water through the Madera County Environmental Health Department. Alternatively, providing potable water to visitors is not required, and visitors could be required to bring their own bottled water.

US-SC 2: New wells must obtain a well permit from the Madera County Environmental Health Department; if drinking water is provided a public water provider's permit from the County and transient non-community water system permit from the State Division of Drinking Water are required.

Impact Analysis

Would the project:

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

Less than Significant. An on-site self-contained vault toilet would be provided as part of the project. Because wastewater generated by the project would not exceed the capacity of any on-site systems, and large events would be required to provide additional temporary portable toilets, if needed, this impact would be less than significant.

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. The proposed project might not provide drinking water to visitors; however, if drinking water is provided it will be subject to the conditions noted above. There will be one self-contained vault toilet restroom provided at the project entrance. This is a low impact open space project and will not result in the construction of a new water or wastewater treatment facility.

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 impacts?*

Less Than Significant with Mitigation. Storm water drainage will be retained onsite and will not affect public drainage systems. See analysis and mitigation measures relating to storm water quality BMPs in section 3.9, Hydrology and Water Quality.

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

Less Than Significant. The project does not require any additional water supplies or surface water entitlements. If in the future the Conservancy requires a water source for fire response and/or temporary irrigation to reestablish native riparian vegetation, one ground water well may be constructed. The volume of water developed and used would be less than significant.

e) *Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve?*

No Impact. As discussed above, vault toilet restrooms will be utilized for wastewater management. Wastes will be periodically removed and properly disposed of by licensed waste pumpers. The volume will not be significant relative to the capacity of regional wastewater treatment facilities.

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

Less than Significant. The proposed project would result in a negligible increase in solid waste. The existing Madera County franchise hauler Red Rock Environmental would have adequate resources to serve the project site.

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

Less Than Significant. Solid waste must be disposed of following the requirements of the contracted waste hauler, which follows federal, state, and local statutes and regulations related to the collection of solid waste. Since the solid waste stream will be typical for a recreational or open space use, it is not likely that statutes or regulations would be violated. This impact is considered less than significant.

3.18 Mandatory Findings of Significance

Mandatory Findings of Significance				
Environmental Issues	**Potentially Significant Impact**	**Less Than Significant With Mitigation**	**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" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☐	☒	☐
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Impact Analysis

Would the project:

a) 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 with Mitigation. There is no adopted Habitat Conservation Plan or Natural Community Conservation Plan for the region. Thus, no conflict with a Habitat Conservation Plan or Natural Community Conservation Plan is expected with the proposed project or with future growth and development in the region.

Because potentially significant impacts to biological resources resulting from proposed facilities and improvements under the project would be less than significant with implementation of the standard conditions and mitigation measures, cumulative impacts to biological resources would be less than significant.

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

Less than Significant. The proposed project is a component of the San Joaquin River Parkway Master Plan. The entire Parkway system has been evaluated through the San Joaquin River Parkway Interim Master Plan Program EIR. Each impact area as evaluated in this IS/MND was evaluated as part of the Parkway Program EIR, which includes an evaluation of cumulative impacts relating to each impact area. The Parkway Program EIR provides an exhaustive consideration of cumulative environmental effects, and the project complies with the analysis and mitigation measures of the Program EIR regarding cumulative impacts. Cumulative impacts are adequately addressed in the Parkway Program EIR. Therefore, project impacts are less than significant. The Parkway Program EIR is incorporated herein by reference.

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

Less than Significant with Mitigation. Project-related environmental effects have been determined to pose a less than significant effect on humans. However, possible effects from excess glare or skyglow (Aesthetics), construction emissions (Air Quality), construction accidents (Hazards and Hazardous Waste), and flooding (Hydrology and Water Quality), and exposure to noise and vibration (Noise), though temporary in nature, have the potential to result in significant adverse effects on humans. Mitigation measures have been incorporated into the proposed project's Mitigation and Monitoring Plan to ensure avoidance of significant adverse effects.

Section 4:

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Acronyms and Abbreviations Commonly Used in the Document

Conservancy: State of California, San Joaquin River Conservancy

Parkway: San Joaquin River Parkway

CDFW: California Department of Fish and Wildlife

CEQA: California Environmental Quality Act

CSLC: California State Lands Commission

CVFPB: Central Valley Flood Protection Board

EIR: Environmental Impact Report

EPA: U.S. Environmental Protection Agency

IS/MND: Initial Study/Mitigated Negative Declaration

NAHC: California Native American Heritage Commission

NMFS: U.S. National Marine Fisheries Service

RMAP: Rio Mesa Area Plan

RWQCB: Central Valley Regional Water Quality Control Board

SHPO: California State Office of Historic Preservation

SJVAPCD: San Joaquin Valley Unifies Air Pollution Control District

SJRRP: San Joaquin River Restoration Program

SWPPP: Storm Water Pollution Prevention Plan

USFWS: U.S. Fish and Wildlife Service

USACE: U.S. Army Corps of Engineers

WCB: California Wildlife Conservation Board

Section 6: Appendices

Appendix A – Mitigation Monitoring and Reporting Program

MITIGATION MONITORING REPORT

No.	Mitigation Measure	Monitoring Phase	Enforcement Agency	Monitoring Agency	Action Indicating Compliance	Verification of Compliance		
						Initials	Date	Remarks
Aesthetics								
MM-AS 1	Any lighting shall utilize outdoor lighting that is low wattage and directed downward to minimize excess glare or skyglow.							
Air Quality								
MM-AQ 1	All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover.							
MM-AQ 2	All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.							
MM-AQ 3	All land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.							
MM-AQ 4	When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained.							
MM-AQ 5	All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (*The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions.) (Use of blower devices is expressly forbidden.*)							

No.	Mitigation Measure	Monitoring Phase	Enforcement Agency	Monitoring Agency	Action Indicating Compliance	Verification of Compliance		
						Initials	Date	Remarks
MM-AQ 6	Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.							
MM-AQ 7	Limit on-site traffic speeds on unpaved roads to 15 mph.							
MM-AQ 8	The project proponent shall re-establish ground cover on all disturbed portions of the project site through seeding and watering. A palette of non-invasive, native seeding shall be utilized.							
Biological Resources								
MM-BR 1	Pre-Construction surveys for nesting birds and American Badgers shall be conducted by a qualified biologist within 30 days of the on-set of construction.							
MM-BR 2	If during the pre-construction survey active nesting bird nests or active American Badger Den is identified then a construction-free buffer will be maintained around them as determined by a qualified biologist.							
MM-BR 3	After construction, all disturbed areas will be restored. The river edge is anticipated to revegetate naturally with freshwater emergent species. The remainder of the site will be hydroseeded with a native seed mix of species found in the region. The revegetation effort will serve to stabilize the disturbed soil. The applicant will provide compensation for removal of riparian trees. Replacement planting will be implemented at a ration of 3:1 for trees between 4-24 inches in diameter at breast height (DBH), and a ratio of 10:1 for trees greater than 24 inches in DBH. All seven trees are between 4-24 inches in DBH, resulting in replacement of 21 trees. If additional trees are removed, then they will be compensated for by following these same replacement guidelines. All plantings will be monitored annually for a minimum of five years.							

No.	Mitigation Measure	Monitoring Phase	Enforcement Agency	Monitoring Agency	Action Indicating Compliance	Verification of Compliance		
						Initials	Date	Remarks
Geology and Soils								
MM-GS 1	Grading and excavation activities should not be planned during the rainy season (October 15 to April 15), but if storms are anticipated during construction or if construction must occur during winter months, “winterizing” will occur, including the covering (tarping) of any stockpiled soils and the use of temporary erosion control methods to protect disturbed soil.							
MM-GS 2	Temporary erosion control measures will be installed along the perimeter of the construction site and around areas where ditches or culverts could channel site runoff into nearby wetlands or sensitive biological communities. Temporary erosion control measures must be used during all soil disturbing activities and until all disturbed soil has been stabilized (recompacted, revegetated, etc.) These BMPs may include, but will not be limited to, the use of silt fences, geotextile mats or blankets, hydroseeding, weed free straw bales, or rice straw or coir wattles or fiber rolls, to prevent soil loss and siltation into nearby water bodies. The proper use and installation of these devices are available in the California Stormwater Quality Association’s Stormwater Best Management Practice Handbook for Construction (CSQA 2003), at www.cabmphandbooks.com.							
MM-GS 3	Permanent BMPs for erosion control will include, but not be limited to, properly engineered structures to prevent erosion and landsliding, compacting disturbed areas, or revegetation of disturbed soil areas with native species using seed collected locally (San Joaquin Valley). Final design plans will include specific BMPs to be incorporated into the project. The BMPs established for post-construction erosion control will be assessed annually and maintained as needed for a period of three years following construction.							

No.	Mitigation Measure	Monitoring Phase	Enforcement Agency	Monitoring Agency	Action Indicating Compliance	Verification of Compliance		
						Initials	Date	Remarks
Hazards and Hazardous Materials								
MM-HD 1	Prior to the onset of construction, an erosion control plan will be prepared by a qualified engineer consistent with the requirement of a Madera County grading permit and a General Construction Permit (an NPDES permit issued by the Regional Water Quality Control Board for projects in which one or more acres of land are graded), if needed. Typically, specified erosion control measures must be implemented prior to the onset of the rainy season. The project site must then be monitored periodically throughout the rainy season to ensure that the erosion control measures are successfully preventing on-site erosion and the concomitant deposition of sediment off-site. Element of this plan would address both the potential for soil erosion and non-point source pollution.							
Noise								
MM-NS 1	Construction activities would be limited to the daylight hours, Monday - Friday. If work during weekends or holidays is required, no work would occur on those days before 7:30 am or after 6 p.m.							
MM-NS 2	During construction, the contractor shall outfit all equipment, fixed or mobile,							
MM-NS 3	Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for construction shall be hydraulically or electrically powered to avoid noise							
MM-NS 4	Stationary noise sources that could affect adjacent receptors shall be located as far from adjacent receptors as possible.							

STANDARD MASTER PLAN CONDITIONS

PROJECT NAME:	River Vista Master Plan - Madera (051-200-031)
PROJECT LOCATION:	On the south side of Road 206 at the San Joaquin River
PROJECT DESCRIPTION:	Master Plan open space recreational project.
LEAD AGENCY:	San Joaquin River Conservancy
SAN JOAQUIN RIVER CONSERVANCY CONTACT PERSON/TELEPHONE NUMBER:	Joshua Morgan 559-253-7324

No.	Standard Master Plan Conditions	Department/Agency	Verification of Compliance		
			Initials	Date	Remarks
Air Quality					
AQ-SC 1	In order to reduce dust impacts, onsite vehicular speeds are limited to 15 mph in unpaved areas, such as the site's parking areas.				
AQ-SC 2	All unpaved areas with public vehicle access will be treated with dust palliative materials, such as gravel, or other materials deemed sufficient to comply with local Air District rules.				
Cultural Resources					
CR-SC 1	In accordance with the *California Health and Safety Code* and the PRC, if human remains are encountered during excavation activities at the site, all work shall halt and the County Coroner shall be notified (PRC §5097.98). The Coroner will determine whether the remains are of forensic interest. If the Coroner, with the aid of the County-approved Archaeologist, determines that the remains are prehistoric, he/she will contact the NAHC. The NAHC will be responsible for designating the most likely descendant (MLD), who will be responsible for the ultimate disposition of the remains, as required by Section 7050.5 of the *California Health and Safety Code*. The MLD will make his/her recommendation within 48 hours of being granted access to the site. The MLD's recommendation shall be followed if feasible and may include scientific removal and non-destructive analysis of the human remains and any items associated with Native American burials (*California Health and Safety Code* §7050.5). If the landowner rejects the MLD's recommendations, the landowner shall rebury the remains with appropriate dignity on the property in a location that will not be subject to further subsurface disturbance.				
CR-SC 2	If during the grading or trenching work archeological evidence is found, all work must stop and the project sponsor and Coroner must be notified is to be notified within 24 hours, or on the first workday following for weekends and holidays.				
Geology and Soils					
GS-SC 1	Each individual project proposed within River Vista-Madera shall be designed and constructed in compliance with all applicable requirements of the County of Madera Building Code, which incorporate by reference the most recent California Building Code or other applicable codes at the time of construction.				
GS-SC 2	Each individual project proposed in River Vista-Madera shall comply with the California standards for the design and construction of water and sewer systems, storm drains, and recycled water systems in buildings.				
GS-SC 3	Proposed facilities and improvements in River Vista-Madera shall comply with the County's Grading Guidelines, which require that grading and drainage plans be designed to eliminate an inundation, overflow, or erosion hazard and prevent erosion and sediment transport onto adjacent properties, adjacent roadways, storm drain systems, and natural drainage courses during the rainy season.				

AQ-SC 1	In order to reduce dust impacts, onsite vehicular speeds are limited to 15 mph in unpaved areas, such as the site's parking areas.				
AQ-SC 2	All unpaved areas with public vehicle access will be treated with dust palliative materials, such as gravel, or other materials deemed sufficient to comply with local Air District rules.				
Greenhouse Gas Emmissions					
GG-SC1	Proposed facilities in River Vista-Madera shall comply with all Title 24 Energy Efficiency Standards in effect at the time of application for building permits (Title 24). Title 24 covers the use of energy-efficient building standards, including ventilation, insulation, and construction and the use of energy saving appliances, conditioning systems, water heating, and lighting. Title 24 also includes the Title 24 Green Buildings Standards on planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental quality. Plans submitted for building permits shall include written notes demonstrating compliance with energy and green building standards and shall be reviewed and approved by the Madera County Building Department prior to building permit issuance.				
GG-SC2	Proposed facilities and other improvements in River Vista-Madera will include the use of landscape techniques that promote water conservation in order to reduce associated energy use. These techniques include installation of smart irrigation controllers, drought-tolerant landscaping where feasible, and low-impact development (LID) Standards.				
Hazards and Hazardous Materials					
HM-SC1	Water storage tanks provide fire suppression capabilities once a fire starts. The parking facility may require the placement of a water storage tank for fire suppression. The San Joaquin River Conservancy or project sponsor will consult with the Madera County Fire Department or Fire Marshall to determine the location and size of a water storage tank.				
Hydrology and Water Quality					
HD-SC 1	Provide public information to raise awareness about the impact of trash and pollutants in rivers and lakes.				
HD-SC 2	As existing recreational facilities and improvements in River Vista-Madera are subject to rehabilitation or expansion, storm water BMPs shall be incorporated into these facilities to reduce pollutants in the runoff. These storm water BMPs include, but are not limited to, the use of porous surfaces in parking areas; directing runoff into landscaped areas; and the use of natural drainage methods, such as bioswales.				
HD-SC 3	Split rail fencing cannot be used in the designated floodway, since fence materials may become easily dislodged during flooding events.				
HD-SC 4	Prior to final project design of any structures, all plans must comply with FEMA and Central Valley Flood Protection Board requirements for non-residential structures, as appropriate. In addition, all revegetation plans and improvements planned within the 100-year designated floodway must be reviewed for compliance with FEMA and Central Valley Flood Protection Board requirements, and permits shall be secured as necessary.				
Public Services and Recreation					
PSR-SC 1	The trail as designated in the project shall provide for emergency access, site patrol, and use by maintenance vehicles. Law enforcement officers may utilize the trail for emergency services and patrol. The trail provides for adequate width to allow for all vehicular emergency access.				

AQ-SC 1	In order to reduce dust impacts, onsite vehicular speeds are limited to 15 mph in unpaved areas, such as the site's parking areas.				
AQ-SC 2	All unpaved areas with public vehicle access will be treated with dust palliative materials, such as gravel, or other materials deemed sufficient to comply with local Air District rules.				
PSR-SC 2	The plan is proposed as a day use facility and will be patrolled regularly via contract with the California Department of Parks and Recreation from the Millerton Lake facility approximately three miles away from River Vista.				

AQ-SC 1	In order to reduce dust impacts, onsite vehicular speeds are limited to 15 mph in unpaved areas, such as the site's parking areas.				
AQ-SC 2	All unpaved areas with public vehicle access will be treated with dust palliative materials, such as gravel, or other materials deemed sufficient to comply with local Air District rules.				
PSR-SC 3	Security lighting will be located at places where higher and more consistent public use will take place. This includes onsite bathrooms, the parking lot, and fee collection booths.				
PSR-SC4	A signage program will be developed for informational signs on boating safety regulations, trail safety, firearm restrictions, open fire and fireworks prohibition, and private land no trespassing restrictions.				
PSR-SC 5	Any trail located within fifty feet of private property shall be bordered by a weed-free shoulder, a combination of split rail fencing (or a similar type of fencing that allows for wildlife movement) and native, drought tolerant vegetation in order to discourage visitors from trespassing on private property.				
Traffic and Transportation					
TT-SC 1	The project shall construct its access point on Road 206 a minimum of 600 feet west of the bridge abutment on the Madera County side.				
TT-SC 2	The project shall construct a minimum of a 150 foot decellaration lane eastbound along Road 206 to the project entrance, and a minimum of a 100 foot acceleration lane eastbound exiting the project site.				
TT-SC 3	The developer of the River Vista project must acquire an encroachment permit from the Madera County Road Department prior to construction of any necessary road improvements to Road 206.				
Utilities and Services Systems					
US-SC 1	All water utilized onsite for drinking must meet public-well standards as administered by the State of California Department of Public Health through the Madera County Environmental Health Department. Alternatively, no potable water must be provided and visitors will be required to bring their own bottled water.				
US-SC 2	New wells must obtain a well permit and a public water provider's permit from the Madera County Environmental Health Department.				

Appendix B – Cultural Resources Report

PHASE 1 ARCHAEOLOGICAL SURVEY OF THE 105-ACRE RIVER VISTA TRAIL AND RECREATION FACILITY, SOUTH OF AND ADJACENT TO ROAD 206 WHERE IT CROSSES THE SAN JOAQUIN RIVER INTO MADERA COUNTY, MADERA COUNTY, CALIFORNIA

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17 December 2012

Topographic Quadrangle: Friant, Calif., 7.5' (1964)
Area: 105 acres (42.5 hectares)

(Keywords: *Madera County, Township 11S, Range 20E, Rootville, Friant, Hamptonville, Pollasky, Jonesville, San Joaquin River, San Joaquin Valley Railroad/Pollasky Grade, Dumna Yokuts, Kechaye Yokuts, Wakichi Yokuts, Kuyu Illik, Kianu , Tomkit, Dawk-taw*, *Pahmit, Yet-choo-nook , Fort Barbour, Fort Miller, Millerton, Converse Ferry, Old Friant Bridge, Bedrock Milling Station, Lithic Scatter, midden, historic trash scatter)*

TABLE OF CONTENTS

Page

MANAGEMENT SUMMARY **2**
1.0 INTRODUCTION **4**
2.0 SETTING **4**
2.1 Natural Environment **4**
2.2 Prehistoric Period Summary **5**
2.3 Ethnographic Summary **9**
2.4 Historic Period Summary **11**
2.5 Record Search Results **14**
2.6 Native American Consultation **14**
3.0 METHODS AND FINDINGS **14**
3.1 Results of the Present Study **14**
3.2 Recommendations **19**
REFERENCES CITED **20**
PREPARER'S QUALIFICATIONS **22**

ATTACHMENT 1: Cultural Resources Records Search
ATTACHMENT 2: Native American Consultation
ATTACHMENT 2: Cultural Resource Records

MANAGEMENT SUMMARY

Between September 27 and October 2, 2012, a cultural resources survey was performed of 105 acres (42.5 hectares) on a parcel of land located immediately north of the San Joaquin River and west of Road 206 where it crosses into Madera County from the town of Friant, in south-central Madera County, California (Project Study Area; Township 11S, Range 20E, Section 7, MDB&M; see Map 1). The study was completed as part of the County of Madera Planning Department's 105-Acre River Vista Access Planning and Environmental Review.

The present study was performed at the request of Ms. Wendy Fisher of Live Oak Associates, Inc., and addresses county and state regulatory requirements regarding cultural resources. Provisions and implementing guidelines of the California Environmental Quality Act (CEQA), as amended December 29, 2009, state that identification and evaluation of historical resources is required for any action that may result in a potential adverse effect on the significance of such resources, which include cultural resources.

Two Native American archaeological resources and two historic-period resources were identified within the Project Study Area as a result of the current survey. Site RVT-1 is a large occupation site with a minimum of seven bedrock milling features with over 350 mortar cups, an area of anthropogenic (midden) soil, and a sparse scatter of flaked stone. Isolate RVT-2 includes a small granite boulder with a single milling slick. The two historic-period resources include remnants of a concrete slab foundation with associated debris (RVT-3), and the broken segments of the old concrete Friant Bridge (RVT-4).

Site RVT-1 is likely eligible for listing on the California Register of Historic Resources due to the very large number of milling features present, in addition to the midden deposit and flaked stone scatter. These large sites, which possess traditional cultural value for local Native American tribes, also offer striking evidence of intensive Native American use and occupation of the area, and thus present interpretive opportunities for visitors. Development of recreational facilities should avoid potentially adverse impacts to this site. Potential adverse impacts would include moving or destroying a milling feature, or somehow defacing these features. Actions involving minimal ground disturbance within or adjacent to these sites, such as trail maintenance or placement of interpretive signage, would not require additional cultural review. Actions requiring extensive ground disturbance within or adjacent to the site should be preceded by additional archaeological review and monitoring as appropriate.

The single milling slick recorded as RVT-2 is considered an isolated find. By definition, isolated finds are not eligible for listing on the California Register; however, RVT-2 does have interpretive value.

RVT-3, the historic trash scatter and concrete slab foundation remains, has been extensively disturbed. Burned debris and vegetation lie across concrete foundations, obscuring most of these features and other material as well. The integrity of the site has been altered by the removal and subsequent burning of the structure and associated remains. It is unknown if subsurface remains are present at this site. Due to its lack of integrity, it is unlikely that this resource is eligible for listing in the California Register of Historic Resources.

The Old Friant Bridge, RVT-4, is broken into several segments and has been vandalized since its destruction in the early 1950s. Graffiti is present on the bridge segments. Due to its lack of integrity, it is unlikely that this resource is eligible for listing in the California Register of Historic Resources.

Despite the fact that historic-period resources RVT-3 and RVT-4 have been extensively damaged, they do offer associative values as elements of the built historic landscape, and may be incorporated as interpretation features of the River Vista Trail and Recreational Facility.

Soils within the study area are composed predominately of entisols which are soils formed on recent alluvium; buried cultural deposits may be present beneath the land surface and not detected through surface inspection alone. In addition, dense grasses obscured much of the soil surface during the survey. For these reasons, there is a potential for buried cultural resources, and any actions requiring subsurface excavation should at minimum be monitored by a qualified archaeologist.

In the event that buried archaeological deposits are encountered during project-related activities within the River Vista recreational facility, work in the immediate vicinity of the discovery must cease until the finds can be evaluated by a qualified archaeologist for cultural importance. Should human remains be encountered within the project area, the County Coroner must be contacted immediately; if the remains are determined to be Native American, then the Native American Heritage Commission must be contacted as well.

1.0 INTRODUCTION

This report presents the findings of an archaeological survey of 105 acres (42.5 hectares; Project Study Area) located immediately north of the San Joaquin River and west of Road 206 where it crosses into Madera County from the town of Friant, in south-central Madera County, California (Project Study Area; Township 11S, Range 20E, Section 7, MDB&M; see Map 1).

River Vista is a planned facility within the San Joaquin River Parkway. The project is funded by the State of California San Joaquin River Conservancy, through a grant administered by the California Wildlife Conservation Board. Madera County is partnering with the San Joaquin River Conservancy, wherein the County provides lead consultant services, including project management, document preparation, and public outreach. The proposed project would consist of very low intensity development, providing managed public access along the river frontage primarily for nature observation, river access, and picnicking. The proposed project would include a gravel parking area, restroom, river access trail, picnic tables, possibly a shade structure or small picnic shelter, and riparian habitat enhancement. Public use will be focused on the lands riverward of the access road in reasonable proximity to the entrance.

The River Vista project will be consistent with the 1995 Madera County General Plan and 1997 San Joaquin River Parkway Master Plan. The Parkway Master Plan calls for the conservation, enhancement, and restoration of natural resources, preservation of cultural resources, and public access, recreation, and education compatible with long term protection of those resources.

Live Oak Associates has contracted with the County of Madera to lead a resource assessment team consisting of a surveyor, biologist, and archaeologist, to identify site constraints, review of project plans, and assist in the development of the environmental review. The present study was performed at the request of Ms. Wendy Fisher of Live Oak Associates, Inc., and addresses county and state regulatory requirements regarding cultural resources. Provisions and implementing guidelines of the California Environmental Quality Act (CEQA), as amended December 29, 2009, state that identification and evaluation of historical resources is required for any action that may result in a potential adverse effect on the significance of such resources, which include cultural resources.

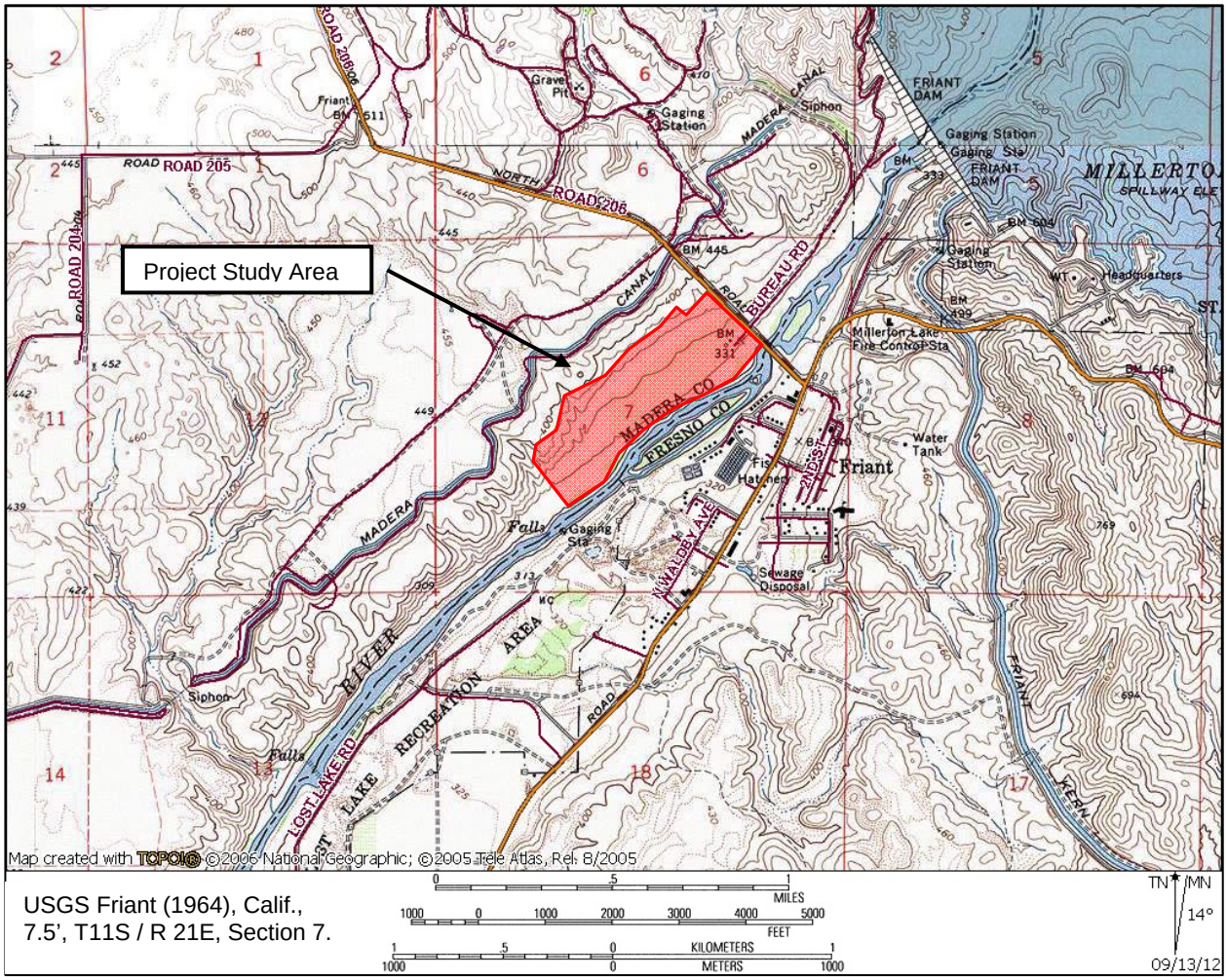
A brief description of the natural and cultural setting of the Project Study Area follows this introduction. Survey methods and findings are presented in the subsequent section.

2.0 SETTING

The Project Study Area is located below Friant Dam and immediately west of Road 206, adjacent the north banks of the San Joaquin River, and across the river from the community of Friant, approximately five miles north of the Fresno city limits and 21 miles east of the city of Madera. The study area is owned by the San Joaquin River Conservancy. Figures 1a-d provide a pictorial overview of the Project Study Area.

2.1 Natural Environment

The Project Study Area is located along the eastern bank of the San Joaquin River, downstream of Millerton Lake and Friant Dam. Due to grazing and agriculture, and sand and gravel extraction, little native vegetation remains within the study area, with the exception of along the banks of the river, where dense thickets of willow are riparian species occur, including large sycamores. Topography is characterized by a series of benches rising above the river to the orth. Soils within the project area include fine to gravelly sandy loams formed from recent alluvium; older remnant soils are on the upper elevation near the canal and orchards. Elevation ranges from approximately 300 to 400 ft (91 -122 m) above mean sea level.



Map 1. River Vista Trail Project Area.

Prior to EuroAmerican intrusion and settlement in the region, the San Joaquin Valley was an extensive wetland with contiguous rivers, sloughs, and lakes. Stands of trees -- sycamore, cottonwoods, and willows -- lined the higher elevation stream courses with dense stands of tule rushes in lower wetland areas. Rivers and lakes yielded fish, mussels, and pond turtles; migratory waterfowl nested in the dense tules. Historically the San Joaquin River had two annual salmon runs. When the Spanish first set foot in the area, they found the deer and tule elk trails to be so broad and extensive that they first supposed that the area was occupied by cattle. Grizzly bears occupied the open grassland and riparian corridors on the valley floor and adjacent foothills. Smaller mammals and birds, including jackrabbits, ground squirrels, beavers, and quail were abundant. Native Americans occupants of the region describe abundant sedge beds, along with rich areas of deer grass, plants that figure prominently in the construction of Native American basketry items.

2.2 Prehistoric Period Summary

The San Joaquin Valley and adjacent Sierran foothills and Coast Range have a long and complex cultural history with distinct regional patterns that extend back more than 11,000 years (McGuire 1995). The first generally agreed-upon evidence for the presence of prehistoric peoples in the region is

Figure 1a. View west from Road 206 toward broken segments of old Friant Bridge.

Figure 1b. View west along San Joaquin River.

Figure 1c. View east across study area from western boundary.

Figure 1d. View north from granite outcrops along river bank.

represented by the distinctive basally-thinned and fluted projectile points, found on the margins of extinct lakes in the San Joaquin Valley. These projectiles, often compared to Clovis points, have been found at three localities in the San Joaquin Valley including along the Pleistocene shorelines of former Tulare Lake. Based on evidence from these sites and other well-dated contexts elsewhere, these Paleo-Indian hunters who used these spear points existed during a narrow time range of 11,550 BP to 8,550 BP (Rosenthal et al. 2007).

As a result of climate change at the end of the Pleistocene, a period of extensive deposition occurred throughout the lowlands of central California, burying many older landforms and providing a distinct break between Pleistocene and subsequent occupations during the Holocene. Another period of deposition, also a product of climate change, had similar results around 7,550 BP, burying some of the oldest archaeological deposits discovered in California (Rosenthal and Meyer 2004).

The Lower Archaic (8,550-5,550 BP) is characterized by an apparent contrast in economies, although it is possibly they may be seasonal expressions of the same economy. Archaeological deposits which date to this period on the valley floor frequently include only large stemmed spear points, suggesting an emphasis on large game such as artiodactyls (Wallace 1991). Recent discoveries in the adjacent Sierra Nevada have yielded distinct milling assemblages which clearly indicate a reliance on plant foods. Investigations at Copperopolis (LaJeunesse and Pryor 1996) argue that nut crops were the primary target of seasonal plant exploitation. Assemblages at these foothill sites include dense accumulations of handstones, millingslabs, and various cobble-core tools, representing “frequently visited camps in a seasonally structured settlement system (Rosenthal et al. 2007:152). As previously stated, these may represent different elements of the seasonal round. Future investigations should address this question. What is known is that during the Lower Archaic, regional interaction spheres had been well established. Marine shell from the central California coast has been found in early Holocene contexts in the great basin east of the Sierra Nevada, and eastern Sierra obsidian comprises a large percentage of flaked stone debitage and tools recovered from sites on both sides of the Sierra.

About 8,000 years ago, many California cultures shifted the main focus of their subsistence strategies from hunting to nut and seed gathering, as evidenced by the increase in food-grinding implements found in archeological sites dating to this period. This cultural pattern is best known for southern California, where it has been termed the Milling Stone Horizon (Wallace 1954, 1978a), but recent studies suggest that the horizon may be more widespread than originally described and is found throughout the region during the Middle Archaic Period. Radiocarbon dates associated with this period vary between 8,000 and 2,000 BP, although most cluster in the 6,000 to 4,000 BP range (Basgall and True 1985).

On the valley floor, early Middle Archaic sites are relatively rare. This changes significantly toward the end of the Middle Archaic. In central California late Middle Archaic settlement focused on river courses on the valley floor. “Extended residential settlement at these sites is indicated by refined and specialized tool assemblages and features, a wide range of nonutilitarian artifacts, abundant trade objects, and plant and animal remains indicative of year-round occupation” (Rosenthal et al. 2007:154). Again, climate change apparently influence this shift, with warmer, drier conditions prevailing throughout California. The shorelines of many lakes, including Tulare Lake, contracted substantially, while at the same time rising sea levels favored the expansion of the San Joaquin/Sacramento Delta region, with newly formed wetlands extending eastward from the San Francisco Bay.

In contrast, early Middle Archaic sites are relatively common in the Sierran foothills, and their recovered, mainly utilitarian assemblages recovered show relatively little change from the preceding period with a continued emphasis on acorns and pine nuts. Few bone or shell artifacts, beads, or ornaments have been recovered from these localities. Projectile points from this period reflect a high degree of regional morphological variability, with an emphasis on local toolstone material supplemented with a small amount of obsidian from eastern sources. In contrast with the more elaborate mortuary assemblages and extended burial mode documented at Valley sites, burials sites documented at some

foothill sites such as CA-FRE-61 on Wahtoke Creek are reminiscent of “re-burial” features reported from Milling Stone Horizon sites in southern California. These re-burials are characterized by re-interment of incomplete skeletons often capped with inverted millingstones (McGuire 1995:57).

A return to colder and wetter conditions marked the Upper Archaic in Central California (2,500-1,000 BP). Previously desiccated lakes returned to spill levels and increased freshwater flowed in the San Joaquin and Sacramento watershed. Cultural patterns as reflected in the archeological record, particularly specialized subsistence practices, emerged during this period. The archeological record becomes more complex, as specialized adaptations to locally available resources were developed and valley populations expanded into the lower Sierran foothills. New and specialized technologies expanded distinct shell bead types occur across the region. The range of subsistence resources utilized and exchange systems expanded significantly from the previous period. In the Central Valley, archaeological evidence of social stratification and craft specialization is indicated by well-made artifacts such as charmstones and beads, often found as mortuary items.

The period between approximately 1,000 BP and Euro-American contact is referred to as the Emergent Period. The Emergent Period is marked by the introduction of bow and arrow technology which replaced the dart and atlatl at about 1,100 to 800 BP. In the San Joaquin region, villages and small residential sites developed along the many stream courses in the lower foothills and along the river channels and sloughs of the valley floor. A local form of pottery was developed in the southern Sierran foothills along the Kaweah River. While many sites with rich archaeological assemblages have been documented in the northern Central Valley, relatively few sites have been documented from this period in the southern Sierran foothills and adjacent valley floor, despite the fact that the ethnographic record suggests dense populations for this region.

2.3 Ethnographic Summary

Prior to EuroAmerican settlement, most of the San Joaquin Valley and the bordering foothills of the Sierra Nevada and Diablo Range were inhabited by speakers of Yokutsan languages. The bulk of the Valley and Foothill Yokuts people lived on the eastern side of the San Joaquin River. Lost Lake falls within territory occupied by the Wakichi and Kachaye Yokuts territory; the Wakichi, a northern valley Yokuts tribelet, occupied the southern side of the San Joaquin River at the its confluence with Little Dry Creek (see Figure 4). The village of Holowichniu, near the former town of Millerton, was in their territory (Kroeber 1925:484, Plate 47). The Kechaye, a Foothill tribelet, claimed territory upstream from the Wakichi along the south bank of the San Joaquin, and included the former town of Millerton, now beneath the waters of Millerton Lake. Immediately across from the Kechaye were the Dumna, whose major village of A’tbu (also known as Kuyu Illik) was previously located at the former settlement of Millerton. Another Dumna village, Dinishneu, was at Bellevue (Gayton 1948, Kroeber 1925, Latta 1999, Spier 1978). Finally, the Gashou (Kroeber 1925) or Gashowu (Spier 1978), while not directly occupying lands along the San Joaquin River, were nonetheless directly linked to their neighbors to the north along the San Joaquin through close social and economic ties. “They intermarried, camped together while fishing, jointly exploited acorn- or seed-gathering grounds with these peoples and attended their social and ceremonial gathering” (Wallace 1987:135).

The Native American occupants of the San Joaquin Valley and adjoining Sierra Nevada foothills were hunters and gatherers who depended on the seasonal procurement of locally abundant vegetal, riverine, and terrestrial faunal resources. Principal villages were situated along permanent stream courses, while temporary camp sites and special use areas were scattered throughout their territory. Bedrock milling sites, the most visible vestige of Native American occupation, were located in rock boulders and outcrops above perennial stream courses and in scattered locations throughout the Fresno Plains along intermittent stream courses where conditions favored the presence of localized pools or wells of fresh water (Meighan and Dillon 1987:326-327). At the time of contact in the late 1700s, the abundance of resources in the valley and adjoining foothills provided a nearly sedentary life, with high population density typically limited elsewhere to agricultural adaptations (Baumhoff 1963).

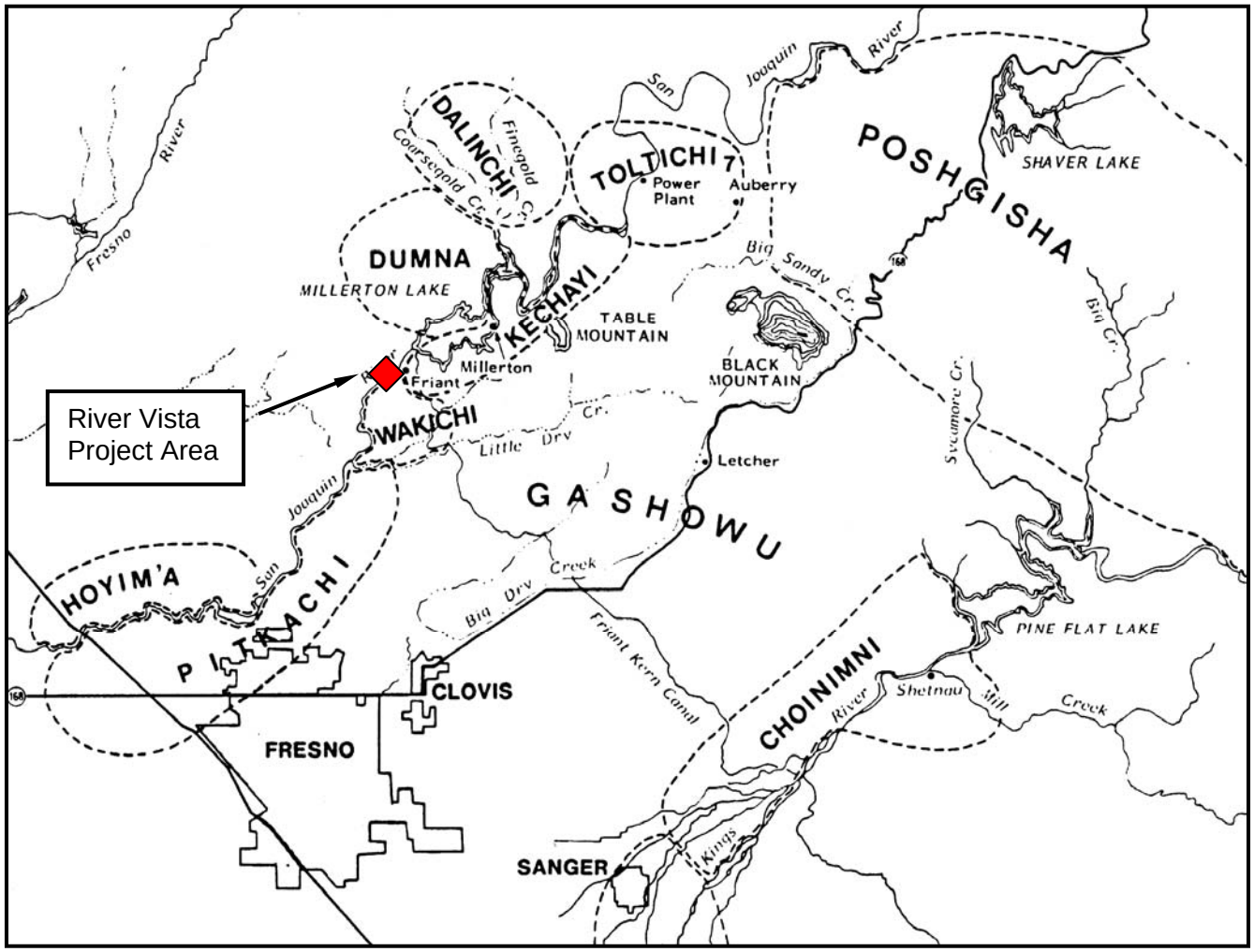


Figure 2. Ethnographic Tribal Areas in Fresno County, California (adapted from drawing by Tim Seymour in Meighan and Dillon 1987).

For peoples living along salmon-rich stretches of the San Joaquin River, salmon provided not only a rich food source full of fat and protein, but also a means of income. The Kechaye, like the Pitcachi who were located downstream in the vicinity of modern-day Herndon, ran a salmon-spearing business. A local Yokuts elder, Pahmit, stated “Them Kechaye let everybody come spear salmon at their good place, but they make everybody pay for it. Them Kechaye Chief get things from his people and pay to Chief them Kechaye” (Latta 1999:162). Kianu was the main Kechaye village and salmon-spearing depot. During salmon season, “every bush and most of the ground in the vicinity was red with drying fish” (Latta 1999:162).

Much of what we know of traditional Native American lifeways comes to us through the work of ethnographers who worked diligently in the early 1900s to collect and preserve Native languages and information about traditional lifeways. Ethnographers such as Anna Gayton, of the University of California at Berkeley, and Frank Latta, former teacher and curator of the Kern County Museum, who spent most of his 90 years living in the San Joaquin valley, relied on Native informants living in the area.

Frank Latta, over a span of 55 years, interviewed over 200 Yokuts elders including Pahmit, also called Bill Wilson, who was a full-blooded Dumna born at Kuyu Illik (the site of Fort Miller; see below) at about 1831. His grandfather was Tomkit, or Tom Wilson, chief of the Dumna Yokuts at Kuyu Illik. His father, Dawk-taw (also called Tap-pah), was a Dumna chief. His uncle Tó-mas was chief of the Kit-cha-

ye (Latta's Kechaye) tribe, located downstream from the Dumna. Pahmit lived to be over 100 years in age, and provided extensive information about pre-Anglo life along the San Joaquin. He also lived to see incredible changes in his homeland. In his book Handbook of Yokuts Indians Latta (1999) includes a statement by Pahmit regarding Dumna life and the many changes brought about by Anglo-American settlement of the San Joaquin Valley and adjacent Sierran foothills. This very intimate picture chronicles the arrival of Major James Savage at Kuyu Illik, subsequent construction of Camp Barbour and Fort Miller, the treaty negotiations, and the forced removal of Native peoples from many parts of the San Joaquin Valley and their subsequent removal to Fort Miller and the Fresno River Reservation (Latta 1999:657-666).

Pahmit's descendants still live in the Sierran foothills and across the state. Pahmit had a half sister named Yet-choo-nook, also called Ellen, who married a white man named Perry Murphy. Ellen and Perry Murphy had three boys and three girls. One of the boys, Ewell, married Ellen Buffalo; they had one child, Caroline. Caroline later married Nicomus Turner and they had several children including Norma (Turner) Behill, who lived in Auberry and was a well-known and accomplished basketmaker (Kientz 2002: 37-38). Norma gathered the sedge roots, deer brush and other materials she used in her basketry construction from along the banks of the San Joaquin and other water courses in the area.

Numerous accounts of Valley Yokuts lifeways offer details of pre-European land use in the San Joaquin Valley. The reader is referred to Gayton (1948), Kroeber (1925), Latta (1999), Spier (1978), and Wallace (1978b) for additional information on pre-contact Yokuts subsistence and culture.

2.4 Historic Period Summary

The San Joaquin River area was visited in the early 1800s by Spanish expeditions exploring the interior in search of potential mission sites. The Pico (1826) and Rodriguez (1828) expeditions may have passed through Wakichi and Dumna territory (Meighan and Dillon 1984). In 1832-33 Colonel Jose J. Warner, a member of the Ewing-Young trapping expedition, passed through the San Joaquin Valley, crossing the San Joaquin River near the project area. Warner described Native villages densely packed along the San Joaquin, from the foothills down into the slough area. The next year he revisited the area following a devastating malaria epidemic. Whereas the previous year the region had been densely occupied by Native peoples, during this trip not more than five Indians were observed between the head of the Sacramento Valley and the Kings River (Phillips 1993:94).

In 1827, Jedediah S. Smith trapped and camped along the San Joaquin River with his crew of over forty five men. Smith's business success led many trappers into California through the 1830s. Following the discovery of gold in 1848, miners slowly began moving south in search of the mineral. Business owners followed the miners and settled along the San Joaquin River providing goods and services to travelers and miners (Clough and Secrest 1984:27).

A popular miner settlement called "Rootville" was growing a few miles north of present day Friant. As the community grew, so did the resentment of the Native Americans. Conflicts between white settlers and Native Americans precipitated the Mariposa Indian War and resulted in the construction of Fort Miller, a military installation founded in 1851 to protect the settlers from potential retaliations by the Native Americans. The fort and as a result the community was named in honor of Major Albert S. Miller, commander of the Army Station at Benicia, California.

In 1851 "A treaty of Peace and Friendship" was negotiated between representatives of the US Government and sixteen tribal representatives. Under its conditions the tribes agreed to stop fighting and give up their traditional lands and relocate to the Fresno River Reservation located 16 miles northwest of what would later become Fort Miller. Allotments of food and clothing were promised to the tribes, and a reservation agent would be appointed to look after the native people's welfare (Clough and Secrest (1984:19). At first the Native peoples refused to sign, arguing that the proposed reservation location had no acorns and was in an area already inhabited by other groups. Major Savage is reported to have then brought out whiskey and tobacco and subsequently manipulated the tribal representatives

into signing the treaty. This treaty, which would have set aside significant tracts of land for Native peoples, while at the same time turning over their much larger traditional lands into the public domain, was never ratified by the US Congress. A military post (Fort Miller) was soon constructed on the site of the village of *Kuyu Illik.* The village was burned to the ground. Native people, including the Dumna chief *Tomkit*, were ordered to construct the first adobe structure.

Ultimately in the late 1850s the Fresno River Reservation, along with several other reservations in the state, was abandoned due to lack of food, bureaucratic deceit, and mismanagement (Rawls 1984). Many Native Americans, who had been forcibly relocated to these reservations from as far south of Tulare Lake, settled in the San Joaquin River area, often working for local ranchers. Fort Miller remained occupied by the army until 1856. The fort once more saw troops in 1863 in response to Civil War activities only to again be abandoned 1864 and sold to Judge Charles A. Hart in 1866.

The mining community of Rootville grew into the town of Millerton and became the first seat of the newly established Fresno County in 1856. Population centers were located near the rivers until the various railroad developments and land deals opened up the Valley floor to settlement. In 1869, the Central Pacific Railroad decided to build the Fresno Station several miles to the west of Millerton. As Fresno began to grow, Millerton's citizens voted to move the county seat to Fresno on March 23, 1873 (Rehart 1996: 10). When the town's people and buildings relocated, some decided to settle in the neighboring community of Jonesville.

In 1853 Charles Porter Converse and W.W. Worland obtained a license to operate a ferry at a location two miles downstream from Millerton at the present site of Friant in the vicinity of the Project Study Area. This particular ferry was popular as it was located along the Stockton to Los Angeles stage route. To provide additional support to travels, Colonel James Richardson Jones constructed a hotel with a grocery store and saloon on the north bank of the river in 1863. A flood along the San Joaquin River in 1867 destroyed the ferry boat and subsequently led to Converse selling the ferry business to Jones. When Jones' died in the spring of 1877, the area was known as Jonesville.

Jones' business was sold to the store clerk William R. Hampton who moved the operation to a newly constructed hotel on the south side of the San Joaquin River. In 1881 a Post Office was established in the town known as Hamptonville (Kientz 2004:41). When the Jenny Lind Bridge was constructed for the Friant-Madera Road in 1884 the need for the ferry came to an end. While the stage coach line continued to be utilized, many of the residents were moving to the growing town of Fresno leaving Hamptonville with little activity.

When the Central Pacific Railroad was constructed through the Central Valley in 1872 many towns such as Fresno were founded and flourished as a result. So when Marcus Pollasky of Clovis selected Hamptonville as a terminus for the San Joaquin Valley Railroad, the community became so excited that upon completion of the railroad and depot in 1891 the town again changed its name to that of Pollasky. The railroad line connected the town of Pollasky to the growing city of Fresno with many stops including that of Clovis, Tarpey, Los Palmas and Barton. Hay, wheat, and other grains were grown in the region during the latter half of the 1800s, both as feed for local livestock and for shipment to other markets. After 1890, fruit crops played a major role in the local economy. Unfortunately, Marcus Pollasky disappeared before the second section of the proposed railroad was built. The line was sold to the Southern Pacific Railroad Company and did continue to operate well into the twentieth century (Rehart 1996: 97, 202; Smith and Powell 1991:29-31). The Minarets and Western Railroad, completed in 1923, extended north from Friant to Bass Lake (Clough 1996).

Although the railroad did not bring all that it promised, the line did benefit the town. Lumber milling and gravel mining utilized the railroad for shipping bringing new residents into the area. A new hotel and saloon were built to accommodate the new residents and the Pollasky School (see Figure 6d) was opened in May of 1892. In 1907 the town of Pollasky was renamed Friant in honor of lumberman Thomas Friant who relocated his Michigan based White and Friant Lumber Company to Madera County.

In 1915 the Lumber Company bought 600 acres of local land promising to build the “biggest sawmill in the valley” only to let the town down by instead building in Pinedale (The Fresno Bee Republican, Jan. 5, 1952).

The largest industry to this day in Friant is that of river gravel and pumice mining which got its start in the Boger Gravel Pit near Friant in 1900. Business was so lucrative that the Southern Pacific Railroad constructed a spur line to the pit from the Pollasky line. Other companies such as the San Joaquin Rock and Gravel Company begin to extract the materials near the river and continue into the 1920s. The railroad line also benefited the Grant Rock and Gravel Company located just south of Friant along the San Joaquin River which began operating in 1924 (Clovis Tribune May 3, 1923). Pumice, initially marketed as a polishing agent, became an important ingredient in manufacturing “pumitile” masonry building blocks. These blocks were used for commercial and residential construction throughout the Central Valley, as well as during the construction of the Friant Dam.

The Central Valley Project was envisioned as a plan to provide water, power and flood protection to several communities along the Valley. Under the supervision of the Bureau of Reclamation, construction began on government housing for the workers of the Friant Dam in early 1937. The camp included “more than 50 houses, an office building, and two 48-man dormitories opened in January 1938” (Autobee 1994). The community also included paved streets and lawns making the area stand out amongst its neighbors. Although the dam was completed in 1942, workers sporadically resided in Friant during construction of the Madera Canal and the Friant-Kern Canal which was completed in 1951. The Southern Pacific continued to operate the line into Friant that had served as a conduit for construction material for the Friant Dam and heavy machinery for the Edison Dam on the North Fork of the San Joaquin River. Service along this line was discontinued by 1960.

Recreation grew exponentially following World War II, and Friant continued to provide services to meet the needs of highway travelers and visitors to Lake Millerton. Fishing, which began at Lake Millerton in 1945, attracted over 27,000 anglers the first year (Clough 1986:482). The state fish hatchery established in Friant during the early 1920s grew into one of the largest in California. This facility continues to promote fish stocking and has assisted the local recreational industry by luring fishermen to Lake Millerton. Other recreational services included convenience stores, fishing supply stores, restaurants, motels and automotive service stations.

In 1959 Fresno County converted part of the San Joaquin River gravel pit used in the construction of the Friant Dam together with the acreage leased from the State of California into the Lost Lake Recreation Area. The 305 acre park runs for two miles along the south beach of the river with fishing, nature trails, picnicking, and bird watching activities available. A large campground is located on the easternmost section of the park which is downstream from the state fish hatchery. A beach volleyball complex, softball field and model airplane flying area is located near the park entrance on Friant Road. The “Lost Lake” is a 48-acre pond located on the west side of the park south of the river. The property was initially acquired from the Bureau of Reclamation following the construction of the dam. Unfortunately, mineral extraction continues adjacent to the park that has left the lake empty.

During the 1980s there were a number of developers looking to exploit the river bottom area for profit. It was on the wave of this concern that community activists began to sound the alarm in Fresno and out of its depth a group of concerned citizens formed the San Joaquin River Committee in 1986. The ultimate goal of the committee was to create “…open space and public access with no urban development in the area between Friant Dam and Highway 99 – with an ultimate goal of establishing a regional park or preserve in some sections” (Rose 1986).

Commensurate with this was the need to have local governments buy into the ultimate goal of the Committee. Eventually, both Madera and Fresno counties, which administer 39 percent of the land between Highway 99 and Friant Dam, have tried to develop a regional plan for that area. The goal of the

regional plan was similar to that of the San Joaquin River Committee – protect the San Joaquin River from further development (Rose 1986).

2.5 Record Search Results

Prior to field inspection, a record search was conducted by the author with the Southern San Joaquin Valley Information Center of the California Historical Resources Information System (SSJVIC) to identify areas previously surveyed and identify known cultural resources present within or in close proximity to the Project Study Area (Attachment 1). While no cultural resource investigations have been completed within the present study area, there have been twenty-two (22) studies conducted within a one-half mile radius of the project area. There are no recorded cultural resources within the project area; however, nineteen (19) recorded resources have been identified and documented within a one-half mile radius. There are no recorded cultural resources within the Project Study Area that are listed in the National Register of Historic Places, the California Register, California Points of Historic Interest, or California State Historic Landmarks.

2.6 Native American Consultation

In addition to the records search completed with the SSJCIC, the Native American Heritage Commission (NAHC) was contacted to identify any areas of importance to Native peoples documented in the Commission Sacred Lands files (Attachment 2). Individuals identified by the NAHC as having knowledge of and interest in the general project area were contacted. Although not directly part of the present project, consultation with various Native American tribes in the region concerning the protection and interpretation of Native American resources along the San Joaquin River has been initiated as part of the San Joaquin River Parkway and Conservation Trust's updating of their Master Plan, which is currently underway. A desirable outcome of this consultation process will be an understanding and agreement between the Parkway and representatives of Native American tribal groups which will enable access to the study area for gathering and other uses of importance to Native peoples, and foster long-term participation of Native peoples in resource protection and management along the San Joaquin River within the Parkway.

3.0 METHODS AND FINDINGS

Between September 27 and October 3, 2012, a cultural resources survey was performed by Sierra Valley Cultural Planning archaeologist C. Kristina Roper of the 1-5-acre study area. Surface visibility within the study area was poor to good. The study area was intensively inspected using ca. 20-m transects. Cultural resources identified within the study area were documented as appropriate. In all, two Native American resources and two historic-period resources were identified and documented within the Project Study Area (Figure 3).

3.1 Results of the Present Study

Two Native American archaeological resources and two historic-period resources were identified within the Project Study Area as a result of the current survey. Site RVT-1 is a large occupation site with a minimum of seven bedrock milling features with over 350 mortar cups, an area of anthropogenic (midden) soil, and a sparse scatter of flaked stone (Figure 4). Isolate RVT-2 includes a small granite boulder with a single milling slick (Figure 5).

The two historic-period resources include remnants of a concrete slab foundation with associated debris (RVT-3), and the broken segments of the old concrete Friant Bridge (RVT-4). RVT-3 is a historic trash scatter surrounding remnants of a concrete slab foundation. The scatter includes a variety of materials such as broken bottle glass, china plate fragments, a variety of metal items including wire and cans, plastic items, bricks, and fence remnants. The site may date to as early as the late 1800s; an 1891 atlas map of the area depicts a structure in the general location of the site. A 1998 aerial map depicts at least two structures at the location; by 2006 the structures had been razed (see Figures 6a-b).

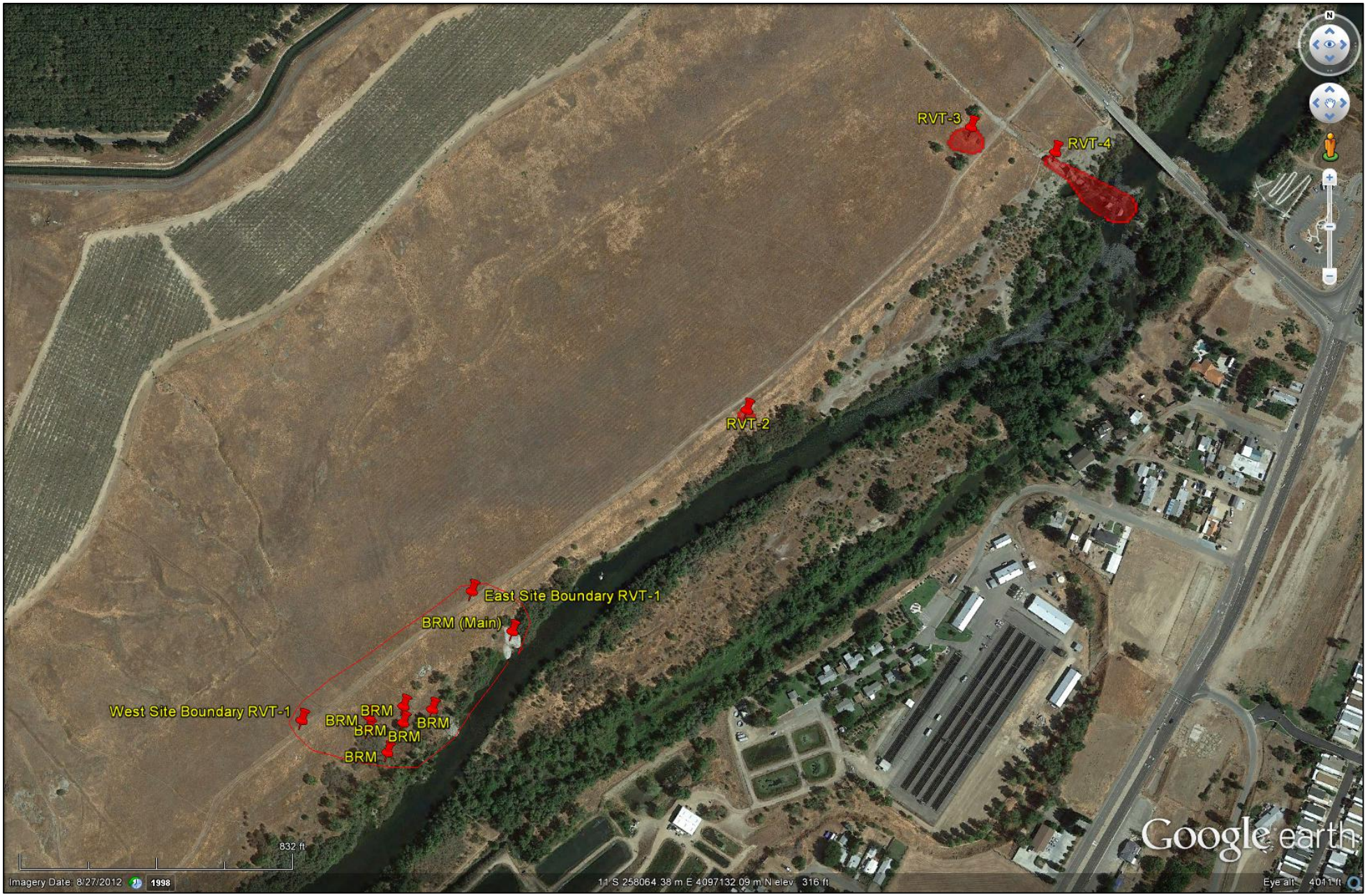


Figure 3. Location of Cultural Resources Identified within the River Vista Project Study Area.

Figure 4. Main bedrock milling features recorded at RVT-1. There are over 150 mortar cups on this feature alone.

Figure 5. Single milling slick on a small granite boulder recorded as RVT-2.

Figure 6a. Concrete slab foundation and trash scatter at RVT-3.

Figure 6b. Closeup of burned debris scatter at RVT-3.

Figure 7. Remnant of Old Friant Bridge (RVT-4).

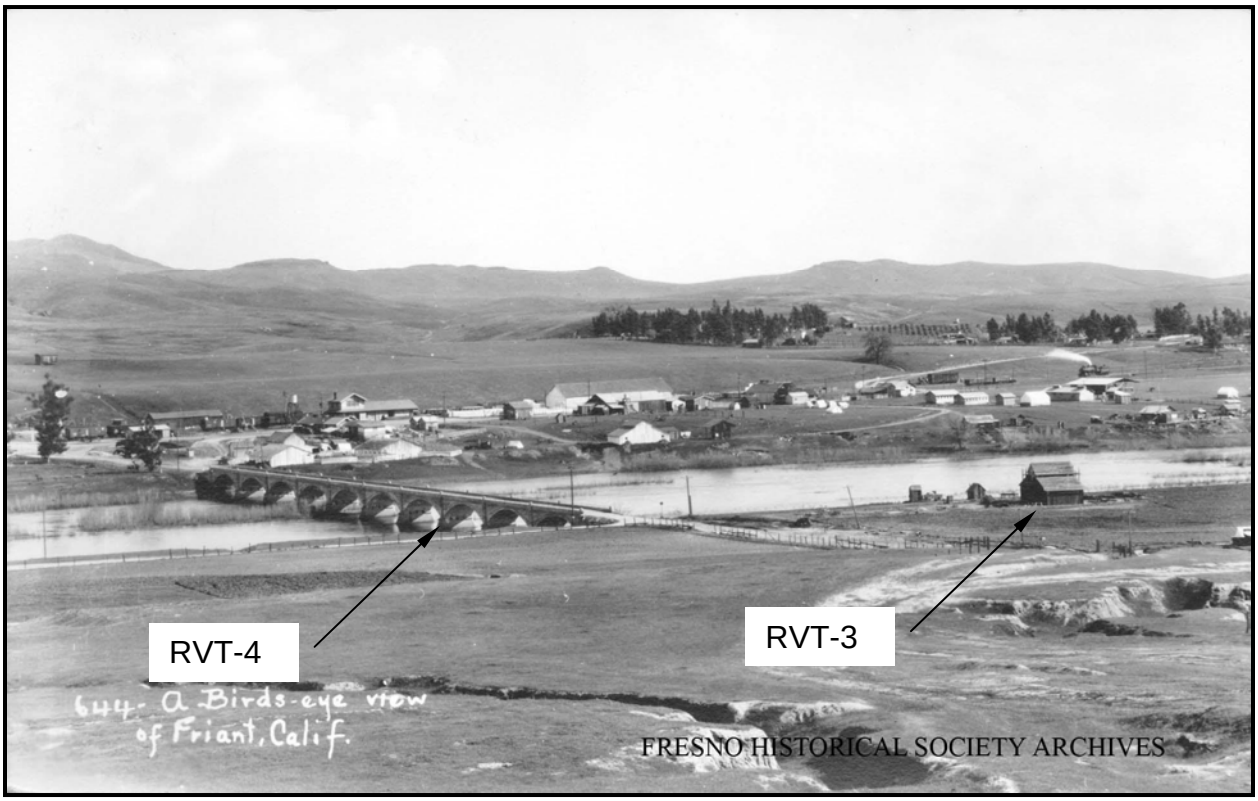


Figure 8. Ca. 1920s view of the community of Friant depicting the locations of RVT-3 and RVT-4.

Several very large segments of the concrete old Friant Bridge (RVT-4) are present within the Project Study Area; the bridge segments are located just downstream of the Road 206 bridge. The bridge was located in the vicinity of the old Converse Ferry crossing, which was a major crossing on the Stockton-Los Angeles Road. A photo taken probably during the 1920s depicts the bridge in place as well as a barn, house and other outbuildings at the RVT-3 location (see Figure 8)..

3.2 Recommendations

Site RVT-1 is likely eligible for listing on the California Register of Historic Resources due to the very large number of milling features present, in addition to the midden deposit and flaked stone scatter. These large sites, which possess traditional cultural value for local Native American tribes, also offer striking evidence of intensive Native American use and occupation of the area, and thus present interpretive opportunities for visitors. Development of recreational facilities should avoid potentially adverse impacts to this site. Potential adverse impacts would include moving or destroying a milling feature, or somehow defacing these features. Actions involving minimal ground disturbance within or adjacent to these sites, such as trail maintenance or placement of interpretive signage, would not require additional cultural review. Actions requiring extensive ground disturbance within or adjacent to the site should be preceded by additional archaeological review and monitoring as appropriate.

The single milling slick recorded as RVT-2 is considered an isolated find. By definition, isolated finds are not eligible for listing on the California Register; however, RVT-2 does have interpretive value.

RVT-3, the historic trash scatter and concrete slab foundation remains, has been extensively disturbed. Burned debris and vegetation lie across concrete foundations, obscuring most of these features and other material as well. The integrity of the site has been altered by the removal and subsequent burning of the structure and associated remains. It is unknown if subsurface remains are present at this site. Due to its lack of integrity, it is unlikely that this resource is eligible for listing in the California Register of Historic Resources.

The Old Friant Bridge, RVT-4, is broken into several segments and has been vandalized since its destruction in the early 1950s. Graffiti is present on the bridge segments. Due to its lack of integrity, it is unlikely that this resource is eligible for listing in the California Register of Historic Resources.

Despite the fact that historic-period resources RVT-3 and RVT-4 have been extensively damaged, they do offer associative values as elements of the built historic landscape, and may be incorporated as interpretation features of the River Vista Trail and Recreational Facility.

Soils within the study area are composed predominately of entisols which are soils formed on recent alluvium; buried cultural deposits may be present beneath the land surface and not detected through surface inspection alone. In addition, dense grasses obscured much of the soil surface during the survey. For these reasons, there is a potential for buried cultural resources, and any actions requiring subsurface excavation should at minimum be monitored by a qualified archaeologist.

In the event that buried archaeological deposits are encountered during project-related activities within the River Vista recreational facility, work in the immediate vicinity of the discovery must cease until the finds can be evaluated by a qualified archaeologist for cultural importance. Should human remains be encountered within the project area, the County Coroner must be contacted immediately; if the remains are determined to be Native American, then the Native American Heritage Commission must be contacted as well.

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1984 *Redbank and Fancher Creeks Intensive Cultural Resources Survey*. Institute of Archaeology, University of California, Los Angeles. Submitted to U.S. Army Corps of Engineers, Sacramento District. Report on file, Southern San Joaquin Valley Information Center, CSU Bakersfield. File number FR-24/53.

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PREPARER'S QUALIFICATIONS

C. Kristina Roper conducted the historical resources inventory and background research, and assisted in the preparation of this Historic Resource Evaluation Report. Ms. Roper has over 30 years of professional experience in the field of archaeology, historical research and architectural evaluation, specifically in the investigation and management of cultural resources within the context of local, state and federal regulatory compliance for projects in the Far West. Ms. Roper holds a Master's degree in Cultural Resources Management awarded in 1993 from Sonoma State University, and is certified as a Registered Professional Archaeologist. She has completed graduate-level coursework in historical architectural evaluation and historic research. Her experience in cultural resources management includes both government and private sector employment and contracting for archaeological field services and historic research, documentation of resource assessments for Initial Studies (IS), Environmental Assessments (EA), Environmental Impact Reports (EIR), and Environmental Impact Statements (EIS). Ms. Roper is a registered archaeologist with the California Historic Resources Information System.

Ms. Roper has participated in planning efforts with numerous governmental entities in the San Joaquin Valley. She has prepared heritage preservation ordinances for the City of Chowchilla, serves as advisory staff to the Chowchilla Heritage Preservation Commission, and has recently completed a multi-year survey and assessment of Chowchilla's built environment. Ms. Roper has prepared a cultural resources records search and sensitivity analysis to be used in the development of a revised General Plan for the City of Coalinga, Fresno County. Ms. Roper has consulted with Native American tribes in the San Joaquin Valley and Sierra foothills under Senate Bill 18 (SB 18), which applies to General Plans, Specific Plans, and amendments proposed on or after March 1, 2005. SB 18 expands CEQA for the protection of California's traditional tribal cultural places by requiring consultation with Native American Groups during these planning efforts to define resources and sacred areas and incorporate protection of these important resources into the planning process.

Ms. Roper has served as a Lecturer in Anthropology at California State University Fresno from 1995 to the present. Among her many courses taught is an upper division course in Cultural Resources Management which provides an overview of state and federal historic preservation law and the identification and evaluation of cultural resources. From 2002 through June of 2009, Ms. Roper served as Project Director for a services contract with the California Department of Transportation, District 6, Cultural Resources Branch, administered by the California State University Foundation. Ms. Roper supervised a team of cultural resources technicians who performed professional and technical services required by Caltrans for cultural resource studies. These included archaeological survey, title search for historic structures and properties, prehistoric and historic background research, excavation of archaeological sites, electronic data entry, and maintenance of confidential archaeological records and files.

Attachment 1:

Cultural Resources Records Search,
Southern San Joaquin Valley Information Center
of the California Historical Resources
Information System
(Records Search 12-297)

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM

FRESNO KERN KINGS MADERA TULARE

Southern San Joaquin Valley Information Center
California State University, Bakersfield
Mail Stop: 46 MEC
9001 Stockdale Highway
Bakersfield, California 93311-1022
(661) 654-2289 FAX (661) 654-2415
E-mail: ssjvic@csub.edu

TO: C. Kristina Roper, Consulting Archaeologist **(RS# 12-297)**
Sierra Valley Cultural Planning
41845 Sierra Drive
Three Rivers, CA 93271

DATE: September 25, 2012

RE: River Vista Trail Project Area

County: Fresno & Madera

Map(s): Friant & Millerton Lake West 7.5's

CULTURAL RESOURCES RECORDS SEARCH

The Southern San Joaquin Valley Information Center is under contract to the State Office of Historic Preservation and is responsible for the local management of the California Historical Resources Inventories. The following are the results of a search of the cultural resources site files at the IC. These files include known and recorded archaeological and historic sites, inventory and excavation reports filed with this office, and properties listed in the Historic Property Data File (4/5/12), on the National Register of Historic Places, the California Register, the California Historical Landmarks, The California Inventory of Historic Resources, and The California Points of Historical Interest.

PRIOR CULTURAL RESOURCE INVENTORIES WITHIN THE PROJECT AREA AND A ONE-HALF MILE RADIUS

According to the information in our files, there have been no studies conducted within the project area. There have been twenty-two (22) studies conducted within a one-half mile radius of the project area, FR-42, 204, 205, 238, 474, 485, 749, 1031, 1085, 1201, 1765, 1770, 1771, 1772, 1773, 1774, 1916, MA-100, 118, 233, 234, and 999. The study locations and their associated report designations are plotted on the project map.

(RS# 12-297)

KNOWN CULTURAL RESOURCES WITHIN THE PROJECT AREA AND A ONE-HALF MILE RADIUS

There are no recorded cultural resources within the project area. There are nineteen (19) recorded resources within a one-half mile radius, P-10-856, 3930, 3936, 4481, 4482, 4483, 4488, 4489, 4490, 4491, 4492, 4493, 4732, P-20-240, 2089, 2093, 2094, 2095, and 2096. Resources and their associated report numbers are plotted on the project map.

There are no known cultural resources within the project area that are listed in the National Register of Historic Places, Historic Property Data File, the California Register, California Inventory of Historic Resources, California Points of Historical Interest, or the California State Historic Landmarks.

COMMENTS

Requested copies are enclosed. If you need any additional information for this project, please don't hesitate to contact our office at (661) 654-2289.

By: for

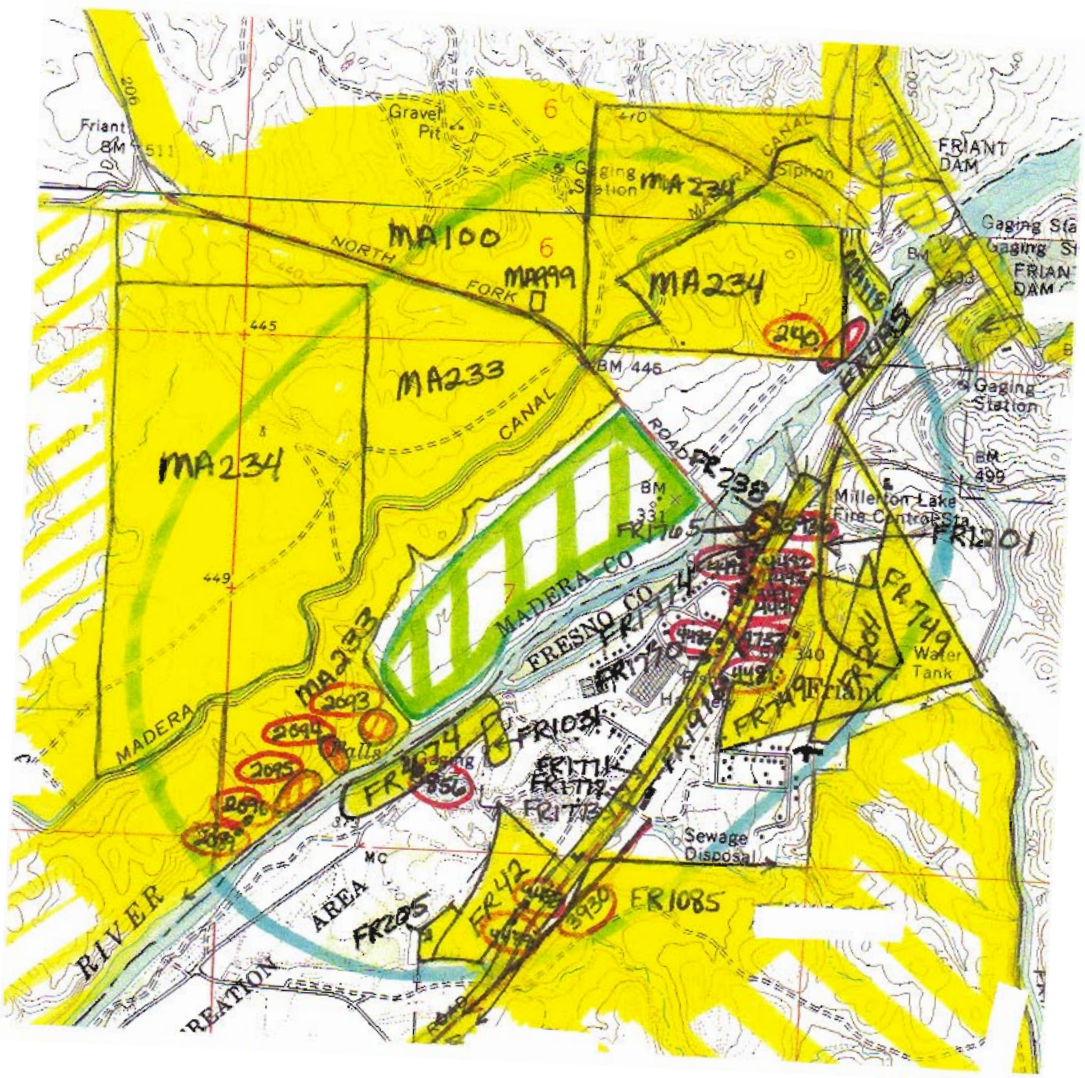
Brian E. Hemphill, Ph.D.
Coordinator

Date: September 25, 2012

Fee: $225.00/hr. (Priority Service)

Please note that invoices for Information Center services will be sent under separate cover from the California State University, Bakersfield Accounting Office.

Record Search 12-297
Friant 7.5' & Millerton Lake West 7.5'
Fresno & Madera Counties, CA



Attachment 2:

Native American Consultation

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
ds_nahc@pacbell.net

August 13, 2012

Ms. C. Kristina Roper, RPA
Sierra Valley Cultural Planning
41845 Sierra Drive
Three Rivers, CA 93271

Sent by FAX to: 559-561-6041
No. .of Pages:: 7

Re: Sacred Lands File Search and Native American Contacts list for the proposed **"San Joaquin River Parkway Master Plan Update & EIR (and Conservation Trust Project) ;"** located along the San Joaquin River from Herndon to Friant Dam; Fresno and Madera Counties, California

Dear Ms. Roper:

The Native American Heritage Commission (NAHC) conducted a Sacred Lands provided and **Native American cultural resources were identified** within one-half mile of the project site, the 'area of potential effect' (e.g. APE): you specified. There are, however Native American cultural resources in close proximity to the APE. Also, please note; the NAHC Sacred Lands Inventory is not exhaustive and does not preclude the discovery of cultural resources during any project groundbreaking activity.

California Public Resources Code §§5097.94 (a) and 5097.96 authorize the NAHC to establish a Sacred Land Inventory to record Native American sacred sites and burial sites. These records are exempt from the provisions of the California Public Records Act pursuant to. California Government Code §6254 (r). The purpose of this code is to protect such sites from vandalism, theft and destruction.

In the 1985 Appellate Court decision (170 Cal App 3rd 604), the court held that the NAHC has jurisdiction and special expertise, as a state agency, over affected Native American resources, impacted by proposed projects including archaeological, places of religious significance to Native Americans and burial sites

The California Environmental Quality Act (CEQA – CA Public Resources Code §§ 21000-21177, amendments effective 3/18/2010) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the CEQA Guidelines defines a significant impact on the environment as 'a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ...objects of historic or aesthetic significance." In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE), and if so, to mitigate that effect. CA Government Code §65040.12(e) defines "environmental justice" provisions and is applicable to the environmental review processes.

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries once a project is underway. Local Native Americans may have knowledge of the religious and cultural significance of the historic properties of the proposed project for the area (e.g. APE). Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code §65040.12(e). We urge consultation with those tribes and interested Native Americans on the list that the NAHC has provided in order to see if your proposed project might impact Native American cultural resources. Lead agencies should consider avoidance as defined in §15370 of the CEQA Guidelines when significant cultural resources as defined by the CEQA Guidelines §15064.5 (b)(c)(f) may be affected by a proposed project. If so, Section 15382 of the CEQA Guidelines defines a significant impact on the environment as "substantial," and Section 2183.2 which requires documentation, data recovery of cultural resources.

The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation. The aforementioned Secretary of the Interior's *Standards* include recommendations for all 'lead agencies' to consider the historic context of proposed projects and to "research" the cultural landscape that might include the 'area of potential effect.'

Partnering with local tribes and interested Native American consulting parties, on the NAHC list, should be conducted in compliance with the requirements of federal NEPA (42 U.S.C 4321-43351) and Section 106 4(f), Section 110 and (k) of the federal NHPA (16 U.S.C. 470 *et seq*), Section 4(f) of the Department of Transportation Act of 1966 (23 CFR 774); 36 CFR Part 800.3 (f) (2) & .5, the President's Council on Environmental Quality (CSQ, 42 U.S.C 4371 *et seq*. and NAGPRA (25 U.S.C. 3001-3013) as appropriate. The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation. The NAHC remains concerned about the limitations and methods employed for NHPA Section 106 Consultation.

Also, California Public Resources Code Section 5097.98, California Government Code §27491 and Health & Safety Code Section 7050.5 provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be followed in the event of an accidental discovery of any human remains in a project location other than a 'dedicated cemetery', another important reason to have Native American Monitors on board with the project.

To be effective, consultation on specific projects must be the result of an ongoing relationship between Native American tribes and lead agencies, project proponents and their contractors, in the opinion of the NAHC. An excellent way to reinforce the relationship between a project and local tribes is to employ Native American Monitors in all phases of proposed projects including the planning phases.

Confidentiality of "historic properties of religious and cultural significance" may also be protected under Section 304 of the NHPA or at the Secretary of the Interior discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be

advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C., 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APE and possibility threatened by proposed project activity.

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,

Dave Singleton

Attachment: Native American Contact List

Native American Contact
Fresno and Madera Counties
August 13, 2012

North Fork Mono Tribe
Ron Goode, Chairperson
13396 Tollhouse Road — Mono
Clovis , CA 93619
rwgoode911@hotmail.com
(559) 299-3729 Home
(559) 355-1774 - cell

Dumna Wo-Wah Tribal Goverment
Robert Ledger SR., Tribal Chairperson
2216 East Hammond Street — Dumna/Foothill
Fresno , CA 93602 — Mono
ledgerrobert@ymail.com
559-519-1742 - office

North Fork Rancheria
Elaine Fink, Chairperson
PO Box 929 — Mono
North Fork , CA 93643
NFRancheria@netptc.net
(559) 877-2461
(559) 877-2467 Fax

Sierra Nevada Native American Coalition
Lawrence Bill, Interim Chairperson
P.O. 125 — Mono
Dunlap , CA 93621 — Foothill Yokuts
(559) 338-2354 — Choinumni

Picayune Rancheria of Chuckchansi
Reggie Lewis, Chairperson
46575 Road 417 — Chuckchansi / Yokut
Coarsegold , CA 93614
(559) 683-6633
(559) 683-0599 - Fax

Southern Sierra Miwuk Nation
Anthony Brochini, Chairperson
P.O. Box 1200 — Miwok
Mariposa , CA 95338 — Paulte
tony_brochini@nps.gov — Northern Valley Yokut
209-379-1008
209-628-0085 cell

California Valley Miwok Tribe
Silvia Burley, Chairperson
10601 N Escondido PL — Miwok
Stockton , CA 95212
office@cvmt.net
209-931-4567
209-931-4333

Choinumni Tribe; Choinumni/Mono
Lorrie Planas
2736 Palo Alto — Choinumni
Clovis , CA 93611 — Mono

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed San Joaquin River Parkway Master Plan Update & EIR; located along the San Joaquin River from herndon to Friant Dam; Fresno and Madera counties, California.

Native American Contact
Fresno and Madera Counties
August 13, 2012

Picayune Rancheria of Chuckchansi
Sammuel Elizondo, Environmental Director
46575 Road 417
Coarsegold , CA 93614
selizondo@chukchansi.com
559-683-6633
Chuckchansi / Yokut

North Fork Rancheria
Leora Beihn
32024 Poy-Ah-Now Road
North Fork , CA 93643
559-877-6243
Mono

Picayune Rancheria of Chuckchansi
Mary Motola, Cultural Specialist
46575 Road 417
Coarsegold , CA 93614
mmotola@chukchansi.com
559-683-6633
Chuckchansi / Yokut

North Fork Rancheria
Gaylen Lee
PO Box 869
North Fork , CA 93643
559-877-2710
Mono

Southern Sierra Miwuk Nation
Les James, Spiritual Leader
PO Box 1200
Mariposa , CA 95338
209-966-3690
Miwok
Pauite
Northern Valley Yokut

North Fork Rancheria
Dene Fink
32033 Poy-Ah-Now Road
North Fork , CA 93643
559-877-2326
Mono

Chowchilla Tribe of Yokuts
Jerry Brown
10553 N. Rice Road
Fresno , CA 93720
559-434-3160
North Valley Yokuts

Dumna Wo-Wah Tribal Goverment
Eric Smith, Cultural Resource Manager
2216 East Hammond Street
Fresno , CA 93602
nuem2007@yahoo.com
559-519-1742 - office
Dumna/Foothill
Mono

This list is current only as of the date of this document.

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Native American Contact
Fresno and Madera Counties
August 13, 2012

Big Sandy Rancheria of Mono Indians
Liz Hutchins Kipp, Chairperson
P.O. Box 337 / 37302 Western Mono
Auberry , CA 93602
ck@bigsandyrancheria.com
(559) 855-4003
(559) 855-4129 Fax

Dunlap Band of Mono Historical Preservation Soc
Mandy Marine, Board Chairperson
P.O Box 18 Mono
Dunlap , CA 93621
mandy_marine@hotmail.com
559-274-1705

Cold Springs Rancheria of Mono Indians
Robert Marquez, Chairperson
P.O. Box 209 Mono
Tollhouse , CA 93667
(559) 855-5043
559-855-4445 - FAX

The Choinumni Tribe of Yokuts
Rosemary Smith, Chairperson
1505 Barstow Choinumni
Clovis , CA 96311 Foothill YoKut
monoclovis@yahoo.com

Table Mountain Rancheria
Bob Pennell, Cultural Resources Director
P.O. Box 410 Yokuts
Friant , CA 93626-0177
(559) 325-0351
(559) 217-9718 - cell
(559) 325-0394 FAX

Frank Marquez
P.O. Box 565 Mono
Friant , CA 93626 Foothill Yokut
francomarquez@pmr.org
559-213-6543 - cell
559-822-3785

Kings River Choinumni Farm Tribe
John Davis, Chairman
1064 Oxford Avenue Foothill Yokuts
Clovis , CA 93612-2211 Choinumni
(559) 307-6430

This list is current only as of the date of this document.

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This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed San Joaquin River Parkway Master Plan Update & EIR; located along the San Joaquin River from herndon to Friant Dam; Fresno and Madera counties, California.

Dumna Wo-Wah Tribal Goverment
John Ledger, Assistant Cultural Resource Manager
2216 East Hammond Street Dumna/Foothill
Fresno , CA 93602 Mono
ledger17bonnie@yahoo.com
559-519-1742 - office

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.99 of the Public Resources Code.

This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed
San Joaquin River Parkway Master Plan Update & EIR; located along the San Joaquin River from herndon to Friant Dam; Fresno and Madera counties, California.

SIERRA VALLEY CULTURAL PLANNING

21 November 2012

Sample Letter

Mr. John Ledger, Assistant Cultural Resource Manager
Dumna Wo-Wah Tribal Government
2216 East Hammond Street
Fresno, CA 93602

Re: Cultural Resources and Existing Conditions Assessment for the San Joaquin River Parkway Master Plan Update and EIR, San Joaquin River Conservancy Trust, Friant Dam to SR 99/Herndon, Fresno County, California

Dear Mr. Ledger:

The San Joaquin River Parkway and Conservation Trust is updating their existing Master Plan (adopted July 20, 2000). The updated Master Plan will provide goals, objectives, and policies guiding River Parkway Trust actions. Adoption of the updated plan requires preparation of a program-level Environmental Impact Report, as specified in the implementing regulations of the California Environmental Quality Act (CEQA; as amended March 2010).

The Planning Center / DC&E has contracted with the River Parkway Trust to prepare a program level EIR. The EIR will include, among other components, a summary of existing conditions and resource assessments of the physical setting, biological and cultural resources, infrastructure and hydrology, traffic and circulation, as well as opportunities and constraints.

Sierra Valley Cultural Planning is preparing a cultural resource assessment for the Parkway to satisfy the requirements of CEQA. An important part of this assessment is consultation with Native American communities.

Many Native American traditional cultural properties and sacred sites have been identified along the San Joaquin River within and in close proximity to Parkway lands. An important part of future planning for conservation of these resources includes input from the Native American community on how these significant resources should best be protected. In addition to cultural sites, there are also plant resources which are of great importance for Native Americans, and access to these resources on Parkway lands is important in order to gather material for basket weaving and other traditional Indian art.

I am hoping to meet with you and others who share concerns for the conservation of these important sites. I will follow this letter with a phone call in the next few days to discuss how we can work together to protect and preserve Native American cultural sites and traditional gathering places.

Thank you for your assistance in this matter. Please feel free to give me a call at (559) 288-6375 if you have any questions or comments.

Respectfully,

C. Kristina Roper
Principal

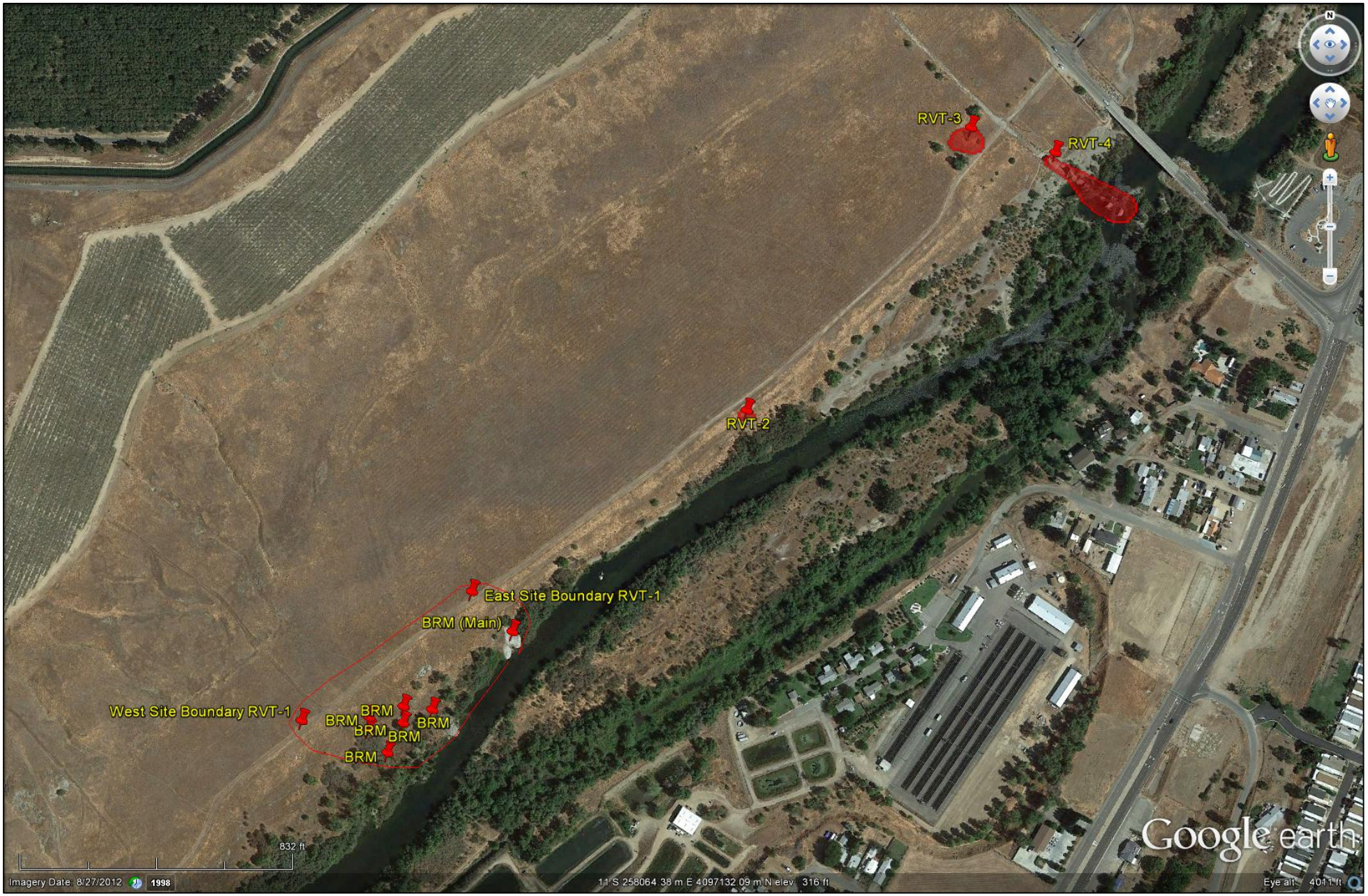
41845 Sierra Drive, Three Rivers, CA 93271 Tel.: (559) 561-3816 / Fax: (559) 561-6041 kroper@wildblue.net

Attachment 3:

Cultural Resources Records

Table A3-1. UTM location of resources.

SITE	ZONE	mE	mN	ELEV.	DESCRIPTION
RVT-3	11S	258343	4097420	352	HOUSE FOUNDATION AND TRASH SCATTER
RVT-2	11S	258122	4097158	329	MILLING SLICK ON SMALL BOULDER ON SLOPE
RVT-1	11S	257891	4096953	315	MAIN BRM FEATURE
RVT-1	11S	257854	4096993	335	EAST END OF SITE
RVT-1	11S	257812	4096881	310	BRM FEATURE
RVT-1	11S	257785	4096885	321	BRM FEATURE
RVT-1	11S	257784	4096869	321	BRM FEATURE
RVT-1	11S	257768	4096841	319	BRM FEATURE
RVT-1	11S	257752	4096876	322	BRM FEATURE
RVT-1	11S	257751	4096864	327	BRM FEATURE
RVT-1	11S	257688	4096875	332	WEST END OF MIDDEN
RVT-4	11S	258424	4097395	312	CONCRETE BRIDGE REMAINS



Location of Cultural Resources Identified within the River Vista Project Study Area.

Appendix C – Biological Resources Report

LIVE OAK ASSOCIATES, INC.

an Ecological Consulting Firm

RIVER VISTA ACCESS
BIOLOGICAL EVALUATION
MADERA COUNTY, CALIFORNIA

Prepared by:
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EXECUTIVE SUMMARY

In July of 2012, Live Oak Associates, Inc. (LOA) examined a 115-acre site along the San Joaquin River in Madera County for biological resources, and evaluated a proposed trail project for possible impacts to such resources. The project site is located northwest of the San Joaquin River and southwest of Road 206. The proposed project includes construction of a gravel parking area, restroom, river access trail with overlooks, picnic tables, possibly a shade structure or small picnic shelter, and riparian habitat enhancement within the project site. The proposed trail would be constructed within the footprint of an existing dirt road, which parallels the river.

This document was prepared in order to assist Madera County and the San Joaquin River Conservancy in meeting the requirements of the California Environmental Quality Act (CEQA), the Clean Water Act (CWA), the state and federal endangered species acts, and miscellaneous other local, state and federal environmental regulations prior to the improvement of the River Vista Access Trail. The information in this document was based on a review of existing literature and a reconnaissance level field survey conducted by LOA on July 20, 2012. This report also includes information gathered during the field meeting on September 27, 2012 with staff from California Department of Fish and Game (CDFG), the San Joaquin River Conservancy (SJRC), Madera County Planning, and LOA.

The project site is located in a relatively natural setting along the northwestern shore of the San Joaquin River. Four biotic habitat types were observed within the project site during the summer 2012. These include California annual grassland series, mixed willow series, aquatic habitat of the San Joaquin River, and ruderal (disturbed). Habitats of the site are used by many terrestrial vertebrate species. Twenty terrestrial vertebrate species were observed during the July and September field surveys. The river serves as a significant movement corridor for native wildlife.

The site provides habitat for a number of special status species. Although not observed, the Sanford's arrowhead is a species that could occur within the shallow aquatic habitat of the San Joaquin River. Special status animals potentially using habitats of the site include the Chinook salmon, western pond turtle, American badger, and various avian species (including, but not limited to, Swainson's hawk, bald eagle, golden eagle, white-tailed kite, Northern harrier and burrowing owl). Other special status wildlife species are not expected to occur on the project site, except for occasional wildlife foraging on it during migration or dispersal movements. Waters subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE), California Department of Fish and Game (CDFG), the Central Valley Regional Water Quality Control Board (RWQCB), and the State Lands Commission were present along the San Joaquin River.

Less than significant project impacts include those to wetland and riparian habitats, special status plant species, most special status wildlife species, sensitive habitats, wildlife movement corridors and fish and wildlife habitat. Mitigation measures for impacts to these biotic resources would not be warranted.

Potentially significant project impacts include those to nesting birds (including but not limited to, burrowing owl), American badgers, and aquatic habitat of the San Joaquin River downstream of the project site. Measures appropriate for mitigating project impacts to nesting birds (including burrowing owls) would include 1) pre-construction surveys for active nests during the nesting season (Feb.-Aug.), and 2) avoidance of active nests. Suitable mitigation for badgers would include pre-construction surveys for active dens within the footprint of project construction and avoidance of those dens. Erosion control measures and the implementation of best management practices would protect aquatic habitat of the San Joaquin River from degradation.

TABLE OF CONTENTS

EXECUTIVE SUMMARY ii

TABLE OF CONTENTS iii

1.0 INTRODUCTION 1

1.1 PROJECT DESCRIPTION 1

1.2 REPORT OBJECTIVES 1

1.3 STUDY METHODOLOGY 4

2.0 EXISTING CONDITIONS 6

2.1 REGIONAL SETTING 6

2.2. HYDROLOGY 6

2.3 SOILS 6

2.4 SURROUNDING LANDS 8

2.5 BIOTIC HABITATS/LAND USES 9

2.3.1 California Annual Grassland Series 9
2.3.2 Mixed Willow Series 12
2.3.3 Aquatic 13
2.3.4 Ruderal 15

2.4 SPECIAL STATUS PLANTS AND ANIMALS 15

2.4.1 Chinook Salmon (*Oncorhynchus tshawytscha*); Federally Threatened (Central Valley Spring Run), State Threatened 22
2.4.2 California Tiger Salamander (*Ambystoma californiense*); Federally Threatened, State Threatened 23
2.4.3 Western Spadefoot (*Scaphiopus hammondii*); State Species of Special Concern. 24
2.4.4 Western Pond Turtle (*Emys marmorata*); State Species of Special Concern 24
2.4.5 Bald Eagle (*Haliaeetus leucocephalus*); Federally Threatened, State Endangered 26
2.4.6 Swainson's Hawk (*Buteo swainsoni*); State Threatened 26
2.4.7 Burrowing Owl (*Athene cunicularia*); State Species of Special Concern 27
2.4.8 San Joaquin Kit Fox (*Vulpes macrotis mutica*); Federally Endangered, State Threatened 27
2.4.9 American Badger (*Taxidea taxus*); State Species of Special Concern 29

2.5 JURISDICTIONAL WATERS 29

2.6 WILDLIFE MOVEMENT CORRIDORS 30

2.7 SENSITIVE HABITATS 30

3.0 IMPACTS AND MITIGATIONS 31

3.1 SIGNIFICANCE CRITERIA 31

3.2 RELEVANT GOALS, POLICIES, AND LAWS 32

3.2.1 General Plan Policies of Madera County and the San Joaquin River 32
3.2.2 Threatened and Endangered Species 33
3.2.3 Migratory Birds 33
3.2.4 Birds of Prey 33
3.2.5 Waters of the U.S. and Other "Jurisdictional Waters" 34

3.3 ENVIRONMENTAL IMPACT/MITIGATION 35

3.3.1 Potential Project Impacts to Special Status Plant Species 36
3.3.2 Potential Project Impacts to Special Status Animal Species Absent or Unlikely to Occur on Site 36
3.3.3 Potential Project Impacts to Special Status Animal Species that May Forage on the Site, but would not Breed, Nest, Den, or Roost on the Site. 37
3.3.4 Potential Project Impacts to the Western Pond Turtle 37
3.3.5 Potential Project Impact to Chinook Salmon 37
3.3.6 Potential Project Impact to State and Federally Protected Wetlands and Jurisdictional Waters 38
3.3.7 Potential Project Impact on Fish or Wildlife Movement Corridors 38
3.3.8 Potential Project Impact to Riparian Habitat or Other Sensitive Habitats 39
3.3.9 Consistency of Project with Local Ordinances Protecting Biological Resources 39
3.3.10 Potential Project Impact to Nesting Birds 39
3.3.11 Potential Project Impact to Burrowing Owl 40
3.3.12 Potential Project Impact to American Badger 41
3.3.13 Degradation of Water Quality in Seasonal Creeks, Reservoirs and Downstream Waters 42

4.0 LITERATURE CITED 44

APPENDIX A: VASCULAR PLANTS OF THE PROJECT SITE 46

APPENDIX B: TERRESTRIAL VERTEBRATE SPECIES THAT POTENTIALLY OCCUR ON THE SITE 49

APPENDIX C: SELECTED PHOTOGRAPHS OF THE PROJECT SITE 58

1.0 INTRODUCTION

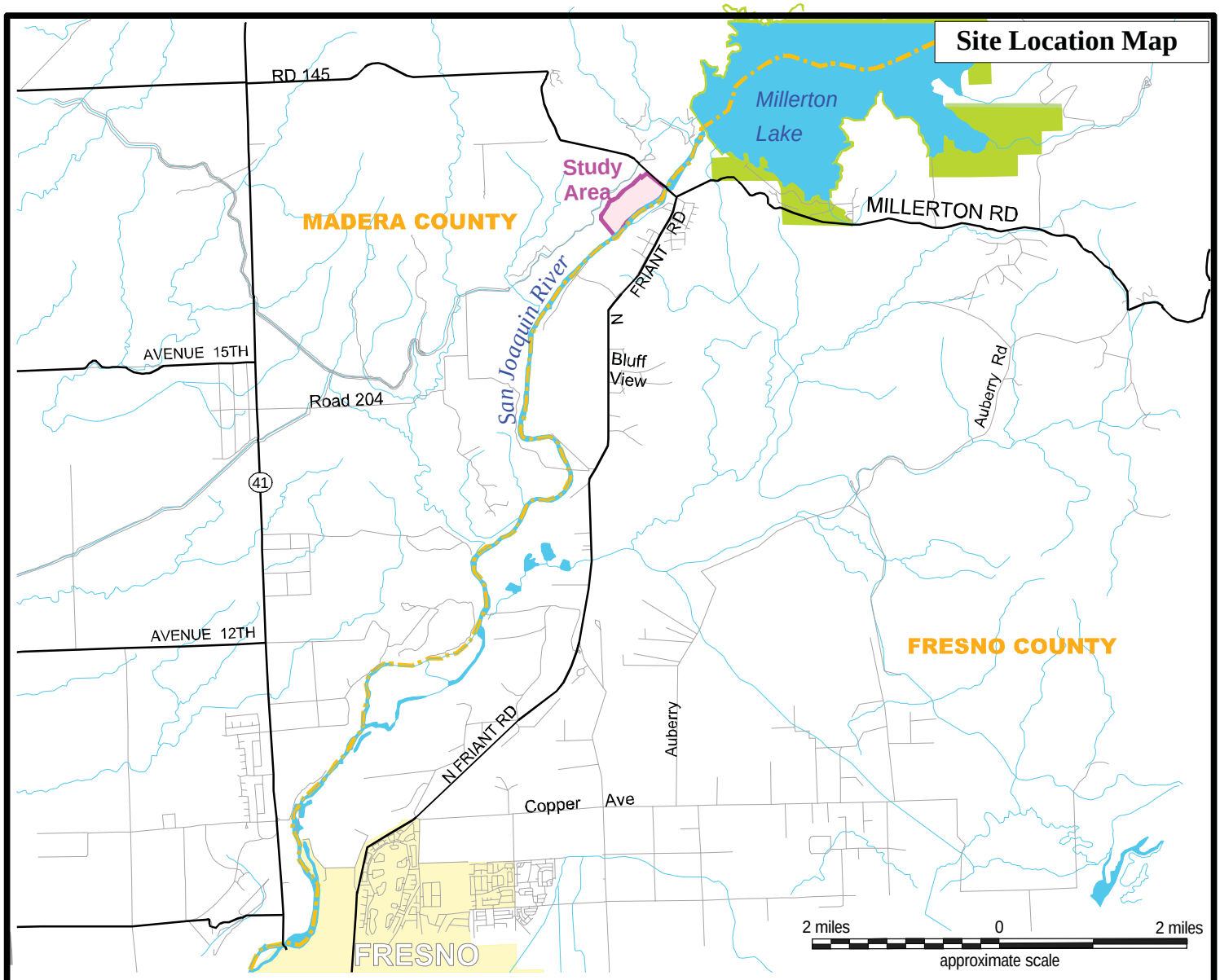
This technical report describes the biotic resources of an approximately 115.77-acre parcel (hereafter referred to as the "project site" or "site") in Madera County upon which construction of a river access trail, parking area, and associated infrastructure are proposed. The project site is located below Friant Dam on the northwest side of the San Joaquin River and immediately south of Road 206 (Figure 1). The site can be found within Section 7, Range 21 East, Township 11 South, on the *Friant* U.S.G.S quadrangle (Figure 2).

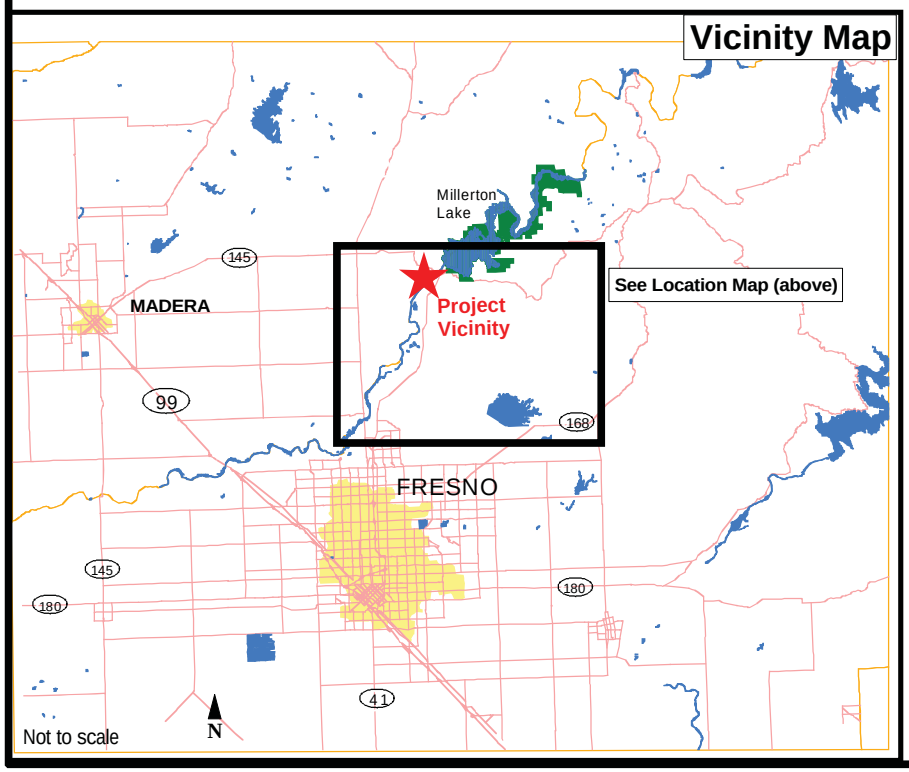
1.1 PROJECT DESCRIPTION

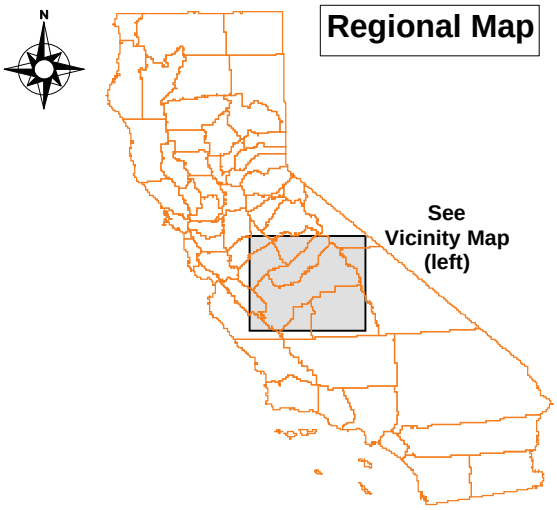
The proposed project consists of very low intensity development including a gravel parking area, a restroom, a river access trail with overlooks, picnic tables, possibly a shade structure or small picnic shelter, and riparian habitat enhancement. The trail will be constructed within the footprint of an existing dirt road. The overlooks will be designed to provide suitable viewpoints of the river and associated riparian habitat without disturbing either resource. The parking lot will be constructed adjacent to Road 206 and farther away from the river than the existing dirt road. The purpose of the project is to provide managed public access along the river frontage primarily for nature observation and picnicking. The project is funded by the State of California San Joaquin River Conservancy though a grant administered by the Wildlife Conservation Board.

1.2 REPORT OBJECTIVES

Projects such as the one proposed can potentially damage or modify biotic habitats used by sensitive plant and wildlife species as defined by state and regulatory agencies. Furthermore, the proposed project may be regulated by state and/or federal agencies, subject to provisions of the California Environmental Quality Act (CEQA), National Environmental Protection Act (NEPA), and covered by policies of the County of Madera General Plan, *San Joaquin River Parkway Master Plan* or some combination of the four. This report addresses issues related to sensitive biological resources occurring, or potentially occurring, in the project site, the federal, state and local laws related to such resources, and proposed mitigation measures that would minimize potential impacts. Accordingly, LOA has prepared this report to:



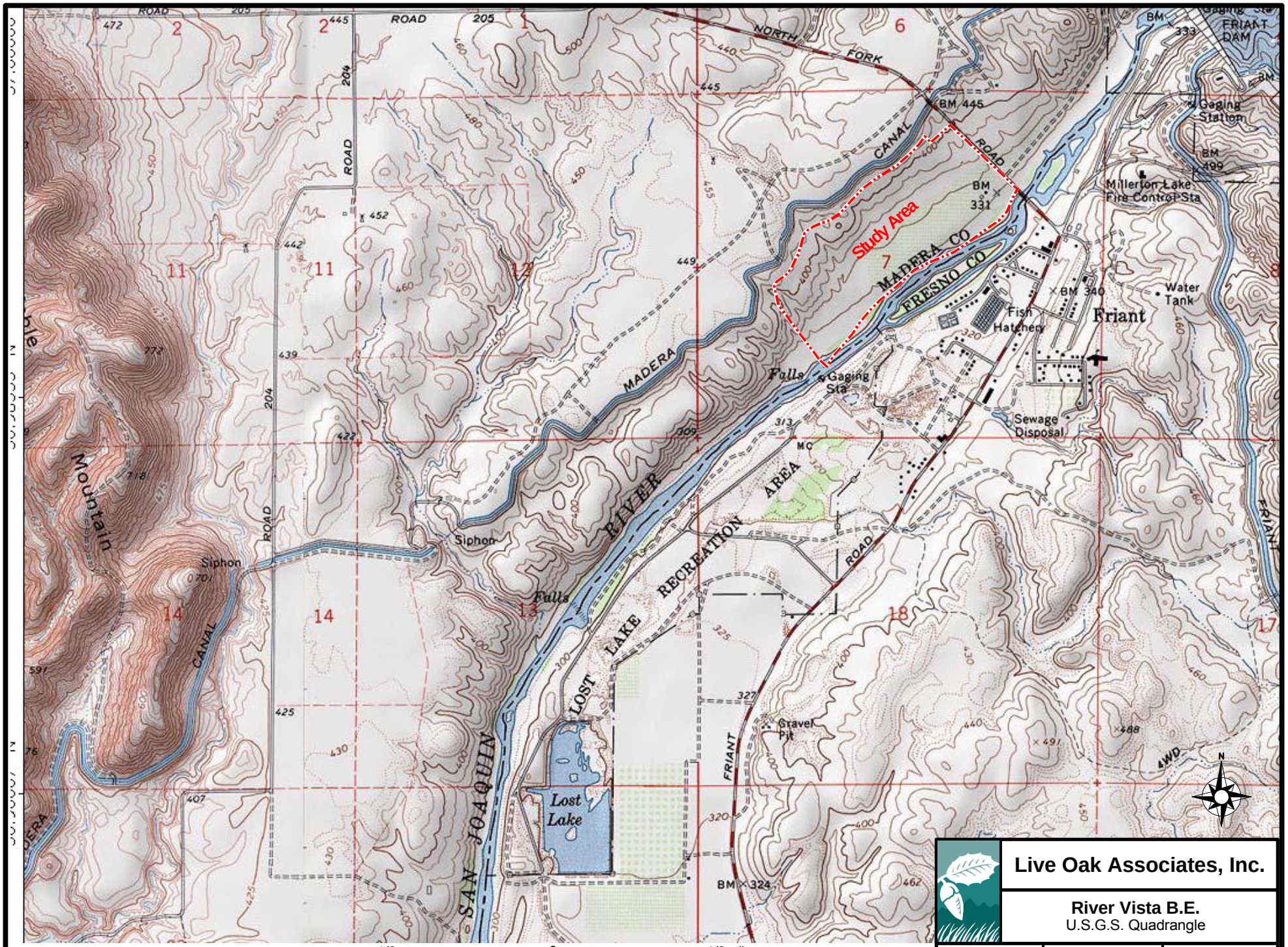




Live Oak Associates, Inc.

River Vista B.E.
Site / Vicinity Map

Date	Project #	Figure #
11/16/2012	1658-01	1



From USGS
Friant 7.5' Quadrangle 1990 Courtesy of TOPO!

1/2 0 1/2 mile
approximate scale

Live Oak Associates, Inc.

River Vista B.E.
U.S.G.S. Quadrangle

Date	Project #	Figure #
11/16/2012	1658-01	2

- Summarize all information related to existing biological resources of the site;
- Make reasonable inferences about the biological resources likely to occur on the site based on habitat suitability and the proximity of the site to a species' known range;
- Summarize California and federal natural resource protection laws that may be relevant to possible future site development;
- Identify and discuss Project-impacts to biological resources likely to occur on the site within the context of the CEQA Guidelines or any state or federal laws;
- Identify avoidance and mitigation measures that would reduce impacts to biological resources to a less than significant level (pursuant to the provisions of CEQA).

1.3 STUDY METHODOLOGY

The impact analysis, as discussed in Section 3.0 of this report, is based on the potential and known biological resources of the project site as discussed in Section 2.0. Information sources used in the preparation of this analysis included: the *California Natural Diversity Data Base* (CNDDB) (CDFG 2012a); the online *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2012); current listings from Special Plants and Animals (CDFG 2011; CDFG 2012b); *The Manual of California Vegetation* (Sawyer, Keeler-Wolf, and Evens 2009), biological studies conducted by LOA on adjacent properties, and additional manuals and references related to plants and animals of California's Central Valley. Supplemental information was gathered in the field by LOA Senior Biologist Dave Hartesveldt and Conservation Biologist/Ecologist Geoffrey Cline on July 20, 2012. This survey consisted of walking the length of the project site along the San Joaquin River and through the site's uplands, while identifying principal land uses and habitats of the site, and noting each habitat's constituent plants and animals. Sensitive habitats and endangered species habitats within the project site and adjacent lands were mapped. A coordination field meeting followed on September 27, 2012 with CDFG personnel, FSRC, Madera County, and LOA (Mr. Hartesveldt and Ms. Wendy Fisher, Project Manager and Wetland/Plant Ecologist).

Detailed surveys for sensitive biological resources (including special status species) were not conducted for this study. The level of effort was, however, sufficient to locate and establish the

general extent of habitat suitable for special status species that might be present on the site and adjacent lands. Although the study did not include soils and hydrology sampling as is typical for delineations of jurisdictional waters, the effort established the boundaries of state and federal jurisdiction along the banks of the San Joaquin River.

2.0 EXISTING CONDITIONS

2.1 REGIONAL SETTING

The project site is located at the eastern edge of the San Joaquin Valley immediately below the low foothills of the Sierra Nevada. The San Joaquin River forms the site's southeastern boundary. The topography of the site slopes gently from northwest to southeast (towards the San Joaquin River). Site elevations vary from approximately 407 feet National Geodetic Vertical Datum (NGVD) along the northwest side of the project site to approximately 295 feet NGVD within the bed of the San Joaquin River.

The project site, like most of California west of the Sierra Nevada, experiences a Mediterranean climate. Summers are hot and dry. Winters are cool and moist. Average annual precipitation in the general vicinity of the site is approximately 12 inches, most of which falls as rain between the months of October and April. Precipitation amounts vary considerably from year to year. During drought years, rainfall can be as little as 6-7 inches. During wet winters, rainfall can exceed 20 inches.

2.2. HYDROLOGY

The river bottom consists of a low flow channel and an adjacent flood plain approximately 10 feet higher in elevation. The low flow channel is subject to inundation during the winter and spring, depending on releases from Friant Dam during the spring snowmelt. Interim flows and restoration flows fluctuate per the implementation of the San Joaquin River Restoration Program (SJRRP 2012). Precipitation either percolates into the soils of the site, or during the most intense storms drains from the site as sheet flow into the San Joaquin River.

2.3 SOILS

Seven soil mapping units from six soil series were identified within the project site (NRCS 1990) (Table 1). One mapping unit, Tujunga and Hanford soils, channeled, 0-8% slopes, identified within the project site is hydric. Hydric soils are soils that are saturated, flooded, or ponded long enough to develop anaerobic conditions in the upper part; under sufficiently wet

conditions, they support the growth and regeneration of hydrophytic vegetation (USDA Soil Conservation Service 1985, as amended by the National Technical Committee for Hydric Soils in December 1986). The Tujunga and Hanford soils are located above the banks of the San Joaquin River, along the southeast boundary of the project site, and likely become saturated during high flows of the river and do not hold water when the river level is low. These soils typically do not support vernal pool or wetland vegetation and components.

With the exception of those portions of the site containing Ahwahnee and Vista soils, the entire site is located on alluvium transported from the Sierra Nevada. Alluvium of the site consists of sands and gravels derived from granite and some older metamorphic rock. This alluvium has accumulated on site since the time of the Pleistocene from overbank flooding of the San Joaquin River.

TABLE 1. SOILS OF THE PROJECT SITE (NRCS 1990).
Madera County, California

Soil Series/Soil	Map Unit Symbol	Parent Material	Drainage Class	Hydric
Ahwahnee and Vista Series Ahwahnee and Vista very rocky coarse sandy loams, 30-75% slopes	ArF	Residuum weathered from granite	Well drained	No
Greenfield Series Greenfield coarse sandy loam, 3-8% slopes	GrB	Alluvium derived from igneous, metamorphic and sedimentary rock	Well drained	No
Hanford Series Hanford fine sandy loam, 0-1% slopes	HaA	Alluvium derived from igneous rock	Well drained	No
Hanford Series Hanford gravely sandy loam, 3-8% slopes	HeB	Alluvium derived from igneous rock	Well drained	No
Hanford Series Hanford sandy loam, 0-3% slopes	HfA	Alluvium derived from igneous	Well drained	No
Tujunga and Hanford Series Tujunga and Hanford soils, channeled, 0-8% slopes	TzB	Sandy alluvium derived from granite and alluvium derived from igneous rock	Somewhat excessively drained and well drained	Yes
Whitney Series Whitney sandy loam, 15-30% slopes	WnD	Alluvium derived from granite	Well drained	No

2.4 SURROUNDING LANDS

The project site is bordered by a variety of habitats. A new orchard and the Madera Canal are located beyond the site's northwestern boundary. Road 206, open rangeland with a residence, and the Friant Dam are located to the northeast. The San Joaquin River and associated riparian and riverine habitat run along site's southeastern boundary, beyond which is situated the town of Friant. California annual grassland contiguous with grasslands of the project site is located to the southwest.

A long history of use has resulted in considerable modification of the natural habitats of the site and adjacent lands. For example, the well-developed riparian corridor that characterizes much of the San Joaquin River downstream of the Friant Dam is likely an artifact of the dam itself. Prior to dam construction, spring floods often pushed the river over its banks, shifting the configuration of the main channel and gravel and sand bars, and preventing the establishment of rooted vegetation. Since the construction of Friant Dam, flood flows have largely been controlled, and dense riparian vegetation has become established in many locations along the river, including the site and adjacent lands.

Higher portions of the flood plain were probably once open valley oak woodland interspersed with ox-bow wetlands and secondary channels of the San Joaquin River. These historic habitats have been modified in a number of ways. Water diversions from the main channel of the San Joaquin River via the Madera Canal and Friant-Kern Canal, as well as ground water pumping on adjacent lands, have substantially lowered the water table, likely resulting in the death of mature oaks within the river flood plain. Valley oak woodlands have likely also been adversely affected by the near-elimination of spring floods, as such flooding is positively associated with recruitment and survivorship of new valley oak trees. Farming and/or the planting of non-native trees have further modified the river flood plain and surrounding areas.

In summary, human activities have substantially modified the project site and adjacent lands from historic conditions. The biotic habitats of the site all retain elements of native habitats once present; however, alterations to the hydrology of the site (from actions occurring both on and off site) have substantially affected the habitats of the low-flow channel and upper flood plain of the San Joaquin River.

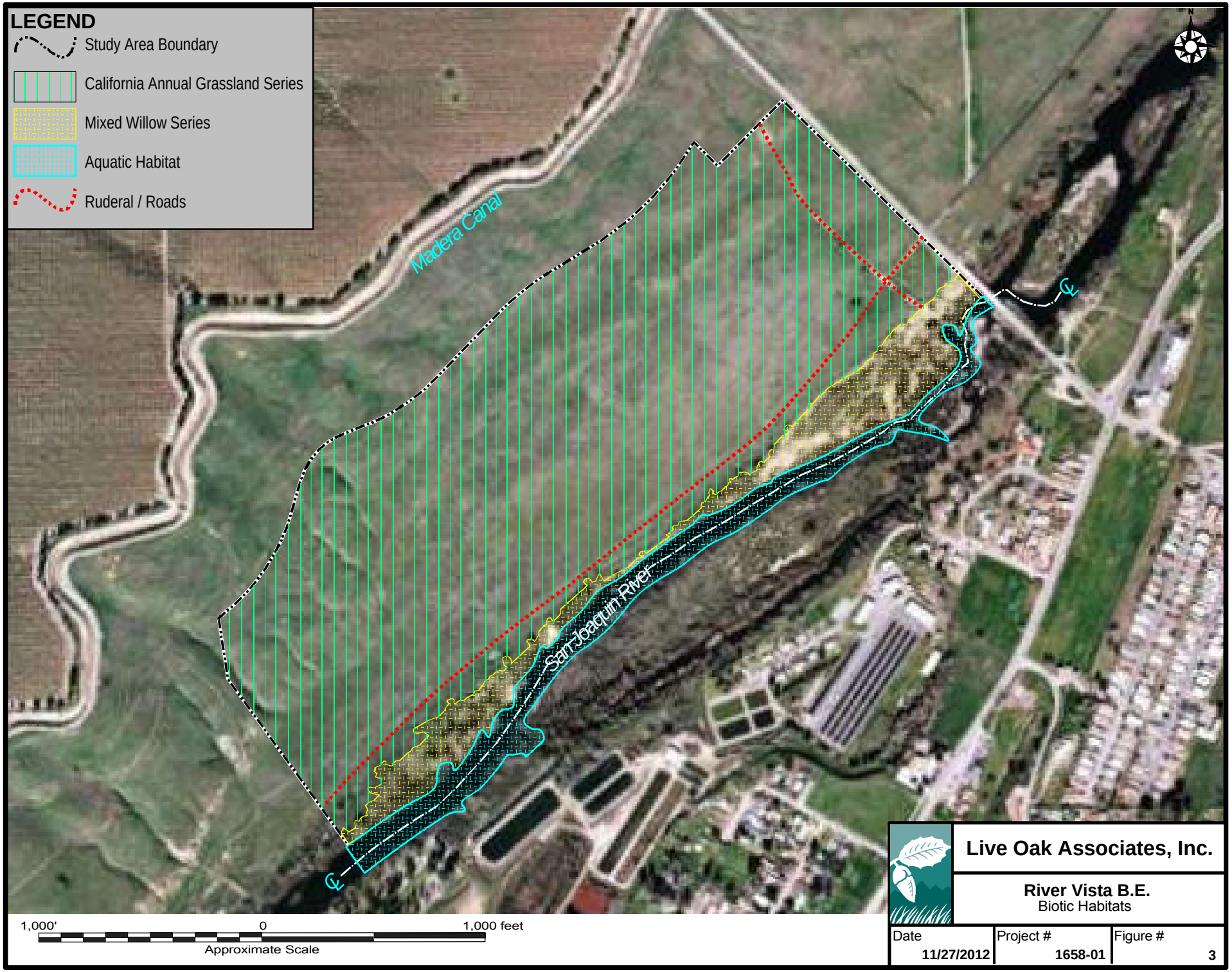
2.5 BIOTIC HABITATS/LAND USES

Four biotic habitats were identified within the project site, including California annual grassland series, mixed willow series (Sawyer, Keeler-Wolf, and Evens 2012), aquatic habitat of the San Joaquin River, and ruderal (Figure 3). A list of the vascular plants observed in habitats of the project site is included in Appendix A. A list of terrestrial vertebrates using, or potentially using, the project site is included in Appendix B. Selected photographs of the site are included in Appendix C.

2.3.1 California Annual Grassland Series

The majority of the project site consists of California annual grassland habitat (Sawyer, Keeler-Wolf, and Evens 2009). Grasses and forbs of European origin dominate this habitat. Grass species common to this habitat include ripgut brome (*Bromus diandrus*), soft chess brome (*Bromus hordeaceus*), wild oats (*Avena fatua*), and rattail fescue (*Vulpia myuros*). Common forbs associated with these grass species include red-stem filaree (*Erodium cicutarium*), broad-leaf filaree (*Erodium botrys*), and smooth cat's-ear (*Hypochaeris glabra*). Grasslands of the site would also support a large variety of native spring-flowering annuals and perennials including rusty popcorn flower (*Plagiobothrys nothofulvus*), Eastwood's fiddleneck (*Amsinckia eastwoodiae*), blow-wives (*Achyrachaena mollis*), pretty face (*Triteleia ixioides* ssp. *scabra*), and bi-color lupine (*Lupinus bicolor*), to name just a few. Annual forbs observed on the site in the summer of 2012 included Heerman's tarweed (*Holocarpha heermanii*), vinegar weed (*Trichostema lanceolatum*), and dove weed (*Croton setiger*).

Annual grasslands of the site, like grasslands throughout the region, are productive biotic habitats supporting a large diversity of native terrestrial vertebrates. Due to the poor cover provided by grasses, most terrestrial species associated with this habitat are fossorial (live in underground burrows) or are large cursorial (fast running) mammals. Still others may forage in



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River Vista B.E.
Biotic Habitats

Date	Project #	Figure #
11/27/2012	1658-01	3

grassland habitats but seek shelter in other habitats. In the annual grasslands of the region, insects such as ants and grasshoppers are the most common animal species. Reptiles are the most common vertebrates.

Grasslands of the site provide suitable habitat for a number of amphibian and reptile species. Rodent burrows observed throughout the site provide suitable aestivation (oversummering) habitat for western toads (*Bufo borealis*). Common reptile species likely to forage and seek cover on the site include common side-blotched lizards (*Uta stansburiana*), western fence lizards (*Scleloporus occidentalis*), western whiptails (*Aspidoscelis tigris*), gopher snakes (*Pituophis melanoleucus*), common kingsnakes (*Lampropeltis getulus*), and western rattlesnakes (*Crotalus viridis*).

Grasslands of the region provide significant foraging habitat for a variety of resident and wintering raptors, as well as large numbers of other birds. Raptors observed during the field survey include species such as the red-shouldered hawk (*Buteo lineatus*) and turkey vulture (*Cathartes aura*). Other raptor species expected in this habitat include the golden eagle (*Aquila chrysaetos*), red-tailed hawk (*Buteo jamaicensis*), ferruginous hawk (*Buteo regalis*), merlin (*Falco columbarius*), American kestrel (*Falco sparverius*), white-tailed kite (*Elanus caeruleus*), burrowing owl (*Athene cunicularia*), and barn owl (*Tyto alba*), all of which could prey on the reptiles and small birds and mammals of the project site. Other avian species observed during the field survey included the mourning dove (*Zenaida macroura*), western scrub jay (*Aphelocoma californica*), and American crow (*Corvus brachyrhynchos*), all year-round residents of the region. Spring and summer migrants that frequent the region include barn swallow (*Hirundo rustica*), western kingbird (*Tyrannus verticalis*), and California horned lark (*Eremophila alpestris actia*). Common winter migrants attracted to grasslands of the region include savannah sparrow (*Passerculus sandwichensis*), American pipit (*Anthus rebescens*), and Say's phoebe (*Sayornis saya*).

Furthermore, the dense cover of non-native grasses and forbs provide cover for large populations of small mammals that in turn attract a diversity of predatory species. California ground squirrel (*Spermophilus beecheyi*) individuals and numerous Botta's pocket gopher

(*Thomomys bottae*) burrows were observed during the field surveys. It is expected that California vole (*Microtus californicus*), deer mouse (*Peromyscus maniculatus*), and house mouse (*Mus musculus*) would also inhabit the grasslands of the site. A number of mammalian predators may move through the site from time to time, including the gray fox (*Urocyon cinereoargenteus*), bobcat (*Lynx rufus*), and coyote (*Canis latrans*). Sign of the latter was observed during the field survey.

2.3.2 Mixed Willow Series

Mixed willow series (Sawyer, Keeler-Wolf, and Evens 2009) habitat is located along the southeast border of the site, adjacent to the San Joaquin River. Sandbar willow (*Salix exigua*) and red willow (*Salix laevigata*) dominate this habitat, with Fremont cottonwood (*Populus fremontii*), valley oak (*Quercus lobata*), Oregon ash (*Fraxinus* latifolia) and white alder (*Alnus rhombifolia*) present as well. Grasses in this habitat are similar to those listed for the California annual grassland series habitat series. Herbs and shrubs observed within the mixed willow series habitat include species such as buttonwillow (*Cephalanthus occidentalis*), curly dock (*Rumex crispus*), common mullein (*Verbascum thapsus*), rough cocklebur (*Xanthium strumarium*), Himalayan blackberry (*Rubus armeniacus*), and Heerman's tarweed, among others.

Mixed willow series habitats along rivers hold habitat value for a number of animal species that rely on the vegetation for food, cover, and a migration corridor. The project site encompasses a part of the riparian corridor used by a number of wildlife species known to move from the river bottom to the Sierra foothills via unnamed creeks that join the river from the Madera County side outside of the project site. Large mammals moving along the San Joaquin River (and through the mixed willow riparian habitat of the project site) would include mule deer (*Odocoileus hemionus*), coyote, gray fox, and the occasional cougar (*Felis concolor*). The riparian corridor also facilitates dispersal movements of many smaller mammals ranging from striped skunk (*Mephitis mephitis*) and raccoon (*Procyon lotor*) to vagrant shrew (*Sorex vagrans*) and small rodents.

2.3.3 Aquatic

The aquatic habitat of the San Joaquin River is highly variable from season to season and from year to year, because the amount of flow is highly regulated by the Bureau of Reclamation, the federal agency responsible for releasing water from Friant Dam. During the spring, when the Bureau of Reclamation is releasing substantial amounts of water to make room in the pool behind Friant Dam for the late spring early summer snowmelt, the entire low flow channel may be filled with rushing water. By late summer, flows have diminished significantly and one could easily wade across a channel lined with emergent vegetation. Although the aquatic habitat of the low flow channel is largely unvegetated, some aquatic plants were observed in the river during the summer of 2012. These species included water smartweed (*Polygonum* sp.), duckweed (*Lemna* sp.) and mosquito fern (*Azolla filiculoides*). Emergent vegetation growing from the river's edge was well established in the summer of 2012 and included narrow-leaved cattail (*Typha angustifolia*), Pacific rush (*Juncus effusus* ssp. *pacificus*), Mexican rush (*Juncus mexicanus*) and creeping spikerush (*Eleocharis macrostachya*). Buttonwillow, sandbar willow, hairy willowherb (*Epilobium ciliatum*) and tall umbrella sedge (*Cyperus eragrostis*) were all rooted in the gravelly soils of the riverbank.

The aquatic/emergent marsh habitat provides considerable value to a variety of aquatic and terrestrial vertebrate species, although a number of native species, particularly fish, are no longer present. Hardhead (*Mylopharadon conocephalus*), a native species of fish, occurred here historically and was documented in the river as recently as 1981. This species may still be present, but its numbers have been greatly diminished. Native fish that may still be present in the river include Western sucker (*Catostomus* spp.), Sacramento squawfish (*Ptychocheilus grandis*), and California roach (*Herperoleucus symmetricus*) (Brown and Moyle 1989). Planted species may include largemouth blackbass (*Micropterus salmoides*), mosquitofish (*Gambusia affinis*), European brown trout (*Salmo trutta*), and white catfish (*Ictalurus catus*) (Storer 1963).

The highest diversity of amphibians within the project site would occur in the aquatic habitat and the adjacent emergent marsh. Numerous bullfrogs *(Rana catesbeiana)* and their tadpoles were observed in or adjacent to this habitat. Western toads (*Bufo boreas*) and Pacific treefrogs

(*Hyla regilla*) would breed in this habitat. Although not observed during the field survey, western pond turtles (*Emys marmorata*) are known to occur in the San Joaquin River below Friant Dam (Dr. Mark Jennings, pers. communication). The aquatic habitat of the project site is suitable for this species, and it is likely to be present. Common garter snakes (*Thamnophis sirtalis*) would forage in this habitat for amphibians, small birds and small mammals.

A large number of birds occur within the habitats of the low flow channel. Many of these species seek the cover of the mixed riparian woodland, but forage in and over the aquatic habitat of the river. Belted kingfishers (*Megaceryle alcyon*), which were observed during the September field visit, commonly forage for small fish from perches on overhanging tree branches. Black phoebes (*Sayornis nigricans*) were observed hawking insects over the river from perches in riparian bushes growing from the bank. Though not observed, red-wing blackbirds (*Agelaius phoeniceus*) may nest in cattails and bulrushes growing along the river. A number of great blue herons (*Ardea herodias*) were observed during the September field visit; other wading birds common in this habitat include green herons (*Butorides striatus*), great egrets (*Ardea albas*) and cattle egrets (*Bubulcus ibis*). Double-crested cormorants (*Phalacrocorax auritus*) were observed along the river corridor during the September field visit. American coots (*Fulica americana*) would be expected, but were not observed on-site. The river is used by a diversity of waterfowl between the months of November and March. Ring-necked ducks (*Aythya collaris*), lesser scaup (*Aythya affinis*), common goldeneye (*Bucephala clangula*), buffleheads (*Bucephala albeola*) and common mergansers (*Mergus merganser*) are all species that breed elsewhere, but return every winter to aquatic habitats of the Central Valley. Waterfowl occurring in the river during the winter serve as prey for bald eagles (*Haliaeetus leucocephalus*) that roost in the foothills around Lake Millerton from November to April.

Mammals, although common to the mixed riparian woodland adjacent to the aquatic habitat, are not common in the aquatic habitat itself. The aquatic habitat nonetheless provides drinking water and foraging habitat for many species. For example, a number of species of bats are attracted to the aquatic habitat of creeks and rivers, because these habitats sustain large insect populations on which bats feed. Ornate shrews (*Sorex ornatus*) would be common in dense

herbaceous vegetation along the river's edge. The tracks of raccoons (*Procyon lotor*) were observed in the damp sand along the river.

2.3.4 Ruderal

Ruderal areas of the project site are limited to rarely used dirt roads. Where vegetated, disturbed roads support species adapted to ongoing disturbance. Grasses and forbs common to ruderal areas of the project site likely include Bermuda grass (*Cynodon dactylon*), ripgut, soft chess, barnyard barley (*Hordeum murinum ssp. leporinum*), sow thistle (*Sonchus oleraceus*), and prostrate knotweed (*Polygonum aviculare*), among others.

Ruderal areas of the type observed on the project site do not provide significant habitat for native terrestrial vertebrate species. However, those species occurring in natural biotic habitats elsewhere on the project site no doubt pass through the site's ruderal areas occasionally while foraging.

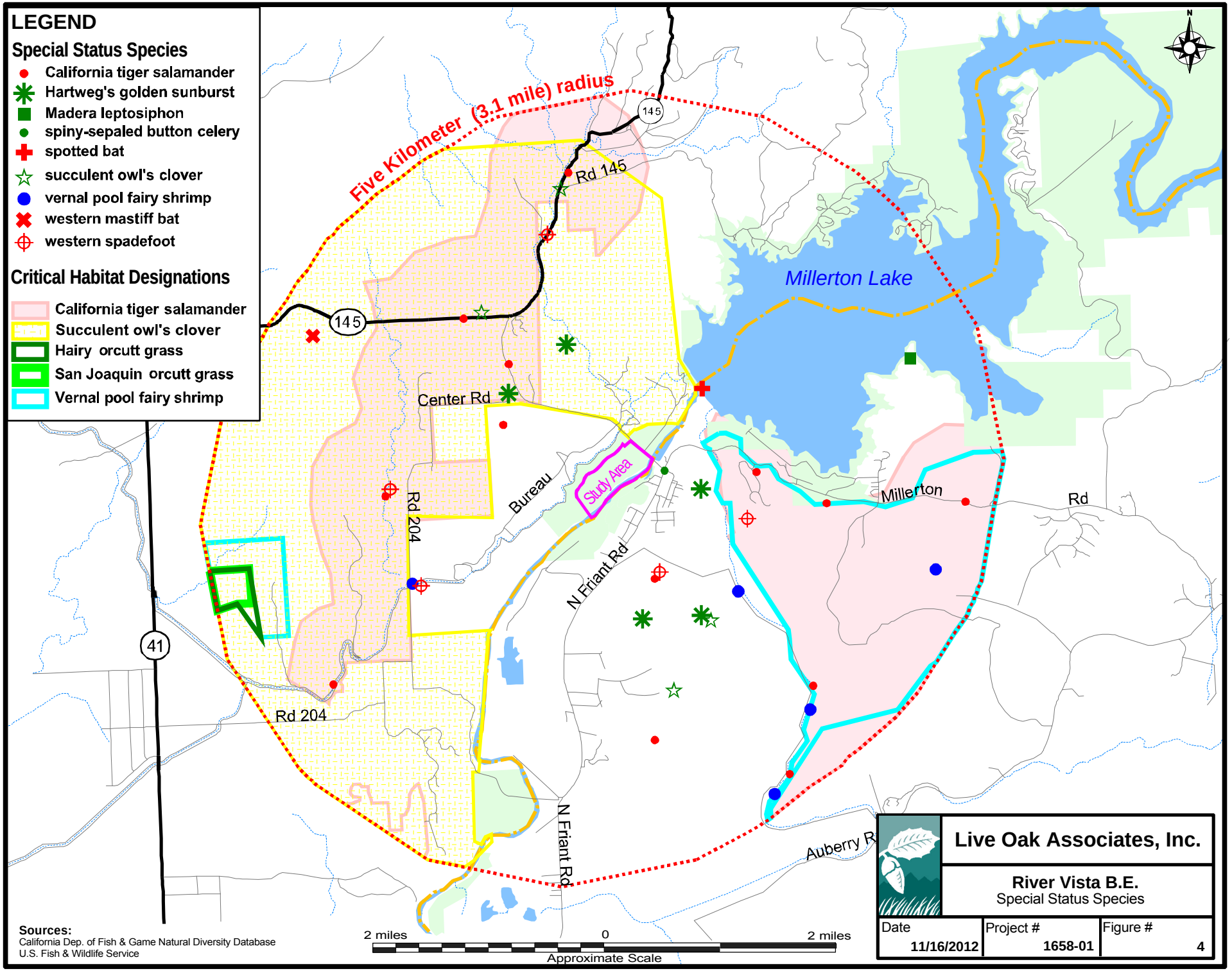
2.4 SPECIAL STATUS PLANTS AND ANIMALS

Several species of plants and animals within the state of California have low populations, limited distributions, or both. Such species may be considered "rare" and are vulnerable to extirpation as the state's human population grows and the habitats these species occupy are converted to agricultural and urban uses. As described more fully in Section 3.1, state and federal laws have provided the California Department of Fish and Game (CDFG) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. A sizable number of native plants and animals have been formally designated as threatened or endangered under state and federal endangered species legislation. Still others have been designated as "species of special concern" by the CDFG. The California Native Plant Society (CNPS) has developed its own lists of native plants considered rare, threatened or endangered (CNPS 2012). Collectively, these plants and animals are referred to as "special status species".

A number of special status plants and animals occur in the vicinity of the project site (Figure 4). These species, and their potential to occur in the project site, are listed in Table 2 on the following pages. Sources of information for this table included *California's Wildlife, Volumes*

I, II, and III (Zeiner et al. 1988), *California Natural Diversity Data Base* (CDFG 2012a), *Special Animals* (CDFG 2011), *The Recovery Plan for Upland Species of the San Joaquin Valley, California* (USFWS 1998)*, State and Federally Listed Endangered, Threatened, and Rare Plants of California* (CDFG 2012b), and *The California Native Plant Society's Online Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2012).

The CNDDB was used to search nine USGS 7.5 minute quadrangles in the vicinity of the project site for special status plant and animal species as well as natural communities of special concern. These quads included *Friant, Little Table Mountain, Millerton Lake West, Millerton Lake East, Lanes Bridge, Academy, Fresno North, Clovis*, and *Round Mountain*.


LEGEND
Special Status Species
California tiger salamander
Hartweg's golden sunburst
Madera leptosiphon
spiny-sepaled button celery
spotted bat
succulent owl's clover
vernal pool fairy shrimp
western mastiff bat
western spadefoot
Critical Habitat Designations
California tiger salamander
Succulent owl's clover
Hairy orcutt grass
San Joaquin orcutt grass
Vernal pool fairy shrimp
Five Kilometer (3.1 mile) radius
Millerton Lake
Rd 145
145
Center Rd
Bureau
Rd 204
Study Area
N Friant Rd
Millerton
Rd
41
Auberry R
Sources:
California Dep. of Fish & Game Natural Diversity Database
U.S. Fish & Wildlife Service
2 miles
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2 miles
Approximate Scale
Live Oak Associates, Inc.
River Vista B.E.
Special Status Species
Date
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Project #
1658-01
Figure #
4

TABLE 2. LIST OF SPECIAL STATUS SPECIES THAT OCCUR OR MAY OCCUR IN THE VICINITY OF THE PROJECT SITE

PLANTS
Listed as Threatened or Endangered (CDFG 2012a; CDFG 2012b; CNPS 2012)

Species	Status	Habitat	Occurrence in the Project site*
Tree-anemone (*Carpenteria californica*)	TE, CNPS 1B	Dry, wooded, granite ridges and slopes at elevations of 1,500-4,000 feet. Blooms Jun.–Jul.	**Absent.** Habitat suitable for this species is absent from the project site and surrounding area.
California jewel-flower (*Caulanthus californicus*)	FE, CE, CNPS 1B	Chenopod scrub, valley and foothills grassland, pinyon-juniper grassland. Blooms Feb-May.	**Absent.** Suitable habitat is absent from the project site. Furthermore, populations in the Fresno area are presumed extirpated (CDFG 2012a).
Boggs Lake hedge hyssop (*Gratiola heterosepala*)	CE, CNPS 1B	Clay substrates in vernal pools, small playa-type pools, marshy areas, on the margins of reservoirs and lakes, and in man-made habitats such as borrow pits and cattle ponds. Blooms Apr.–Aug.	**Absent.** Habitat suitable for this species is absent from the project site.
Greene's tuctoria (*Tuctoria greenei)*	FE, CR, CNPS 1B	Occurs in vernal pools of California's Central Valley. Blooms May-Sept.	**Absent.** Suitable habitat in the form of vernal pools is absent from the project site.
Hartweg's golden sunburst (*Pseudobahia bahiifolia)*	FE, CE, CNPS 1B	Occurs in grasslands of the western foothills of the Sierra Nevada in volcanic pumice soils. Often found in soils of the Rocklin series; blooms Mar. to Apr.	**Absent.** Suitable habitat in the form of Rocklin soils is absent from the project site. There are five documented occurrences within 2 miles of the site in areas where Rocklin soils occur (see Figure 4).
San Joaquin adobe sunburst (*Pseudobahia peirsonii*)	FT, CE, CNPS 1B	Valley grassland and foothill woodland habitats at elevations of 0-1,000 feet in bare dark clay soils. Blooms Mar-May.	**Unlikely.** The nearest documented occurrence is more than 13 miles away from the project site (CDFG 2012a)
Hairy orcutt grass (*Orcuttia pilosa*)	FE, CE, CNPS 1B	California's Central Valley Pools. Requires deep pools with prolonged periods of inundation. Blooms May-Sept.	**Absent.** Suitable habitat in the form of vernal pools is absent from the project site.
San JoaquinValley orcutt grass (*Orcuttia inaequalis*)	FT, CE CNPS 1B	Vernal pools California's Central Valley. Requires deep pools with prolonged periods of inundation. Blooms Apr.-Sept.	**Absent.** Suitable habitat in the form of vernal pools is absent from the project site.
Succulent owl's clover (*Castilleja campestris succulenta*)	FT, CE CNPS 1B	Vernal pools California's Central Valley. Blooms Apr.-May.	**Absent.** Suitable habitat in the form of vernal pools is absent from project site. There are two documented occurrences within 3 miles north of the project site in vernal pool habitat (see Figure 4).

CNPS Listed Plants (CDFG 2012a; CNPS 2012)

Forked hare-leaf (*Lagophylla dichotoma*)	CNPS 1B	Grasslands and openings in woodlands at elevations of 150-3000 feet. Blooms Apr.-Jun.	**Unlikely.** The nearest documented occurrence is more than 14 miles away from the project site (CDFG 2012a)
Orange lupine (*Lupinus citrinus var. citrinus*)	CNPS 1B	Granitic soils in open yellow-pine forest at elevations of 2,000-5,500 feet. Blooms Apr.-Jul.	**Absent.** Suitable habitat is absent from the project site

TABLE 2. LIST OF SPECIAL STATUS SPECIES THAT OCCUR OR MAY OCCUR IN THE VICINITY OF THE PROJECT SITE.

CNPS Listed Plants cont'd.

Species	Status	Habitat	Occurrence in the Project site*
Madera leptosiphon (*Leptosiphon serrulatus*)	CNPS 1B	Occurs in cismontane woodland, foothill California annual grasslands and lower montane forest from Madera County south through Kern County. Blooms Apr.-May	**Unlikely.** The nearest historical sighting (1967) is approximately 2.5 miles east east of the project site (CDFG 2012a, Figure 4).
Spiny-sepaled button celery (*Eryngium spinosepalum*)	CNPS 1B	Found in vernal pools and swales of Fresno and Tulare Counties. Blooms Apr.-May.	**Absent.** Wetland habitat required by this species is absent from the project site. There in one documented occurrences of this species approximately 1/10 mile southeast of the project site (see Figure 4).
Sanford's arrowhead (*Sagittaria sanfordii*)	CNPS 1B	Freshwater marshes, pond margins, slow moving rivers, irrigation canals of California's Central Valley and low Sierra Foothills. Blooms May-Oct.	**Possible.** Aquatic habitat required by this species is present within the San Joaquin River.
Caper-fruited tropidocarpum (*Tropidocarpum capparideum*)	CNPS 1B	Valley and foothill grassland. Blooms Mar.-April.	**Unlikely.** Historic documentation of this species was recorded last in the 1930's in Fresno (CDFG 2012a).

ANIMALS - Listed as Threatened or Endangered (CDFG 2012a; CDFG 2011)

Species	Status	Habitat	Occurrence in the Project site*
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	Found in ruderal pools and vernal pools of California Central Valley that are free of any fish.	**Absent.** Vernal pools required by this species are absent from the project site.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	Occurs in vernal pools of California containing clear to highly turbid water.	**Absent.** Vernal pools required by this species are absent from the project site.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	Lives in mature elderberry shrubs of California's Central Valley and Sierra Foothills.	**Absent.** No blue elderberry shrubs, the obligate host plant for the VELB, occur within or directly adjacent to the project site.
Steelhead (*Oncorhynchus mykiss*)	FT	Needs cool, clear, oxygenated streams and gravel beds for spawning. Found in deep pools, under bubble curtains, and underwater ledges.	**Absent.** Since the diversion of river water by dams, river flows have been too low to support upstream spawning.
Chinook salmon (*Oncorhynchus tshawytscha*)	Central Valley Spring Run – FT, CT	Requires gravel beds for spawning. Can be found under bubble curtains, underwater rocky ledges, in shady areas and in large pools.	**Possible.** Although this species was formerly extirpated from this section of the San Joaquin River, fall runs have recently been reintroduced. Spring runs will be reintroduced in 2013 (SJRRP 2012).

TABLE 2. LIST OF SPECIAL STATUS SPECIES THAT OCCUR OR MAY OCCUR IN THE VICINITY OF THE PROJECT SITE

ANIMALS
Listed as Threatened or Endangered (CDFG 2012a; CDFG 2011)

Species	Status	Habitat	Occurrence in the Project site*
California tiger salamander (*Ambystoma californiense*)	FT, CT	Found primarily in annual grasslands; requires seasonal pools for breeding and rodent burrows for refuge.	**Unlikely.** Breeding habitat is absent from the project site, however aestivation habitat is present. Salamanders breeding in the nearby known breeding ponds (CDFG 2012a) would have to cross an orchard and a canal, or the San Joaquin River, to aestivate within the project site. See expanded discussion below.
Swainson's hawk (*Buteo swainsoni*)	CT	Uncommon resident and migrant in the Central Valley. Forages in grasslands and fields close to riparian areas.	**Possible.** Suitable nesting habitat occurs in large riparian trees along the San Joaquin River. The Swainson's hawk may occasionally fly over and forage on the site. See expanded discussion below.
Bald eagle (*Haliaeetus leucocephalus*)	FD, CE	Winters along the Central Valley. Mostly feeds on fish in large bodies of water or rivers.	**Possible**. A small population winters at nearby Millerton Lake. The site offers foraging and roosting sites. This species may fly over the site occasionally.
American peregrine falcon (*Falco peregrinus anatum*)	FD, CD, CFP	Individuals breed on cliffs in the Sierra or in coastal habitats; occurs in many habitats of the state during migration and winter.	**Possible**. The site provides potential foraging habitat for transients and migrating birds. This site is not within suitable breeding range.
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	FC, CE	Occurs in valley foothill and desert riparian habitats in scattered locations in California. Requires extensive gallery riparian forests for nesting.	**Absent.** This species has not been observed in the Fresno area for over 100 years (CDFG 2012a).
Fresno kangaroo rat (*Dipodomys nitratoides exilis*)	FE, CE	Occurs in alkali scrub and herbaceous habitats with scattered shrubs in the southwestern San Joaquin Valley.	**Absent.** Suitable habitat is absent from the project site.
San Joaquin kit fox (*Vulpes macrotis mutica)*	FE, CT	Occurs in desert alkali scrub and annual grasslands and may forage in adjacent agricultural habitats.	**Unlikely.** Habitats of the project site provide marginal breeding and foraging habitat for kit foxes. Credible kit fox sightings in the project vicinity are lacking. See expanded discussion below.
Golden eagle (*Aquila chrysaetos*)	CFP	Typically frequents rolling foothills, mountain areas, sage-juniper flats and desert.	**Possible.** This species may forage or breed on the site.

TABLE 2. LIST OF SPECIAL STATUS SPECIES THAT OCCUR OR MAY OCCUR IN THE VICINITY OF THE PROJECT SITE

ANIMALS
Listed as California Species of Special Concern (CDFG 2012a; CDFG 2011)

Species	Status	Habitat	Occurrence in the Project site*
Western spadefoot toad (*Spea hammondii*)	CSC	Frequents annual grasslands and foothill hardwood woodlands; requires vernal pools or other temporary wetlands for breeding.	**Unlikely.** Breeding habitat is absent from the project site, however aestivation habitat is present. Spadefoot toads potentially breeding in the nearby ponds would have to cross an orchard and a canal, or the San Joaquin River, to aestivate within the project site. See expanded discussion below.
Western pond turtle (*Emys marmorata*)	CSC	Occurs in suitable aquatic habitats such as ponds and rivers throughout California. Lays eggs in adjacent upland habitat.	**Possible.** Pond turtles likely occur within the San Joaquin River and they could use the site for foraging, basking, or nesting.
Burrowing owl (*Athene cunicularia*)	CSC	Frequents open, dry grasslands, deserts and ruderal areas; requires rodent burrows for nesting and roosting cover.	**Possible.** Suitable habitat, in the form of grasslands with rodent burrows occurs on the project site. The nearest documented occurrence is from Lost Lake Park from 2007. See expanded discussion below.
White-tailed kite (*Elanus caeruleus*)	CSC	Open grasslands and agricultural areas throughout central California.	**Possible.** There is suitable breeding and foraging habitat on the site.
Northern harrier (*Circus cyaneus*)	CSC	Frequents meadows, grasslands, open rangelands, freshwater emergent wetlands; uncommon in wooded habitats.	**Possible.** There is suitable breeding and foraging habitat on the site.
Loggerhead shrike (*Lanius ludovicianus)*	CSC	Frequents open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low herbaceous cover. Can often be found in cropland.	**Possible.** The project site provides potential foraging habitat, as these birds often forage from roadside fence perches. Nesting habitat is absent from the project site.
Yellow warbler (*Dendroica petechia brewster*)	CSC	This species breeds in riparian thickets of alder, willow and cottonwoods. Migrants move through many habitats of the state.	**Possible.** Suitable nesting and foraging habitat is present on the site. However, focused studies conducted in the vicinity since 2002 have failed to detect any breeding activity of yellow warblers. Yellow warblers however, are often seen migrating through riparian woodlands along the San Joaquin River.
Tricolored blackbird (*Agelaius tricolor)*	CSC	Frequents grassland and cropland habitats; requires proximity to fresh water and emergent wetland vegetation with dense cattails and thickets of willow for nesting.	**Possible.** Breeding habitat occurs on the project site in the form of willow thickets. Ruderal and grassland habitat on the project site provide potential foraging habitat.
Spotted bat (*Euderma maculatum)*	CSC	Typically associated with prominent rocky habitats where it roosts in crevices, but is known to occur in a wide range of habitats.	**Possible.** The project site provides suitable foraging habitat for this species, but the site provides no suitable roosting habitat for this species.

TABLE 2. LIST OF SPECIAL STATUS SPECIES THAT OCCUR OR MAY OCCUR IN THE VICINITY OF THE PROJECT SITE

ANIMALS
Listed as California Species of Special Concern (CDFG 2012a; CDFG 2011)

Species	Status	Habitat	Occurrence in the Project site*
Pallid bat (*Antrozous pallidus*)	CSC	Frequents grasslands, shrub lands, woodlands and forests habitats; requires mines, caves or crevices for roosting and nesting.	**Possible.** The project site provides suitable foraging habitat for this species. Potential roosting habitat is absent on the site but occurs beneath the Road 206 bridge adjacent to the project site.
Western mastiff bat (*Eumops perotis)*	CSC	Frequents grasslands to woodland habitats along the central and southern coast and the Central Valley; requires high buildings, cliff faces, trees or tunnels for roosting and nesting.	**Possible.** The project site provides suitable foraging habitat for this species. Roosting habitat is absent.
American badger (*Taxidea taxus)*	CSC	Found in drier open stages of most shrub, forest and herbaceous habitats with friable soils.	**Possible.** The site provides suitable breeding and foraging habitat for the badger.

*** Explanation of Occurrence Designations and Status Codes**

Present: Species observed on the site at time of field surveys or during recent past.
Likely: Species not observed on the site, but it may reasonably be expected to occur there on a regular basis.
Possible: Species not observed on the site, but it could occur there from time to time.
Unlikely: Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient
Absent: Species not observed on the site, and precluded from occurring there because habitat requirements not met.

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
FPE	Federally Endangered (Proposed)	CR	California Rare
FC	Federal Candidate	CSC	California Species of Special Concern
		CNPS 1B	Plant is Rare, Threatened, or Endangered

An expanded discussion is warranted for special status species that are known to occur in the project vicinity. Activities that could harm these species are regulated by the USFWS and the CDFG.

2.4.1 Chinook Salmon (*Oncorhynchus tshawytscha*); Federally Threatened (Central Valley Spring Run), State Threatened

Prior to completion of Friant Dam in 1948, the San Joaquin River supported one of the largest spring runs of Chinook salmon on the Pacific coast. In the late 1800's, runs in the San Joaquin River probably exceeded 200,000 fish (Moyle et al. 1995). Construction of the dam resulted in most of the San Joaquin River's water being diverted by the Friant-Kern Canal to the San

Joaquin Valley where it is used for agriculture. This dam is a barrier to spawning habitat, and the populations of these anadromous fish once present in the San Joaquin River in large numbers have been virtually eliminated. By the early 1950's, the San Joaquin spring-run Chinook salmon run became extinct. However, a self-sustaining Chinook salmon fishery (both fall and spring runs) is being restored via the San Joaquin River Restoration Program (SJRRP 2012). Populations of Chinook salmon are expected to increase below Friant Dam due to the reintroduction effort, and fall runs were present within the San Joaquin River at the time this report was being prepared.

2.4.2 California Tiger Salamander (*Ambystoma californiense*); Federally Threatened, State Threatened

The California tiger salamander (CTS) occurs in areas of Central California where vernal pool complexes are located within extensive grassland habitats. Vernal pools within the CTS's range that hold water for 3-4 months of the winter and spring and do not support populations of predators such as fish or bullfrogs provide favorable breeding habitat for the this species. The CTS larvae mature in these vernal pools until the pools begin to dry in April and May. Juvenile CTS disperse from the drying pools to find the burrows of California ground squirrels and pocket gophers in which to aestivate (oversummer). While CTS may wander a mile or more from their breeding pools in search of aestivation habitat, studies of CTS aestivation indicate that 95% of all postbreeding adult salamanders aestivate within 0.4 mile of breeding habitat (Trenham and Shaffer 2005).

Breeding habitat suitable for CTS in the form of stock ponds or vernal pools is absent from the study area.

Grasslands of the project site provide suitable aestivation habitat for the CTS, but the San Joaquin River to the south and extensive pistachio orchards and the Madera Canal to the north serve as significant barriers to CTS movements on to the project site from the nearest off-site breeding ponds. The nearest ponds serving as breeding habitat for CTS are located on the Urrutia Ranch approximately one mile to the north (CNDDB 2012). Important information pertaining to CTS that was gathered during this analysis (including nearby documented

occurrences, potential CTS breeding habitat adjacent to the site, and potential barriers to movement) can be found in Figure 5.

2.4.3 Western Spadefoot (*Scaphiopus hammondii*); State Species of Special Concern

The CDFG has listed the western spadefoot as a California Species of Special Concern. The western spadefoot typically breeds between January and May in seasonal ponds occurring in chaparral, short grass plains, or coastal sage scrub. For the larvae to survive, development must be complete before the ponds dry. Mostly active at night, the spadefoot has adapted to digging in sandy soils and finding refugia in small rodent burrows, creating aestivation habitat that protects it from hot, arid daytime conditions.

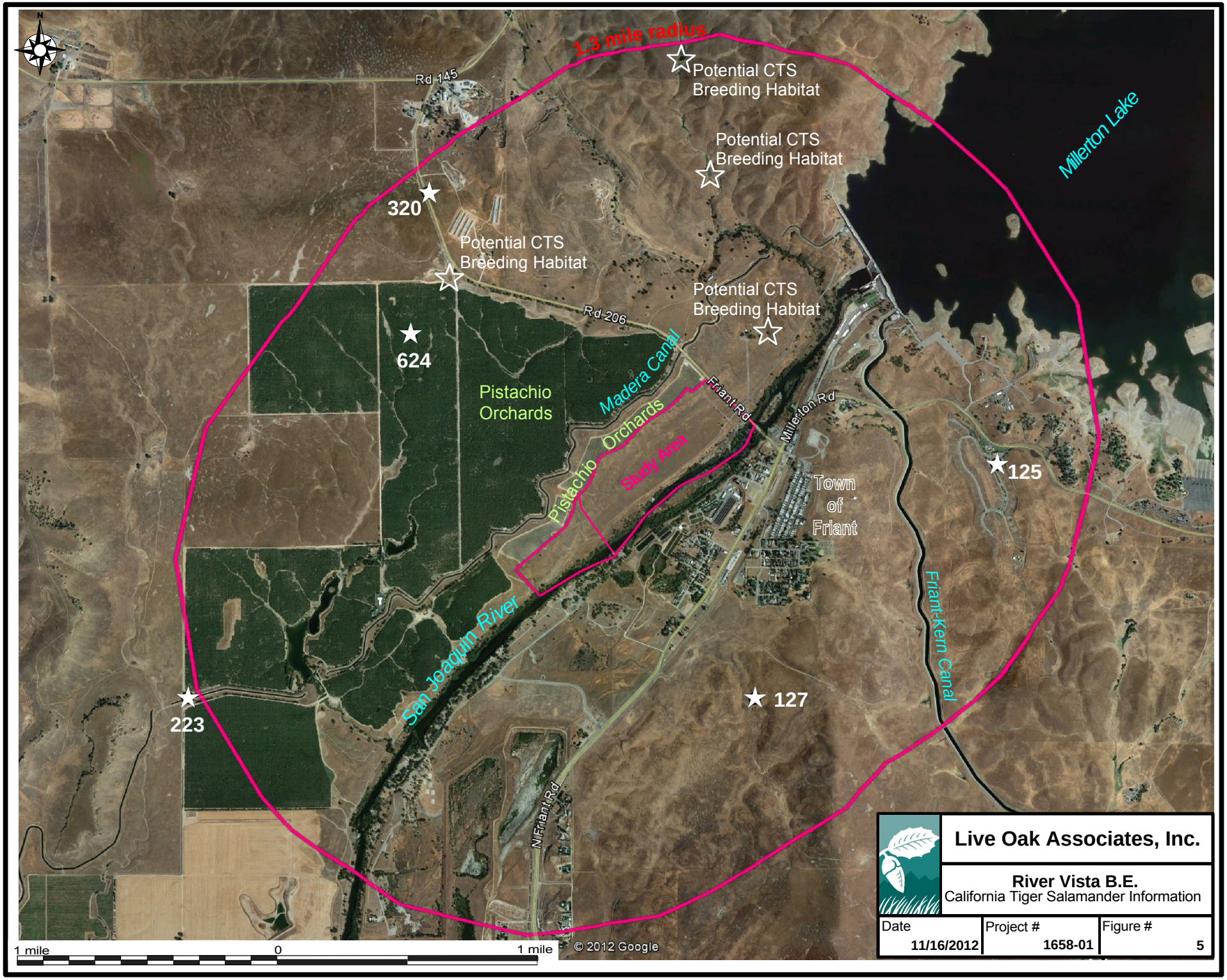
Because the western spadefoot, like the CTS, breeds in vernal pools and aestivates in adjoining grassland habitats, the reasons the CTS would be absent from the site apply to the western spadefoot as well. Significant barriers to movements on the northwest and the southeast would prevent the western spadefoot from accessing the site.

2.4.4 Western Pond Turtle (*Emys marmorata*); State Species of Special Concern

Once abundant in the San Joaquin Valley, with population estimates of over 3.5 million, the western pond turtle is now almost extinct in this region. Elsewhere in its range, it has experienced a decline of 75-80% from historic levels (Stebbins 2003). It is now designated as a California Species of Special Concern.

Western pond turtles are associated with the aquatic habitat of rivers, creeks, and ponds possessing suitable basking habitat in the form of rocks and logs. This species forages exclusively on vegetation found in aquatic habitats.

Male and female pond turtles are, however, known to make use of terrestrial environments adjacent to aquatic habitats for dispersal, searching for a mate or nest site, and overwintering. Although individual turtles have been found 400 meters or more from aquatic habitats, most terrestrial activity occurs immediately adjacent to aquatic habitats (Jennings and Hayes 1994). Female pond turtles nest in clay or silt soils of terrestrial habitats supporting sparse and low herbaceous vegetation (Bettelheim 2005).


1.3 mile radius
Potential CTS Breeding Habitat
Potential CTS Breeding Habitat
Potential CTS Breeding Habitat
Potential CTS Breeding Habitat
Millerton Lake
Rd 145
320
624
Rd 206
Pistachio Orchards
Madera Canal
Friant Rd
Millerton Rd
Pistachio Orchards
Study Area
Town of Friant
125
Friant-Kern Canal
San Joaquin River
223
127
N Friant Rd
1 mile
0
1 mile
© 2012 Google
Live Oak Associates, Inc.
River Vista B.E.
California Tiger Salamander Information
Date 11/16/2012
Project # 1658-01
Figure # 5

Western pond turtles are known to occur in the San Joaquin River. While western pond turtles could nest in the annual grasslands of the project site, the density and height of annual grasses observed on the site are not favorable for nesting.

2.4.5 Bald Eagle (*Haliaeetus leucocephalus*); Federally Threatened, State Endangered

The federally protected bald eagle occurs locally as a winter migrant. A wintering population has been established at Millerton Lake since shortly after dam construction was completed in 1941. This wintering population arrives in late October or early November and then departs for its nesting grounds in the northern United States or in Canada by late March or early April. Although bald eagles have been documented nesting at Bass Lake and Hensley Lake in the Sierra foothills, they have never been documented nesting at Millerton Lake until 2007, when one pair nested at the north end of the lake. This wintering population frequently forages along the San Joaquin River below Friant Dam. Individual eagles have been observed over ponded pits of Lost Lake Park in 2008, and by local birders. This eagle is not expected to nest on the project site.

2.4.6 Swainson's Hawk (*Buteo swainsoni*); State Threatened

The California threatened Swainson's hawk is a migrant species that spends much of the spring, summer, and early fall in California's Central Valley. Preferred nesting habitat consists of valley oaks, cottonwoods, and other tall trees adjacent to agricultural fields and grasslands. Several years ago this species nested in a eucalyptus grove three to four miles northwest of the site (CNDDB 2007). These trees have since been removed. Another pair nested in a London plane tree that was part of a row of such trees along a driveway a few miles east of the City of Madera.

LOA biologist Jeff Gurule sighted a single adult Swainson's hawk foraging over lands directly east of Lost Lake Park during the spring of 2006, and in the summer of the same year observed a nesting pair on a parcel of land eight miles west of the project site. In spite of these nearby occurrences, very few Swainson's hawk sightings have been made in the Friant and Millerton

areas, and nesting Swainson's hawks have never been observed in the riparian corridor of the San Joaquin River. Suitable nesting habitat for these hawks does occur in the numerous trees that line the San Joaquin River, however, and Swainson's hawks may occasionally forage over the project site during migration.

2.4.7 Burrowing Owl (*Athene cunicularia*); State Species of Special Concern

The burrowing owl, a California species of concern, is a small owl occurring in grassland habitats of the Central Valley that support California ground squirrels. This owl seeks shelter in ground squirrel burrows throughout the year and breeds in these burrows from February through July. Owl populations have declined sharply in some portions of California during the past two decades (i.e. the San Francisco Bay Area, Sacramento County, San Joaquin County, etc.), but they have increased greatly in some agricultural counties (particularly Imperial). In Fresno and Madera Counties, these owls most commonly occur on the valley floor. They are not as common in foothill habitats, and are entirely absent from areas of oak woodlands and chaparral.

The project site provides suitable foraging and nesting habitat for the burrowing owl. Although no evidence of burrowing owls was observed during the site surveys, they are known to occur in the project vicinity. One documented sighting was made in January of 2007 at Lost Lake Park (CNDDB 2012). Since the site survey was not focused on burrowing owls, more extensive surveys would be required to determine if burrowing owls are present on the site, which may change from year to year.

2.4.8 San Joaquin Kit Fox (*Vulpes macrotis mutica*); Federally Endangered, State Threatened

The federally endangered and California threatened San Joaquin kit fox once occurred throughout much of the San Joaquin Valley, but this species favored areas of alkali sink scrub and alkali grassland in the trough of the San Joaquin Valley and Tulare Basin, as well as areas further west. The low foothills of the Sierra Nevada found at the eastern edge of the San Joaquin Valley must at best be considered at the margin of their natural range. In fact, there is no record of anyone ever having seen a kit fox east of Highway 99 in Madera County. The nearest confirmed record of a small kit fox population to the project site is western Madera County approximately 40 miles away.

There are a number of mostly unverified sightings of kit fox in Fresno County from just south of the San Joaquin River south to Piedra (USFWS 1998). Two of these sightings are highly unlikely, since they appear to be at elevations of 1,000 to 2,000 feet in oak woodland habitat with a known brushy understory. This type of habitat is not known to be used by kit foxes. These two observations are more likely gray foxes (*Urocyon cinereoargenteus*) or young coyotes (*Canis latrans*). One sighting that is now 13 years old was from a location just east of Friant Road, about 4 miles from the project site. The fact that no one has reported any kit fox sightings before or since that 1994 sighting suggests that this individual, if indeed a kit fox, was a transient that had strayed far from known populations.

A number of kit fox surveys conducted in recent years have failed to produce any evidence of this species in the Millerton and Friant area (the general area of the project site). Curt Uptain of the San Joaquin Valley Endangered Species Recovery team conducted a 3-day survey of the Millerton Specific Plan Area in 1997. He concluded, at that time that, the area did not constitute good habitat for kit foxes, due to lack of suitable denning habitat and the abundance of predators (i.e. coyotes, bobcats, raptors, etc.). He reiterated his opinions during a reconnaissance field survey of the area in March of 2002 (Curt Uptain, pers. commun.). Live Oak Associates, Inc. conducted den surveys on portions of the Millerton Specific Plan Area in the spring of 2002, as well as on lands just north of the San Joaquin River in Madera County. These surveys included the use of camera stations and track plates wherever burrows were arguably of a size suitable for kit foxes. No evidence of kit foxes was detected during these surveys. Live Oak Associates, Inc. also conducted den surveys on River Ranch in Madera County without detecting any sign of kit foxes.

In October of 2003, Live Oak Associates, Inc. conducted an extensive survey for the San Joaquin kit fox on lands fronting Friant Road in Fresno County. This study involved den surveys, photo stations, track plates, and night spotlighting. The results of these surveys persuaded the Federal Highway Administration that a kit fox population was absent from the area.

LOA is of the opinion that if a kit fox population were ever present in the vicinity of the study area, such a population no longer exists in the region.

2.4.9 American Badger (*Taxidea taxus*); State Species of Special Concern

The American badger is a burrowing member of the mink family that resides in grasslands, savannahs and prairies throughout much of the western United States. Badgers prey primarily on small mammals including ground squirrels, pocket gophers, and mice, which they capture by digging out the animals' burrows. Adult badgers are primarily nocturnal, foraging at night and remaining underground in sleeping dens during the day. Badgers may reuse sleeping dens, or dig a new sleeping den each day. Badgers mate in late summer to early fall, and the young are born in natal dens in March and April. Both sleeping dens and natal dens are dug in dry, friable soils with sparse overstory cover. While badgers rarely remain in a sleeping den for more than a day, natal dens may be used for a period of 4-8 weeks as the female gives birth to and raises her young.

The American badger may occur on the project area where sufficient prey occurs, and where soils are suitable for digging. As discussed in previous sections, numerous California ground squirrel burrows were observed within California annual grassland habitat. The soils would be suitable for digging for badgers. However, no badger dens or other sign of the species was observed on the project site.

2.5 JURISDICTIONAL WATERS

Jurisdictional waters include rivers, other natural drainages having a defined bed and bank (creeks), lakes, ponds, reservoirs, and wetlands. Such waters may be subject to the regulatory authority of the USACE, the CDFG and the RWQCB (see Section 3.2.5 of this report for additional information).

The USACE and RQQCB have jurisdiction over portions of the San Joaquin River below ordinary high water. The CDFG has jurisdiction over portions of the San Joaquin River to the top of bank. A formal wetland delineation was not conducted.

2.6 WILDLIFE MOVEMENT CORRIDORS

Wildlife movement corridors are areas where regional wildlife populations regularly and predictably move during dispersal or migration. Movement corridors in California are typically associated with valleys, rivers and creeks supporting riparian vegetation, and ridgelines.

Such geographic and topographic features are present on the project site in the form of the San Joaquin River corridor. A number of wildlife species are expected to make use of this corridor for regular and seasonal movements. For example mule deer are known to make use of the cover and forage offered by the river corridor in order to facilitate movement deeper into the Central Valley San Joaquin River corridor. Also, a number of migratory birds move along the San Joaquin River corridor, where they find cover and food during their migratory journey. Other migratory birds may use the river corridor as a resting and/or feeding point during north-south migration. Consequently, the river corridor on site is considered a significant wildlife movement corridor.

2.7 SENSITIVE HABITATS

Sensitive habitats are habitats that are of limited distribution, distinguished by significant biological diversity, home to special status plant and animal species, and are of importance in maintaining water quality or sustaining flows, etc. Examples of sensitive habitats include vernal pools, emergent marsh, various types of riparian forest, etc. (Sawyer, Keeler-Wolf, and Evens 2009). Sensitive habitats of the project site include mixed willow series riparian and aquatic habitat of the San Joaquin River.

3.0 IMPACTS AND MITIGATIONS

3.1 SIGNIFICANCE CRITERIA

General plans, area plans, and specific projects are subject to the provisions of CEQA. The purpose of CEQA is to assess the impacts of proposed projects on the environment before they are constructed. For example, site development may require the removal of some or all of its existing vegetation. Animals associated with this vegetation could be destroyed or displaced. Animals adapted to humans, roads, buildings, pets, etc. may replace those species formerly occurring on a site. Plants and animals that are state and/or federally listed as threatened or endangered may be destroyed or displaced. Sensitive habitats such as wetlands and riparian woodlands may be altered or destroyed. These impacts may be considered significant or not. "Significant effect on the environment" means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic interest. Based on Appendix G, part IV of the CEQA Guidelines specific project impacts to biological resources may be considered "significant" if they will:

- 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 CDFG or USFWS.

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFG or USFWS.

- 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.

- 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.

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

- Conflict with the provisions of an adopted Habitat Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Furthermore, CEQA Guidelines Section 15065(a) states that a project may trigger the requirement to make a "mandatory findings of significance" if the project has the potential to:

> Substantially 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 an endangered, rare or threatened species, or eliminate important examples of the major periods of California history or prehistory.

3.2 RELEVANT GOALS, POLICIES, AND LAWS

3.2.1 General Plan Policies of Madera County and the San Joaquin River

The Natural Resources element of the Madera County General Plan (1995) provides the County direction in project planning and approval with respect to sensitive biotic resources (such as wetlands and riparian areas, fish and wildlife resources and natural vegetation). The *San Joaquin River Parkway Master Plan* provides a more concise and understandable policy document for the benefit of affected local government agencies and the public regarding the San Joaquin River (SJRC 2000). A key component of the *Parkway Master Plan* is to maintain a continuous wildlife corridor along the San Joaquin River. In the context of the Parkway, the "wildlife corridor" means land and water areas parallel to and along the San Joaquin River that are of sufficient width to facilitate the movement of large mammals between habitat areas. Considered to be passive recreation, site-specific recommendations for the trail are to construct the trail at the location of the existing dirt road. This would provide for a buffer that would vary between 35 feet and 200 ft, based on the current location of the road with respect to the riparian corridor, consistent with the *Parkway Master Plan*. The corridor provides a variety of nesting and foraging areas for wildlife species that depend on or prefer the river environment for at least part of their existence.

3.2.2 Threatened and Endangered Species

State and federal "endangered species" legislation has provided CDFG and USFWS with a mechanism for conserving and protecting plant and animal species of limited distribution and/or low or declining populations. Species listed as threatened or endangered under provisions of the state and federal endangered species acts, candidate species for such listing, state species of special concern, and some plants listed as endangered by the California Native Plant Society are collectively referred to as "species of special status". Permits may be required from both the CDFG and USFWS if activities associated with a proposed project will result in the "take" of a listed species. "Take" is defined by the state of California as "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill" (California Fish and Game Code, Section 86). "Take" is more broadly defined by the federal Endangered Species Act to include "harm" (16 USC, Section 1532(19), 50 CFR, Section 17.3). Furthermore, the CDFG and the USFWS are responding agencies under CEQA. Both agencies review CEQA documents in order to determine the adequacy of their treatment of endangered species issues and to make project-specific recommendations for their conservation.

3.2.3 Migratory Birds

State and federal law also protects most birds. The Federal Migratory Bird Treaty Act (FMBTA: 16 U.S.C., scc. 703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs.

3.2.4 Birds of Prey

Birds of prey are also protected in California under provisions of the State Fish and Game Code, Section 3503.5, (1992), which states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance

that causes nest abandonment and/or loss of reproductive effort is considered "taking" by the CDFG.

3.2.5 Waters of the U.S. and Other "Jurisdictional Waters"

Natural drainage channels and adjacent wetlands may be considered "Waters of the United States" (hereafter referred to as "jurisdictional waters") subject to the jurisdiction of the USACE. The extent of jurisdiction has been defined in the Code of Federal Regulations, but has also been subject to interpretation of the federal courts. Jurisdictional waters generally include:

- All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- All interstate waters including interstate wetlands:
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce;
- All impoundments of waters otherwise defined as waters of the United States under the definition;
- Tributaries of waters identified in paragraphs (a)(1)-(4) (i.e. the bulleted items above).

As recently determined by the United States Supreme Court in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (the SWANCC decision), channels and wetlands isolated from other jurisdictional waters cannot be considered jurisdictional on the basis of their use, hypothetical or observed, by migratory birds (see discussion in Section 2.5 of this report). Similarly, in the consolidated *Carabell/Rapanos* decision, the U.S. Supreme Court has ruled that a significant nexus between a wetland and other navigable waters must exist for the wetland itself to be considered a navigable water and therefore jurisdictional water.

The USACE regulates the filling or grading of such waters under the authority of Section 404 of the Clean Water Act (Wetland Training Institute, Inc. 1991). The extent of jurisdiction within drainage channels is defined by "ordinary high water marks" on opposing channel banks. Wetlands are habitats with soils that are intermittently or permanently saturated, or inundated.

The resulting anaerobic conditions select for plant species known as hydrophytes that show a high degree of fidelity to such soils. Wetlands are identified by the presence of hydrophytic vegetation, hydric soils (soils saturated intermittently or permanently saturated by water), and wetland hydrology according to methodologies outlined in the 1987 Corps of Engineers Wetlands Delineation Manual (USACE 1987).

All activities that involve the discharge of fill into jurisdictional waters are subject to the permit requirements of the USACE (Wetland Training Institute, Inc. 1991). Such permits are typically issued on the condition that the applicant agrees to provide mitigation that results in no net loss of wetland functions or values. No permit can be issued until the RWQCB issues a certification (or waiver of such certification) that the proposed activity will meet state water quality standards. The filling of isolated wetlands, over which the USACE has disclaimed jurisdiction, is regulated by the RWQCB. It is unlawful to fill isolated wetlands without filing a Notice of Intent with the RWQCB. The RWQCB is also responsible for enforcing National Pollution Discharge Elimination System (NPDES) permits, including the General Construction Activity Storm Water Permit. All projects requiring federal money must also comply with Executive Order 11990 (Protection of Wetlands).

The CDFG has jurisdiction over the bed and bank of natural drainages according to provisions of Section 1600-1616 of the California Fish and Game Code (CDFG 2004). Activities that would disturb these drainages are regulated by the CDFG via a Streambed Alteration Agreement. Such an agreement typically stipulates that certain measures will be implemented which protects the habitat values of the drainage in question.

3.3 ENVIRONMENTAL IMPACT/MITIGATION

As described in Section 1.1, the proposed project is the construction of a gravel parking area, restroom, river access trail with overlooks, picnic tables, possibly a shade structure or small picnic shelter, and riparian habitat enhancement in Madera County, adjacent to Friant, California. For the purposes of this analysis, it has been assumed that all project disturbances will occur adjacent to Road 206 for the parking and facility structures, and within the footprint of the existing dirt road passing from northeast to southwest through the site.

Less Than Significant Project Impacts

3.3.1 Potential Project Impacts to Special Status Plant Species

Impact. Fifteen special status vascular plant species are known to occur in the general project vicinity (see Table 2). With the exception of Sanford's arrowhead, the habitats required for these special status plants are absent from the project site, observations within the vicinity of the project site are old (40+ years), or observations are over 10-miles away (CDFG 2012a; CDFG 2012b; CNPS 2012). The installation of a parking lot and facility adjacent to Road 206 will occur in an area already disturbed by foot traffic accessing the San Joaquin River. The installation of a river access trail will likely occur within ruderal habitat of the site along an existing road. Overlooks will be installed which will be designed close to the road and high above the River in order to obtain suitable viewpoints. No aquatic habitat (suitable habitat for the Sanford's arrowhead) will be affected by implementation of the project. Therefore, the proposed project will have no adverse effect on regional populations of any special status plants.

Mitigation. No special status plant species are expected to occur in areas to be impacted on the site. Therefore, mitigation measures are not warranted.

3.3.2 Potential Project Impacts to Special Status Animal Species Absent or Unlikely to Occur on Site

Impact. Twenty-five special status animal species occur regionally (see Table 2). Of these 25 species, nine would not occur on the study area due to the absence of suitable habitat. These species include the vernal pool fairy shrimp, vernal pool tadpole shrimp, valley longhorn elderberry beetle, steelhead, California tiger salamander, western spadefoot toad, Western yellow-billed cuckoo, Fresno kangaroo rat, and San Joaquin kit fox. The proposed project would have no effect on regional populations of these nine species.

Mitigation. The project will have no adverse effect on regional populations of these nine special status animal species. Mitigation measures are not warranted.

3.3.3 Potential Project Impacts to Special Status Animal Species that May Forage on the Site, but would not Breed, Nest, Den, or Roost on the Site

Impact. Five special status species may occasionally forage within the site. These species include the peregrine falcon, loggerhead shrike, spotted bat, pallid bat, and western mastiff bat. The site does not provide regionally important foraging habitat for any of these species. Project construction may, at most, temporarily disrupt available foraging habitat or foraging patterns for some of these species. The project would not result in direct mortality of any of these species, since nesting, roosting, or denning habitat for these species does not occur within the project site. Therefore, the project would have a less than significant impact on these five special status species.

Mitigation. The project will have no adverse effect on regional populations or result in the direct mortality of the five special status species that may utilize the site for foraging. Mitigation measures are not warranted.

3.3.4 Potential Project Impacts to the Western Pond Turtle

Impact. The Project footprint occurs within 150 feet of aquatic pond turtle habitat in the San Joaquin River. Individual pond turtles may on occasion wander onto the project site from the river. The dense and tall herbaceous vegetation, paved areas, and unvegetated ruderal areas that cover the site, however, provide very marginal to unsuitable nesting habitat. Therefore, the project would not result in the loss of nesting, foraging, or breeding habitat for this species. In the unlikely event that a wandering pond turtle is directly impacted by project construction, the loss or injury of this individual would not significantly impact the population of western pond turtles that may inhabit the San Joaquin River.

Mitigation. Since Project impacts to western pond turtles are considered less than significant, no mitigation is required.

3.3.5 Potential Project Impact to Chinook Salmon

Impact. Consistent with the goals of the San Joaquin River Restoration Program, Chinook salmon have recently been reintroduced into the San Joaquin River below Friant Dam. Salmon

could be present in the aquatic habitat of the study area. However, no impact to salmon will result from implementation of the proposed project, since aquatic habitat will not be affected.

Mitigation. The project will have no adverse effect to the Chinook salmon. Therefore, no mitigation is warranted.

3.3.6 Potential Project Impact to State and Federally Protected Wetlands and Jurisdictional Waters

Impact. Although portions of the San Joaquin River below top of bank and ordinary high water are within the project site, the project will be designed to avoid the San Joaquin River above the jurisdiction of the USACE and the CDFG. Therefore, the project will have no adverse effect on state and federally protected wetlands or jurisdictional waters.

Mitigation. Mitigation measures are not warranted.

3.3.7 Potential Project Impact on Fish or Wildlife Movement Corridors

Impact. The project site is part of the San Joaquin River corridor, a regionally important movement corridor for a number of wildlife species. Development that inhibits the movements of native terrestrial vertebrate species or diminishes the current habitat values of the project site for such species (i.e. removing riparian vegetation) could contribute to declining populations.

The proposed River Vista Trail will be within 35 and 200 feet of the outer riparian corridor, a distance consistent with the buffers required by the *Parkway Master Plan*, given that the trail will be constructed within the footprint of a pre-existing road (Melinda Marks, Executive Officer, San Joaquin River Conservancy). Restrooms are to be installed on the northwestern side of the existing road near the proposed parking area. The location of the recreational trail and the anticipated low intensity of trail use ensure that impacts to the riparian corridor of the San Joaquin River will be less than significant.

Mitigation. Project impacts to fish and native wildlife movement corridors will be less than significant. Mitigation measures are not warranted.

3.3.8 Potential Project Impact to Riparian Habitat or Other Sensitive Habitats

Impact. As discussed in Section 2.7, riparian habitats, and aquatic habitat (considered natural communities of special concern), are present in the boundaries of the project site. However, all project related impacts will occur to upland habitats 35 to 200 feet from the edge of riparian woodland. In addition, the project site occurs outside of any known USFWS Critical Habitats. Therefore, the project will have no adverse effects to riparian and other sensitive habitats, as well as designated Critical Habitat.

Mitigation. Mitigation measures are not warranted.

3.3.9 Consistency of Project with Local Ordinances Protecting Biological Resources

Impact. The proposed project is being designed to be consistent with policies of the County of Madera General Plan (1995) and San Joaquin River Parkway Master Plan (SJRC 2000). Site-specific recommendations for the proposed trail and associated infrastructure are to construct the trail at the location of the existing road. The existing road provides a buffer from the edge of riparian that varies between 35 feet at its narrowest to approximately 200 feet at its widest. The road averages 75 feet from the edge of riparian within the project site. It is LOA's professional opinion that utilizing this road to construct the trail, with extremely minimal additional impacts closer to the River only where outlooks are proposed, will not impede wildlife movement along the San Joaquin River corridor. None of the outlooks will be situated closer to the edge of riparian than 35 feet.

Mitigation. This project will not be in conflict with any local policies or ordinances protecting biological resources, therefore mitigation measures are not warranted.

<u>Potentially Significant Project Impacts</u>

3.3.10 Potential Project Impact to Nesting Birds

Impact. The project site provides nesting habitat for seven species of special status and other ground and tree nesting birds, including but not limited to, Swainson's hawk, bald eagle, golden eagle, white-tailed kite, Northern harrier, yellow warbler, and tricolored blackbird. In the event that these or other migratory birds were to nest in riparian trees along the San Joaquin River

prior to the onset of construction, construction activities could result in nest abandonment and/or direct mortality to individual birds. Nest destruction or abandonment and mortality of birds would be a violation of CDFG code and the Federal Migratory Bird Treaty Act, and would be considered a significant adverse environmental impact of the project.

Mitigation. The following measures are designed to reduce or eliminate impacts to nesting birds.

- ***Mitigation Measure 3.3.10a: Avoidance.*** If construction activity occurs outside of the nesting season (February 1st through August 31st) impacts to nesting birds will be absent and no other action is necessary.

- ***Mitigaiton Measure 3.3.10b: Pre-construction Surveys.*** If project construction will occur during the nesting season, a pre-construction survey shall be conducted by a qualified biologist for nesting birds within 30 days of the on-set of construction. All suitable habitats of the study area will be covered during this survey. Surveys will include the inspection of all suitable nesting habitats (e.g. culverts, bridges, trees, shrubs) within and adjacent to the footprint of construction between February 1st and August 31st of any given year.

- ***Mitigation Measure 3.3.10c: Avoidance of Active Nests.*** If pre-construction surveys are undertaken during the nesting season and active nests are located within or near construction zones, these nests, and an appropriate construction-free buffer will be maintained around them (as determined by a qualified biologist) until the nesting season is over.

Compliance with the above mitigation measures would reduce impacts to nesting birds to a less than significant level.

3.3.11 Potential Project Impact to Burrowing Owl

Impact. Burrowing owls were not observed on the project site, however, suitable nesting habitat in the form of ground squirrel burrows is present. If burrowing owls were present, then ground disturbance from construction related activities could result in the mortality of burrowing owls, as they are known to retreat into their burrows ahead of approaching grading activity. These small raptors are protected under the federal migratory bird treaty act and CDFG code. Mortality of individual birds would be a violation of state and federal law. Mortality of individual burrowing owls would constitute a potentially significant adverse environmental impact of the Project.

Mitigation. Prior to the construction on the project site, one or more of the following measures will be implemented as necessary, which will reduce impacts to the burrowing owl to a less than significant level:

- ***Mitigation Measure 3.3.11a: Pre-construction Surveys.*** A pre-construction survey will be conducted by a qualified biologist for burrowing owls within 30 days of the on-set of construction. This survey will be conducted according to methods described in the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012c). All suitable habitats of the Site will be covered during this survey.

- ***Mitigation Measure 3.3.11b: Avoidance of Active Nests.*** If pre-construction surveys are undertaken during the breeding season (February through August) and active nest burrows are located within or near construction zones, a construction-free buffer of 250 feet should be established around all active owl nests. The buffer areas should be enclosed with temporary fencing, and construction equipment and workers should not enter the enclosed setback areas. Buffers should remain in place for the duration of the breeding season. After the breeding season (i.e. once all young have left the nest), passive relocation of any remaining owls may take place as described below.

- ***Mitigation Measure 3.3.11c: Passive Relocation of Resident Owls.*** During the non-breeding season (September through January), resident owls occupying burrows in areas proposed for development may be relocated to alternative habitat. The relocation of resident owls must be conducted according to a relocation plan prepared by a qualified biologist and approved by CDFG. Passive relocation will be the preferred method of relocation.

Compliance with the above mitigation measures would reduce impacts to burrowing owls to a less-than-significant level.

3.3.12 Potential Project Impact to American Badger

Impact. Although badger dens were not observed within the project site during the July or September 2012 field surveys, potential denning habitat exists in annual grassland habitat. If badger dens are present at the time of construction, any badgers occupying those dens will be at risk of mortality from project activities involving ground disturbance and/or heavy equipment use. Construction mortality of badgers is a potentially significant impact of the project under CEQA.

Mitigation. Prior to the initiation of project-related activities involving ground disturbance, the following measures will be implemented.

- ***Mitigation Measure 3.3.12a: Pre-construction Surveys.*** A pre-construction survey for American badgers will be conducted by a qualified biologist for within 30 days of the onset of project-related activities involving ground disturbance or heavy equipment use. Pre-construction surveys prior to the construction phase of the project will be conducted in all suitable annual grassland habitats within and immediately adjacent to the project area.

- ***Mitigation Measure 2.2.12b: Avoidance.*** Should an active natal den be identified during the preconstruction surveys, a disturbance-free buffer will be established around the den and maintained until a qualified biologist has determined that the cubs have dispersed or the den has been abandoned.

Compliance with the above mitigation measures would reduce impacts to American badgers to a less-than-significant level.

3.3.13 Degradation of Water Quality in Seasonal Creeks, Reservoirs and Downstream Waters

Impact. The project, as described in Section 1.1, includes the construction of a gravel parking area, restroom, river access trail and overlooks, picnic tables, possibly a shade structure or small picnic shelter, and riparian habitat enhancement. Extensive grading often leaves the soils of construction zones barren of vegetation and, therefore, vulnerable to erosion. Eroded soil is generally carried as sediment in surface runoff to be deposited in natural creek beds, canals, and adjacent wetlands. Furthermore, runoff is often polluted with grease, oil, pesticide and herbicide residues, heavy metals, etc. Runoff from the construction site will flow towards, and will eventually be discharged into, the San Joaquin River.

The possible erosion of construction areas, the concomitant deposition of silt into downstream waters, and the introduction of pollutants into stormwater runoff entering the San Joaquin River represent a potentially significant adverse environmental impact of the Project.

Mitigation. The following measures are designed to reduce soil erosion on the site during construction and the concomitant deposition of sediment into the San Joaquin River.

- ***Mitigation Measure 3.3.13a: Preparation and Implementation of an Erosion Control Plan*****:** Prior to the onset of construction, an erosion control plan will be prepared by a qualified engineer consistent with the requirements of a Madera County grading permit

and a General Construction Permit (an NPDES permit issued by the Regional Water Quality Control Board for Projects in which one or more acres of land are graded), if needed. Typically, specified erosion control measures must be implemented prior to the onset of the rainy season. The project site must then be monitored periodically throughout the rainy season to ensure that the erosion control measures are successfully preventing on-site erosion and the concomitant deposition of sediment off-site. Elements of this plan would address both the potential for soil erosion and non-point source pollution. At a minimum, elements of an erosion control plan typically include the following:

1) Protection of exposed graded slopes from sheet, rill and gully erosion. Such protection could be in the form of erosion control fabric, hydromulch containing the seed of native soil-binding plants, straw mechanically imbedded in exposed soils, or some combination of the three.

2) Protection of natural drainage channels from sedimentation. Hay bale check dams should be installed below graded areas so that any sediment carried by surface runoff is intercepted and retained behind the check dams before it can enter the San Joaquin River.

3) Use of best management practices (BMPs) to control soil erosion and non-point source pollution. BMPs may include measures in 1 and 2 above, but they may include any number of additional measures appropriate for this particular site and this particular project, including grease traps in parking lots, landscape management practices to reduce the use of pesticides and herbicides, the discharge of stormwater runoff from "hardscapes" into grassy swales, regular site inspections for pollutants that could be carried by runoff into natural drainages, etc.

- ***Mitigation Measure 3.3.13b: Time Construction to Occur During the Dry Season*:** Where possible, project construction should be confined to the dry season, when the chance for significant rainfall and stormwater runoff is very low. Construction during the spring, summer, and fall will not eliminate the need to implement erosion control measures, but will ensure that the threat of soil erosion has been minimized to the maximum extent feasible.

Compliance with mitigation measures described above would reduce impacts to the quality of stormwater runoff leaving the site to a less than significant level.

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APPENDIX A: VASCULAR PLANTS OF THE PROJECT SITE

APPENDIX A: VASCULAR PLANTS OF THE PROJECT SITE

The plants species listed below were observed on the project site during surveys conducted by Live Oak Associates, Inc. on July 20 and September 27, 2012. The U.S. Fish and Wildlife Service wetland indicator status of each plant has been shown following its common name.

OBL - Obligate
FACW - Facultative Wetland
FAC - Facultative
FACU - Facultative Upland
UPL - Upland
+/- - Higher/lower end of category
NR - No review
NA - No agreement
NI - No investigation

ANACARDIACEAE – Pepper Tree Family		
Schinus molle	Pepper Tree	UPL
APOCYNACEAE – Dogbane Family		
Asclepias fascicularis	Narrow Leaf Milkweed	FAC
ASTERACEAE - Sunflower Family		
Ambrosia sp.	Unknown Burweed	-
Artemisia douglasiana	Mugwort	FAC
Conyza canadensis	Canada Horseweed	FACU
Grindelia camporum	Great Valley Gumweed	UPL
Helianthus annuus	Common Sunflower	FACU
Holocarpha heermannii	Heermann's Tarweed	UPL
Lactuca serriola	Prickly Lettuce	FACU
Silybum marianum	Milk Thistle	UPL
Stephanomeria sp.	Unknown Stephanomeria	-
BETULACEAE – Birch Family		
Alnus rhombifolia	White Alder	FACW
BORAGINACEAE – Borage Family		
Amsinckia sp.	Fiddleneck	UPL
Plagiobothrys nothofulvus	Popcornflower	FAC
EUPHORBIACEAE – Spurge Family		
Chamaesyce ocellata	Valley Spurge	UPL
Croton setiger	Doveweed	UPL
FABACEAE – Legume Family		
Acmispon americanus	Spanish Clover	UPL
FAGACEAE – Beech Family		

Quercus lobata	Valley Oak	FACU
GENTIANACEAE – Gentian Family		
Zeltnera venusta	Canchalagua	UPL
GERANEACEAE - Geranium Family		
Erodium botrys	Broad-leaf Filaree	UPL
JUGLANDACEAE – Walnut Family		
Juglans california	California Black Walnut	FAC
JUNCACEAE – Rush Family		
Juncus balticus	Baltic Rush	OBL
Juncus mexicanus	Mexican Rush	FACW
LAMIACEAE – Mint Family		
Mentha pulegium	Pennyroyal	OBL
Trichostema lanceolatum	Vinegar Weed	FACU
MORACEAE – Fig Family		
Ficus carica	Common Fig	UPL
OLEACEAE – Ash Family		
Fraxinus latifolia	Oregon Ash	FACW
ONAGRACEAE – Fuschia Family		
Epilobium sp.	Unk. Willoweed	-
PHYTOLACCACEAE – Pokeweed Family		
Phytolacca sp.	Unk. Pokeweed	UPL
PLATANACEAE - Sycamore Family		
Platanus racemosa	Western Sycamore	FAC
POACEAE - Grass Family		
Avena fatua	Wild Oats	UPL
Lolium perenne	Perennial Ryegrass	FAC
Stipa miliacea	Smilo Grass	UPL
Polypogon monspeliensis	Rabbitsfoot Grass	FACW
Paspalum dilatatum	Dallis Grass	FACW
Setaria sp.	Unk. Bristlegrass	-
Vulpia myuros ssp. *hirsuta*	Rattail Fescue	FACU
POLYGONACEAE – Smartweed Family		
Eriogonum roseum	Wand Buckwheat	UPL
Rumex crispus	Curly Dock	FAC
ROSACEAE – Rose Family		
Rubus armeniacus	Himalayan Blackberry	FACU
SALICACEAE – Willow Family		
Populus fremontii	Fremont Cottonwood	FACW
Salix exigua	Sandbar Willow	FACW
Salix laevigata	Red Willow	FACW
SCROPHULARIACEAE – Figwort Family		
Verbascum thapsus	Common Mullein	FACU
SOLANACEAE - Nightshade Family		
Datura wrightii	Jimson Weed	UPL
Nicotiana glauca	Tree Tobacco	FAC
VISCACEAE – Mistletoe Family		
Phoradendron sp.	Mistletoe	UPL
VITACEAE – Grape Family		
Vitis californica	California Grape	FACU

APPENDIX B: TERRESTRIAL VERTEBRATE SPECIES THAT POTENTIALLY OCCUR ON THE SITE

APPENDIX B
TERRESTRIAL VERTEBRATE SPECIES THAT MAY OCCUR ON THE SITE

The species listed below are those that may reasonably be expected to use or pass through the habitats of the site. The list was not intended to include birds that are vagrants or occasional transients. Its purpose was rather to include those species that may be expected to routinely and predictably use or pass through the project site during some or all of the year. An asterisk denotes a species observed on or immediately adjacent to the site during surveys conducted on July 20 and September 27, 2012.

CLASS: AMPHIBIA
ORDER: SALIENTIA (Frogs and Toads)
FAMILY: BUFONIDAE
Western Toad (*Bufo boreas*)
FAMILY: PELOBATIDAE (Spadefoot Toads & Relatives)
Western Spadefoot (*Spea hammondii*)
FAMILY: HYLIDAE (Treefrogs and Relatives)
Pacific Treefrog (*Hyla regilla*)
ORDER: SALIENTIA (Frogs and Toads)
FAMILY: RANIDAE (True Frogs)
*Bullfrog (Rana catesbeiana)

CLASS: REPTILIA
ORDER: TESTUDINES
FAMILY: EMYDIDAE
Western Pond Turtle (*Emys marmorata*)
ORDER: SQUAMATA (Lizards and Snakes)
SUBORDER: SAURIA (Lizards)
FAMILY: PHRYNOSOMATIDAE
Western Fence Lizard (*Sceloporus occidentalis*)
Side Blotched Lizard (*Uta stansburiana*)
FAMILY: SCINCIDAE (Skinks)
Gilbert Skink (*Eumeces gilberti*)
FAMILY: TEIIDAE (Whiptails and relatives)
*Western Whiptail (*Cnemidophorus tigris*)
FAMILY: ANGUIDAE (Alligator Lizards and Relatives)
Southern Alligator Lizard (*Elgaria multicarinata*)
SUBORDER: SERPENTES (Snakes)
FAMILY: COLUBRIDAE (Colubrids)
Ringneck Snake (*Diadophis punctatus*)
Racer (*Coluber constrictor*)
Gopher Snake (*Pituophis melanoleucus*)
Coachwhip (*Masticophis flagellum*)
Glossy snake (*Arizona elegans*)
Common Kingsnake (*Lampropeltis getulus*)

Common Garter Snake (*Thamnophis sirtalis*)
Night Snake (*Hypsiglena torquata*)
FAMILY: VIPERIDAE
Western Rattlesnake (*Crotalus viridis*)

CLASS: AVES
ORDER: GAVIIFORMES (Loons)
FAMILY: PODICIPEDIDAE (Grebes)
Pied-Billed Grebe (*Podilymbus podiceps*)
Eared Grebe (*Podiceps nigricollis*)
Western Grebe (*Aechmophorus occidentalis*)
Clark's Grebe (*Aechmophorus clarkii*)
ORDER: PELECANIFORMES (Tropicbirds, Pelicans and Relatives)
FAMILY: PELECANIDAE (Pelicans)
American White Pelican (*Pelecanus erythrorhynchos*)
FAMILY: PHALACROCORACIDAE (Cormorants)
*Double-Crested Cormorant (*Phalacrocorax auritus*)
ORDER: CICONIIFORMES (Herons, Storks, Ibises and Relatives)
FAMILY: ARDEIDAE (Herons and Egrets)
American Bittern (*Botaurus lentiginosus*)
Great Egret (*Casmerodius albus*)
*Great Blue Heron (*Ardea herodias*)
Snowy Egret (*Egretta thula*)
Cattle Egret (*Bubulcus ibis*)
Green Heron (*Butorides virescens*)
Black-Crowned Night Heron (*Nycticorax nycticorax*)
FAMILY: THRESKIORNITHIDAE (Ibises and Spoonbills)
White-Faced Ibis (*Plegadis chihi*)
FAMILY: CATHARTIDAE (New World Vultures)
*Turkey Vulture (*Cathartes aura*)

ORDER: ANSERIFORMES (Screamers, Ducks and Relatives)
FAMILY: ANATIDAE (Swans, Geese and Ducks)
Snow Goose (*Chen caerulescens*)
Canada Goose (*Branta canadensis*)
Wood Duck (*Aix sponsa*)
Gadwall (*Anas strepera*)
American Wigeon (*Anas americana*)
Mallard (*Anas platyrhynchos*)
Cinnamon Teal (*Anas cyanoptera*)
Northern Shoveler (*Anas clypeata*)
Northern Pintail (*Anas acuta*)
Green-Winged Teal (*Anas crecca*)
Canvasback (*Aythya valisineria*)
Redhead (*Aythya americana*)
Ring-Necked Duck (*Aythya collaris*)
Greater Scaup (*Aythya marila*)

Lesser Scaup (*ythya affinis*)
Bufflehead (*Bucephala albeola*)
Common Goldeneye (*Bucephala clangula*)
Barrow's Goldeneye (*Bucephala islandica*)
Hooded Merganser (*Lophodytes cucullatus*)
Common Merganser (*Mergus merganser*)
Ruddy Duck (*Oxyura jamaicensis*)

ORDER: FALCONIFORMES (Vultures, Hawks, and Falcons)

FAMILY: ACCIPITRIDAE (Hawks, Old World Vultures, and Harriers)

White Tailed Kite (*Elanus leucurus*)
Northern Harrier (*Circus cyaneus*)
Sharp-shinned Hawk (*Accipiter striatus*)
Cooper's Hawk (*Accipiter cooperi*)
*Red-shouldered Hawk (*Buteo lineatus*)
Swainson's Hawk (*Buteo swainsoni*)
*Red-tailed Hawk (*Buteo jamaicensis*)
Ferruginous Hawk (*Buteo regalis*)
Rough-legged Hawk (*Buteo lagopus*)
Bald Eagle (*Haliaeetus leucocephalus*)
Golden Eagle (*Aquila chrysaetos*)

FAMILY: FALCONIDAE (Caracaras and Falcons)

*American Kestrel (*Falco sparverius*)
Merlin (*Falco columbarius*)
Peregrine Falcon (*Falco peregrinus*)
Prairie Falcon (*Falco mexicanus*)

ORDER: GRUIFORMES (Cranes and Rails)

FAMILY: RALLIDAE (Rails)

Common Moorhen (*Gallinula chloropus*)
American Coot (*Fulica americana*)

ORDER: CHARADRIIFORMES (Plovers, Sandpipers, Gulls, and Terns)

FAMILY: CHARADRIIDAE (Plovers)

Killdeer (*Charadrius vociferus*)

FAMILY: RECURVIROSTRIDAE (Avocets and Stilts)

Black-Necked Stilt (*Himantopus mexicanus*)
American Avocet (*Recurvirostra americana*)

FAMILY: SCOLOPACIDAE (Sandpipers)

Greater Yellowlegs (*Tringa melanoleuca*)
Lesser Yellowlegs (*Tringa flavipes*)
Long-Billed Curlew (*Numenius americanus*)
Spotted Sandpiper (*Actitis macularia*)
Long-billed Dowitcher (*Limnodromus scolopaceus*)
Common Snipe (*Gallinago gallinago*)
Least Sandpiper (*Calidris bairdii*)
Wilson's Snipe (*Gallinago delicata*)

FAMILY: LARIDAE (Skuas, Gulls, Terns and Skimmers)

Ring-Billed Gull (*Larus delawarensis*)

California Gull (*Larus californicus*)
Herring Gull (*Larus argentatus*)

ORDER: COLUMBIFORMES (Pigeons and Doves)

FAMILY: COLUMBIDAE (Pigeons and Doves)

Rock Pigeon (*Columba livia*)
*Mourning Dove (*Zenaida macroura*)

ORDER: CUCULIFORMES (Roadrunners)

FAMILY: CUCULIDAE

Greater Roadrunner (*Geococcyx californianus*)

ORDER: STRIGIFORMES (Owls)

FAMILY: TYTONIDAE (Barn Owls)

Barn Owl (*Tyto alba*)

FAMILY: STRIGIDAE (Typical Owls)

Western Screech Owl (*Otus kennicottii*)
Great Horned Owl (*Bubo virginianus*)
Northern Pygmy Owl (*Glaucidium gnoma*)
Burrowing Owl (*Athene cunicularia*)
Long-Eared Owl (*Asio otus*)
Short-eared Owl (*Asio flammeus*)
Burrowing Owl (*Athene cunicularia*)

ORDER: CAPRIMULGIFORMES (Goatsuckers and relatives)

FAMILY: CAPRIMULGIDAE (Goatsuckers)

Lesser Nighthawk (*Chordeiles acutipennis*)
Common Poorwilll (*Phalaenoptilus nuttallii*)

ORDER: APODIFORMES (Swifts and Hummingbirds)

FAMILY: APODIFORMES (Swifts)

Black Swift (*Cypseloides niger*)
Vaux's Swift (*Chaetura vauxi*)
White-Throated Swift (*Aeronautes saxatalis*)

FAMILY: TROCHILIDAE (Hummingbirds)

Black-chinned Hummingbird (*Archilochus alexandri*)
Anna's Hummingbird (*Calypte anna*)

ORDER: CORACIIFORMES (Kingfishers and Relatives)

FAMILY: ALCEDINIDAE (Kingfishers)

*Belted Kingfisher (*Ceryle alcyon*)

ORDER: PICIFORMES (Woodpeckers and Relatives)

FAMILY: PICIDAE (Woodpeckers and Wrynecks)

Lewis' s Woodpecker (*Melanerpes lewis*)
Acorn Woodpecker (*Melanerpes formicivorus*)
Red-Breasted Sapsucker (*Sphyrapicus ruber*)
Nuttall's Woodpecker (*Picoides nuttallii*)
Downy Woodpecker (*Picoides pubescens*)
Northern Flicker (*Colaptes auratus*)

ORDER: PASSERIFORMES (Perching Birds)

FAMILY: TYRANNIDAE (Tyrant Flycatchers)

Western Wood-Pewee (*Contopus sordidulus*)

Willow Flycatcher (*Empidonax traillii*)
Pacific-Slope Flycatcher (*Empidonax difficilis*)
*Black Phoebe (*Sayornis nigricans*)
Say's Phoebe (*Sayornis saya*)
Ash-Throated Flycatcher (*Myiarchus cinerascens*)
*Western Kingbird (*Tyrannus verticalis*)
FAMILY: LANIIDAE (Shrikes)
Loggerhead Shrike (*Lanius ludovicianus*)
FAMILY: VIREONIDAE (Typical Vireos)
Bell's Vireo (*Vireo bellii*)
Hutton's Vireo (*Vireo huttoni*)
Warbling Vireo (*Vireo gilvus*)
FAMILY: CORVIDAE (Jays, Magpies, and Crows)
*Western Scrub-Jay (*Aphelocoma californica*)
*American Crow (*Corvus brachyrhynchos*)
Common Raven (*Corvus corax*)
FAMILY: ALAUDIDAE (Larks)
Horned Lark (*Eremophila alpestris*)
FAMILY: HIRUNDINIDAE (Swallows)
*Violet-green Swallow (*Tachycineta thalassina*)
Northern Rough-winged Swallow (*Stelgidopteryx serripennis*)
Barn Swallow (*Hirundo rustica*)
Cliff Swallow (*Petrochelidon pyrrhonota*)
FAMILY: PARIDAE (Titmice and Relatives)
Oak Titmouse (*Baeolophus inornatus*)
FAMILY: AEGITHALIDAE (Bushtit)
Bushtit (*Psaltriparus minimus*)
FAMILY: SITTIDAE (Nuthatches)
White-Breasted Nuthatch (*Sitta carolinensis*)
FAMILY: CERTHIIDAE (Creepers)
Brown Creeper (*Certhia americana*)
FAMILY: TROGLODYTIDAE (Wrens)
Rock Wren (*Salpinctes obsoletus*)
Bewick's Wren (*Thryomanes bewickii*)
House Wren (*Troglodytes aedon*)
Marsh Wren (*Cistothorus palustris*)
FAMILY: REGULIDAE (Kinglets)
Ruby-Crowned Kinglet (*Regulus calendula*)
FAMILY: SYLVIIDAE (Old World Warblers and Gnatcatchers)
Blue-Gray Gnatcatcher (*Polioptila caerulea*)
FAMILY: TURDIDAE (Thrushes)
Western Bluebird (*Sialia mexicana*)
Mountain Bluebird (*Sialia currucoides*)
Swainson's Thrush (*Catharus ustulatus*)
Hermit Thrush (*Catharus guttatus*)
American Robin (*Turdus migratorius*)

FAMILY: TIMALIIDAE (Babblers)
Wrentit (*Chamaea fasciata*)
FAMILY: MIMIDAE (Mockingbirds and Thrashers)
Northern Mockingbird (*Mimus polyglottos*)
FAMILY: STURNIDAE (Starlings and Allies)
European Starling (*Sturnus vulgaris*)
FAMILY: MOTACILLIDAE (Wagtails and Pipits)
American Pipit (*Anthus rubrescens*)
FAMILY: BOMBYCILLIDAE (Waxwings)
Cedar Waxwing (*Bombycilla cedrorum*)
FAMILY: PTILOGONATIDAE (Silky Flycatchers)
Phainopepla (*Phainopepla nitens*)
FAMILY: PARULIDAE (Wood Warblers and Relatives)
Orange-Crowned Warbler (*Vermivora celata*)
Yellow Warbler (*Dendroica petechia*)
Yellow-Rumped Warbler (*Dendroica coronata*)
Black-Throated Gray Warbler (*Dendroica nigrescens*)
Townsend's Warbler (*Dendroica townsendii*)
Common Yellowthroat (*Geothlypis trichas*)
Wilson's Warbler (*Wilsonia pusilla*)
Yellow-Breasted Chat (*Icteria virens*)
FAMILY: EMBERIZIDAE (Emberizines)
Spotted Towhee (*Pipilo maculatus*)
California Towhee (*Pipilo crissalis*)
Vesper Sparrow (*Pooecetes gramineus*)
Lark Sparrow (*Chondestes grammacus*)
Savannah Sparrow (*Passerculus sandwichensis*)
Grasshopper Sparrow (*Ammodramus savannarum*)
Fox Sparrow (*Passerella iliaca*)
Song Sparrow (*Melospiza melodia*)
Lincoln's Sparrow (*Melosp iza lincolnii*)
White-Throated Sparrow (*Zonotrichia albicollis*)
White-Crowned Sparrow (*Zonotrichia leucophrys*)
Golden-Crowned Sparrow (*Zonotrichia atricapilla*)
Dark-Eyed Junco (*Junco hyemalis*)
FAMILY: CARDINALIDAE (Cardinals, Grosbeaks and Allies)
Black-Headed Grosbeak (*Pheucticus melanocephalus*)
Blue Grosbeak (*Passerina caerulea*)
Lazuli Bunting (*Passerina amoena*)
FAMILY: ICTERIDAE (Blackbirds, Orioles and Allies)
Red-Winged Blackbird (*Agelaius phoeniceus*)
Western Meadowlark (*Sturnella neglecta*)
Brewer's Blackbird (*Euphagus cyanocephalus*)
Great-Tailed Grackle (*Quiscalus mexicanus*)
Brown-Headed Cowbird (*Molothrus ater*)
Bullock's Oriole (*Icterus bullockii*)

FAMILY: FRINGILLIDAE (Finches)
House Finch (*Carpodacus mexicanus*)
Lesser Goldfinch (*Carduelis psaltria*)
American Goldfinch (*Carduelis tristis*)
FAMILY: PASSERIDAE (Old World Sparrows)
House Sparrow (*Passer domesticus*)

CLASS: MAMMALIA
ORDER: DIDELPHIMORPHIA (Marsupials)
FAMILY: DIDELPHIDAE (Opossums)
Virginia Opossum (*Didelphis virginiana*)
ORDER: INSECTIVORA (Shrews and Moles)
FAMILY: TALPIDAE (Moles)
Broad-footed Mole (*Scapanus latimanus*)
ORDER: CHIROPTERA (Bats)
FAMILY: VESPERTILIONIDAE (Vespertilionid Bats)
Yuma Myotis (*Myotis yumanensis*)
Long-eared Myotis, (*Myotis evotis*)
Fringed Myotis (*Myotis thysanodes*)
California Myotis (*Myotis californicus*)
Long-legged Myotis (*Myotis volans*)
Small-footed Myotis (*Myotis leibii*)
Red Bat (*Lasiurus borealis*)
Hoary Bat (*Lasiurus cinereus*)
Big Brown Bat (*Eptesicus fuscus*)
Spotted Bat (*Euderma maculatum*)
Townsend's Western Big-eared Bat (*Corynorhynus townsendii townsendii*)
Pallid Bat (*Antrozous pallidus*)
FAMILY: MOLOSSIDAE (Free-tailed Bat)
Western Mastiff Bat (*Eumops perotis*)
ORDER: LAGOMORPHA (Rabbits, Hares, and Pikas)
FAMILY: LEPORIDAE (Rabbits and Hares)
Brush Rabbit (*Sylvilagus bachmani*)
Desert Cottontail (*Sylvilagus audubonii*)
Black-Tailed Jackrabbit (*Lepus californicus*)
ORDER: RODENTIA (Squirrels, Rats, Mice, and Relatives)
FAMILY: SCIURIDAE (Squirrels, Chipmunks, and Marmots)
*California Ground Squirrel (*Spermophilus beecheyi*)
FAMILY: GEOMYIDAE (Pocket Gophers)
*Botta's Pocket Gopher (*Thomomys bottae*)
FAMILY: HETEROMYIDAE
California Pocket Mouse (*Chaetodipus californicus*)
Heermann's Kangaroo Rat (*Dipodomys heermanii*)
FAMILY: CASTORIDAE (Beavers)
*American Beaver (*Castor canadensis*)

FAMILY: MURIDAE (Mice, Rats and Voles)
Western Harvest Mouse (*Reithrodontomys megalotis*)
California Mouse (*Peromyscus californicus*)
Deer Mouse (*Peromyscus maniculatus*)
Brush Mouse (*Peromyscus boylii*)
Pinyon Mouse (*Peromyscus truei*)
Dusky-footed Woodrat (*Neotoma fuscipes*)
House Mouse (*Mus musculus*)

ORDER: CARNIVORA (Carnivores)

FAMILY: CANIDAE (Foxes, Wolves, and Relatives)
*Coyote (*Canis latrans*)
Gray Fox (*Urocyon cinereoargenteus*)

FAMILY: PROCYONIDAE (Raccoons and Relatives)
Raccoon (*Procyon lotor*)

FAMILY: MUSTELIDAE (Weasels, Badgers, and Relatives)
Long-tailed Weasel (*Mustela frenata*)
American Badger (*Taxidea taxus*)

FAMILY: MEPHITIDAE
Striped Skunk (*Mephitis mephitis*)

FAMILY: FELIDAE
Feral Cat (*Felis catus*)
Mountain Lion (*Felis concolor*)
Bobcat (*Felis rufus*)

FAMILY: CERVIDAE (Deer, Elk and Relatives)
*Mule Deer (*Odocoileus hemionus*)

APPENDIX C: SELECTED PHOTOGRAPHS OF THE PROJECT SITE

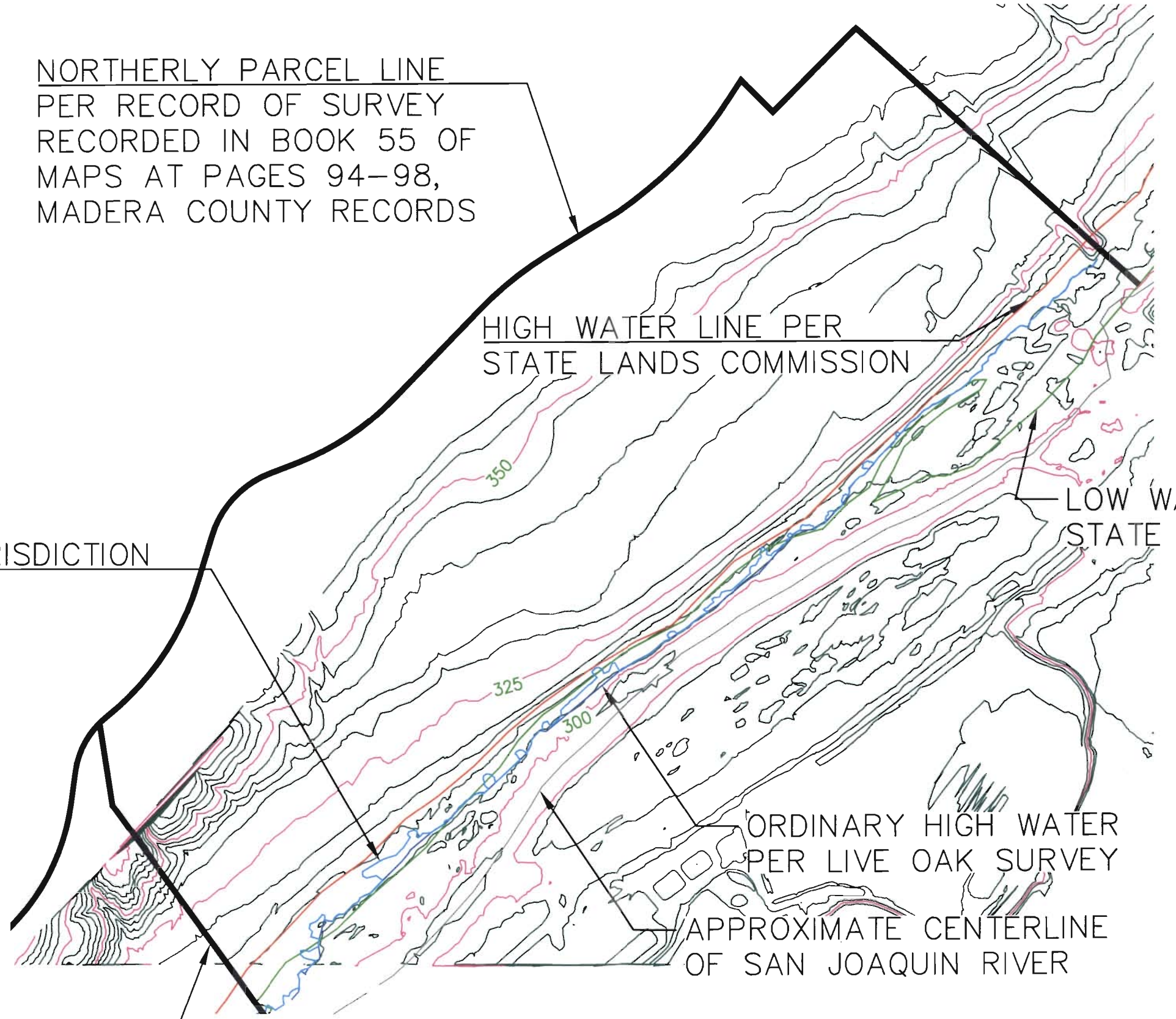
Picture #1: San Joaquin River, looking south from the project site.

Picture #2: Project site, looking west towards the orchards and Madera Canal.

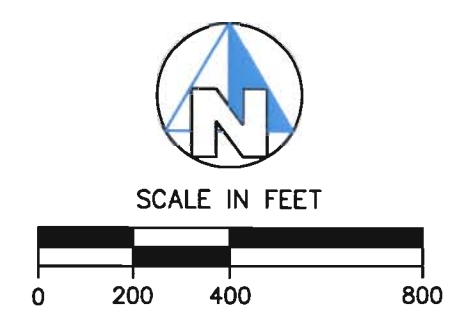
Picture #3: Project site, looking northeast towards the Millerton Lake Dam.

Picture #4: Project site, looking southwest.

Appendix D – Provost & Pritchard Survey Map



PROFESSIONAL LAND SURVEYOR
MARTY D. HARTWIG
Exp. 12/31/13
No. 6612
STATE OF CALIFORNIA



EST. 1968 PROVOST & PRITCHARD CONSULTING GROUP An Employee Owned Company	RIVER VISTA ENVIRONMENTAL REVIEW LIVE OAK ASSOCIATES EXHIBIT MAP	SURVEYOR: MARTY D. HARTWIG DATE: 11/07/12 JOB NO: 20031201 SHEET 1 OF 1

Appendix E – River Vista Derelict Bridge Demolition Biological Evaluation

LIVE OAK ASSOCIATES, INC.

an Ecological Consulting Firm

RIVER VISTA DERELICT BRIDGE DEMOLITION BIOLOGICAL EVALUATION MADERA COUNTY, CALIFORNIA

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EXECUTIVE SUMMARY

In May of 2014, Live Oak Associates, Inc. (LOA) examined a 5-acre site along the San Joaquin River in Madera County for biological resources, and evaluated a derelict bridge demolition and removal project for possible impacts to such resources. The project site is located northwest of the San Joaquin River and southwest of Road 206. The proposed project includes demolition and removal of the old Friant Road Bridge ruins and road access to a planned trail system.

This document was prepared in order to assist Madera County and the San Joaquin River Conservancy in meeting the requirements of the California Environmental Quality Act (CEQA), the Clean Water Act (CWA), the state and federal endangered species acts, and miscellaneous other local, state and federal environmental regulations prior to the improvement of the River Vista Access Trail. The information in this document was based on a review of existing literature and a reconnaissance level field survey conducted by LOA on May 14, 2014.

The project site is located in a relatively natural setting along the northwestern shore of the San Joaquin River. Six land uses/biotic habitat types were observed within the project site during the summer 2014. These include California annual grassland series, valley foothill riparian, alluvial gravel bar, aquatic habitat of the San Joaquin River, ruderal (disturbed) roadside, and bridge remains. Twenty-nine terrestrial vertebrate species were observed during field surveys conducted in 2012 and 2014. The river serves as a significant movement corridor for native wildlife, and supports many terrestrial vertebrate species.

The site provides habitat for a number of special status species. Although not observed, the Sanford's arrowhead is a species that could occur within the shallow aquatic habitat of the San Joaquin River. Special status animals potentially using habitats of the site include the Chinook salmon, San Joaquin roach, Kern brook lamprey, western pond turtle, American badger, and various avian species (including, but not limited to, Swainson's hawk, bald eagle, golden eagle, white-tailed kite, northern harrier and burrowing owl). Bats could potentially roost on the bridge remains or in riparian trees of the project site. Other special status wildlife species are not expected to occur on the project site, except for occasional wildlife foraging on it during migration or dispersal movements. Waters subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE), CDFW, the Central Valley Regional Water Quality Control Board (RWQCB), and the State Lands Commission were present along the San Joaquin River.

Less than significant project impacts include those to special status plant species, Chinook salmon, most special status wildlife species, wildlife movement corridors, designated critical habitat, essential fish habitat, and fish and wildlife habitat. The project is consistent with local ordinances protecting biological resources. Mitigation measures for impacts to these biotic resources would not be warranted.

Potentially significant project impacts include those to western pond turtle, nesting birds (including but not limited to, burrowing owl), American badger, roosting bats, wetland and riparian habitats, and degradation of water quality downstream of the project site. An employee education program addressing avoidance and minimization measures for the above potentially significant biological impacts would be conducted by a qualified biologist prior to project construction. Additional mitigation measures for western pond turtle would include avoidance and relocation of any turtles found on or near the project site during construction monitoring. Measures appropriate for mitigating project impacts to nesting birds (including burrowing owls) would include 1) pre-construction surveys for active nests during the nesting season (Feb.-Aug.), and 2) avoidance of active nests. Suitable mitigation for badgers would include pre-construction surveys for active dens within the footprint of project construction and avoidance of those dens. Should any bats be found roosting in trees or bridge remains of the project site during preconstruction surveys, an exclusion plan will be developed to avoid impacts to roosting bats. Impacts to jurisdictional waters will be mitigated through compliance with all state and federal permits to be issued for the project. A site restoration plan will be developed that includes revegetation of disturbed areas. Implementation of erosion control measures and best management practices will protect aquatic habitat of the San Joaquin River from degradation.

TABLE OF CONTENTS

EXECUTIVE SUMMARY ii

TABLE OF CONTENTS iii

1.0 INTRODUCTION 1

1.1 PROJECT DESCRIPTION 1

1.2 REPORT OBJECTIVES 5

1.3 STUDY METHODOLOGY 6

2.0 EXISTING CONDITIONS 8

2.1 REGIONAL SETTING 8

2.2 HYDROLOGY 8

2.3 SOILS 8

2.4 SURROUNDING LANDS 9

2.5 BIOTIC HABITATS/LAND USES 10

2.5.1 California Annual Grassland 12
2.5.2 Ruderal Roadside 13
2.5.3 Alluvial Gravel Bar 14
2.5.4 Valley Foothill Riparian 14
2.5.5 Aquatic 15
2.5.6 Bridge Remains 17

2.6 SPECIAL STATUS PLANTS AND ANIMALS 18

2.6.1 Chinook Salmon (*Oncorhynchus tshawytscha*); Central Valley Spring Run: Federally Threatened, State Threatened; Central Valley Fall Run: California Species of Special Concern 26
2.6.2 San Joaquin Roach (*Lavinia symmetricus* ssp. 1); State Species of Special Concern 28
2.6.3 Kern Brook Lamprey (*Entosphenus hubbsi*); State Species of Special Concern 28
2.6.4 California Tiger Salamander (*Ambystoma californiense*); Federally Threatened, State Threatened 29
2.6.5 Western Spadefoot (*Spea hammondii*); State Species of Special Concern 31
2.6.6 Western Pond Turtle (*Emys marmorata*); State Species of Special Concern 31
2.6.7 Bald Eagle (*Haliaeetus leucocephalus*); State Endangered 32
2.6.8 Swainson's Hawk (*Buteo swainsoni*); State Threatened 33
2.6.9 Burrowing Owl (*Athene cunicularia*); State Species of Special Concern 34
2.6.10 Special Status Bat Species 34
2.6.11 San Joaquin Kit Fox (*Vulpes macrotis mutica*); Federally Endangered, State Threatened 35
2.6.12 American Badger (*Taxidea taxus*); State Species of Special Concern 36

2.7 JURISDICTIONAL WATERS 37

2.8 DESIGNATED CRITICAL HABITAT 37
2.9 ESSENTIAL FISH HABITAT 38
2.10 WILDLIFE MOVEMENT CORRIDORS 38
2.11 NATURAL COMMUNITIES OF SPECIAL CONCERN 39
3.0 IMPACTS AND MITIGATIONS 40
3.1 SIGNIFICANCE CRITERIA 40
3.2 RELEVANT GOALS, POLICIES, AND LAWS 41
3.2.1 General Plan Policies of Madera County and the San Joaquin River Conservancy 41
3.2.2 Threatened and Endangered Species 41
3.2.3 Designated Critical Habitat 42
3.2.4 Essential Fish Habitat 43
3.2.5 Migratory Birds 43
3.2.6 Birds of Prey 44
3.2.7 Nesting Birds 44
3.2.8 Bats 44
3.2.9 Wetlands and Other Jurisdictional Waters 44
3.3 ENVIRONMENTAL IMPACT/MITIGATION 46
3.3.1 Potential Project Impacts to Special Status Plant Species 46
3.3.2 Potential Project Impacts to Chinook Salmon 47
3.3.3 Potential Project Impacts to San Joaquin Roach 48
3.3.4 Potential Project Impacts to Kern Brook Lamprey 48
3.3.5 Potential Project Impacts to Special Status Animal Species Absent or Unlikely to Occur on Site 49
3.3.6 Potential Project Impacts to Special Status Animal Species that May Forage on the Site, but would Breed Elsewhere 49
3.3.7 Potential Project Impact to Designated Critical Habitat 50
3.3.8 Potential Project Impact to Essential Fish Habitat 50
3.3.9 Potential Project Impact to Fish or Wildlife Movement Corridors 50
3.3.10 Consistency of Project with Local Ordinances Protecting Biological Resources 51
3.3.11 Potential Project Impacts to the Western Pond Turtle 51
3.3.12 Potential Project Impacts to Burrowing Owl 52
3.3.13 Potential Project Impact to American Badger 54
3.3.14 Potential Project Impact to Nesting Birds 54
3.3.15 Potential Project Impact to Roosting Special Status Bat Species 55
3.3.16 Potential Project Impact to State and Federally Protected Wetlands and Jurisdictional Waters 56
3.3.17 Potential Project Impact to Natural Communities of Special Concern 58
3.3.18 Degradation of Water Quality in Seasonal Creeks, Reservoirs and Downstream Waters 59
4.0 PERSONS CONTACTED 61
5.0 LITERATURE REFERENCED 63

APPENDIX A: VASCULAR PLANTS OF THE PROJECT SITE.....66

APPENDIX B: TERRESTRIAL VERTEBRATE SPECIES THAT POTENTIALLY OCCUR ON THE SITE 70

APPENDIX C: SELECTED PHOTOGRAPHS OF THE PROJECT SITE 78

1.0 INTRODUCTION

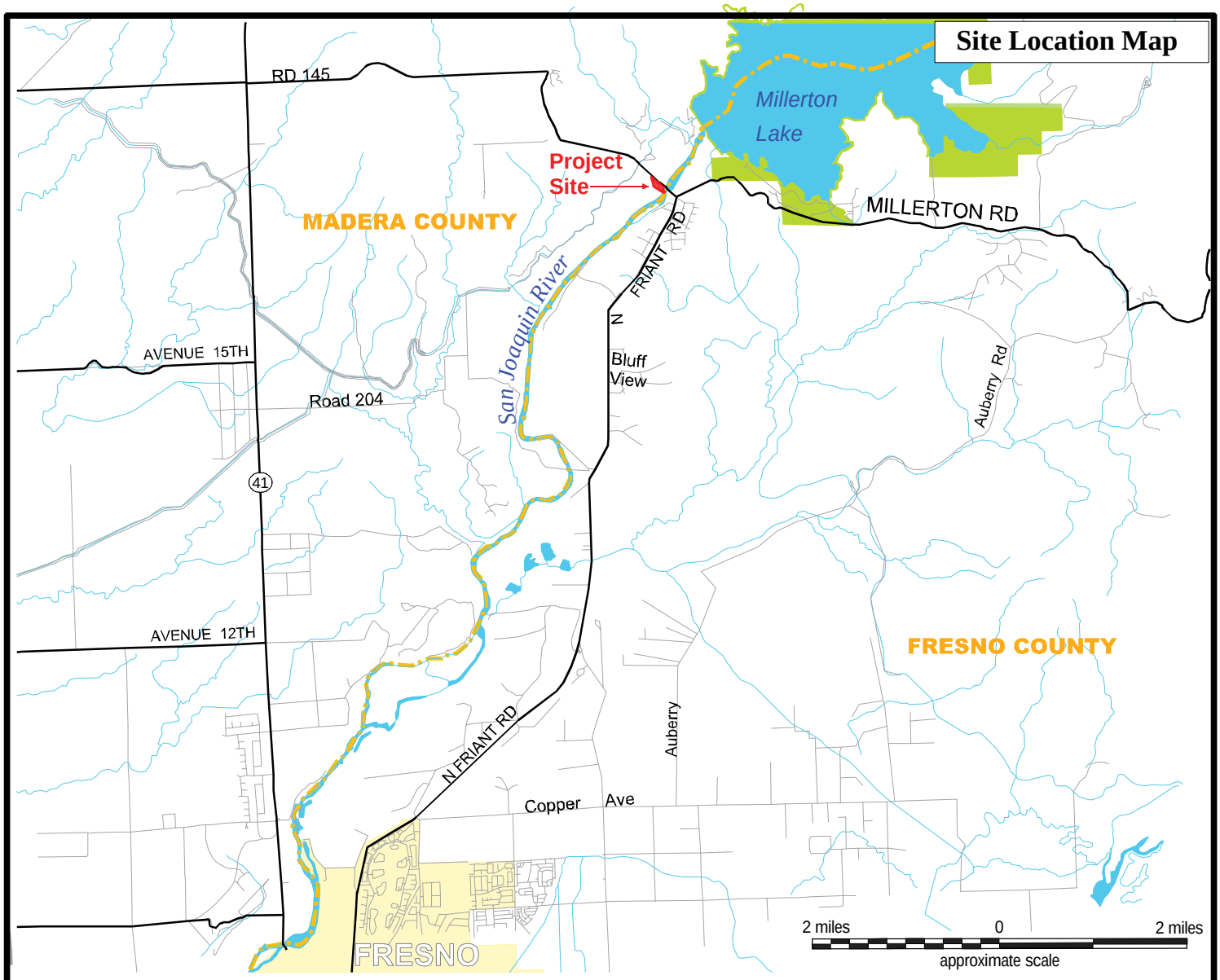
This technical report describes the biotic resources of an approximately 5-acre site (hereafter referred to as the "project site" or "site") in Madera County upon which demolition and removal of the old Friant Road Bridge ruins and road access to a planned trail system are proposed. The project site is located below Friant Dam on the northwest side of the San Joaquin River and immediately south of Road 206 (Figure 1). The site can be found within Section 7, Range 21 East, Township 11 South, on the *Friant* U.S.G.S quadrangle (Figure 2). The site is owned by the State of California San Joaquin River Conservancy ("Conservancy").

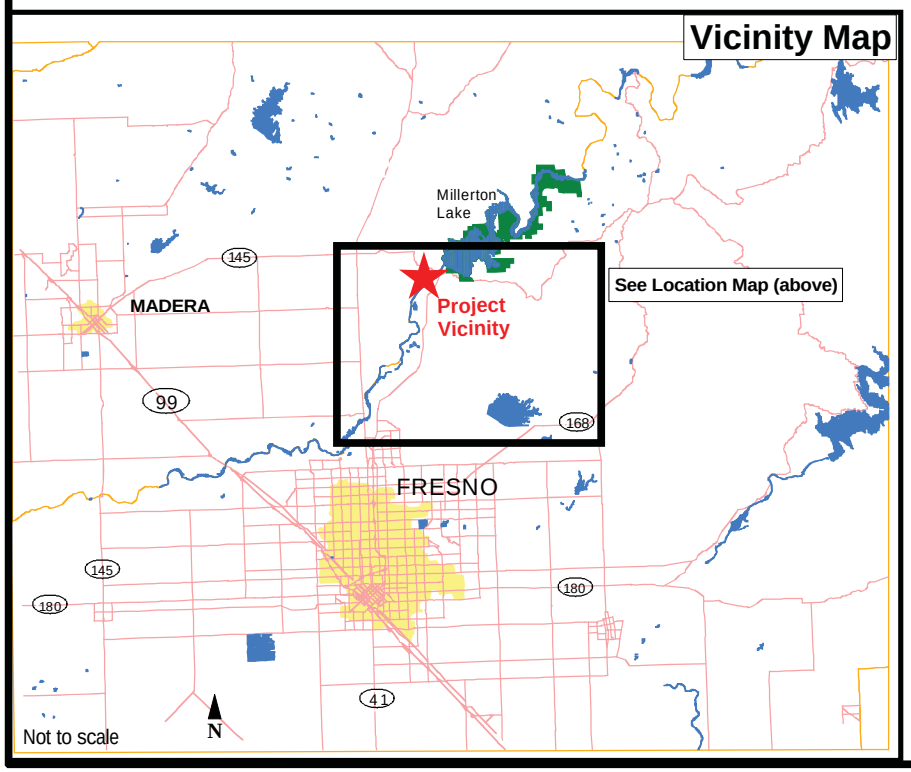
1.1 PROJECT DESCRIPTION

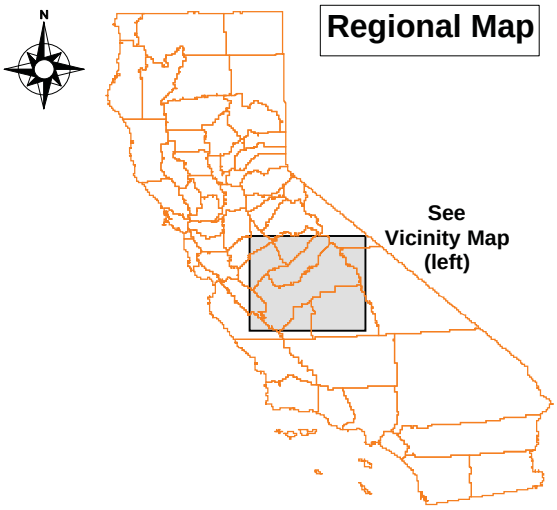
The collapsed segments of the old Friant Road reinforced concrete bridge lie within the Madera County half of the San Joaquin River near the town of Friant, California. The old Friant Road Bridge (historically known as the Pollasky Bridge) was destroyed by flooding in the late winter of 1950. After the flood, a new bridge was constructed upstream of the old collapsed bridge, and the concrete portions of the failed bridge were removed from the Fresno County half of the river. The six large pieces of concrete rubble remaining on the Madera County half of the river have for many years posed a danger to boaters, waders, and other recreationists. Moreover, the rubble is increasingly becoming an eyesore due to graffiti.

The San Joaquin River Conservancy, in collaboration with the County of Madera ("County"), proposes to demolish and remove the bridge ruins. The Conservancy and County also propose to construct road access to the planned River Vista Trail. The project will have four main components: demolition work in the river, demolition work in uplands, crushing and salvage, and construction of a road turnout with acceleration and deceleration lanes.

Demolition Work in the River. All work in the river bed will take place in August and/or September of 2015 or 2016. Two large excavators with tracks will be used to perform in-river demolition and removal of the concrete rubble. First, river access will be created by removing a swath of riparian trees and shrubs approximately 20 feet wide. Second, the excavators will be used to move approximately 390 cubic yards of cobble and sand from the upper bank of the river's north side for the purposes of constructing a stable work base,





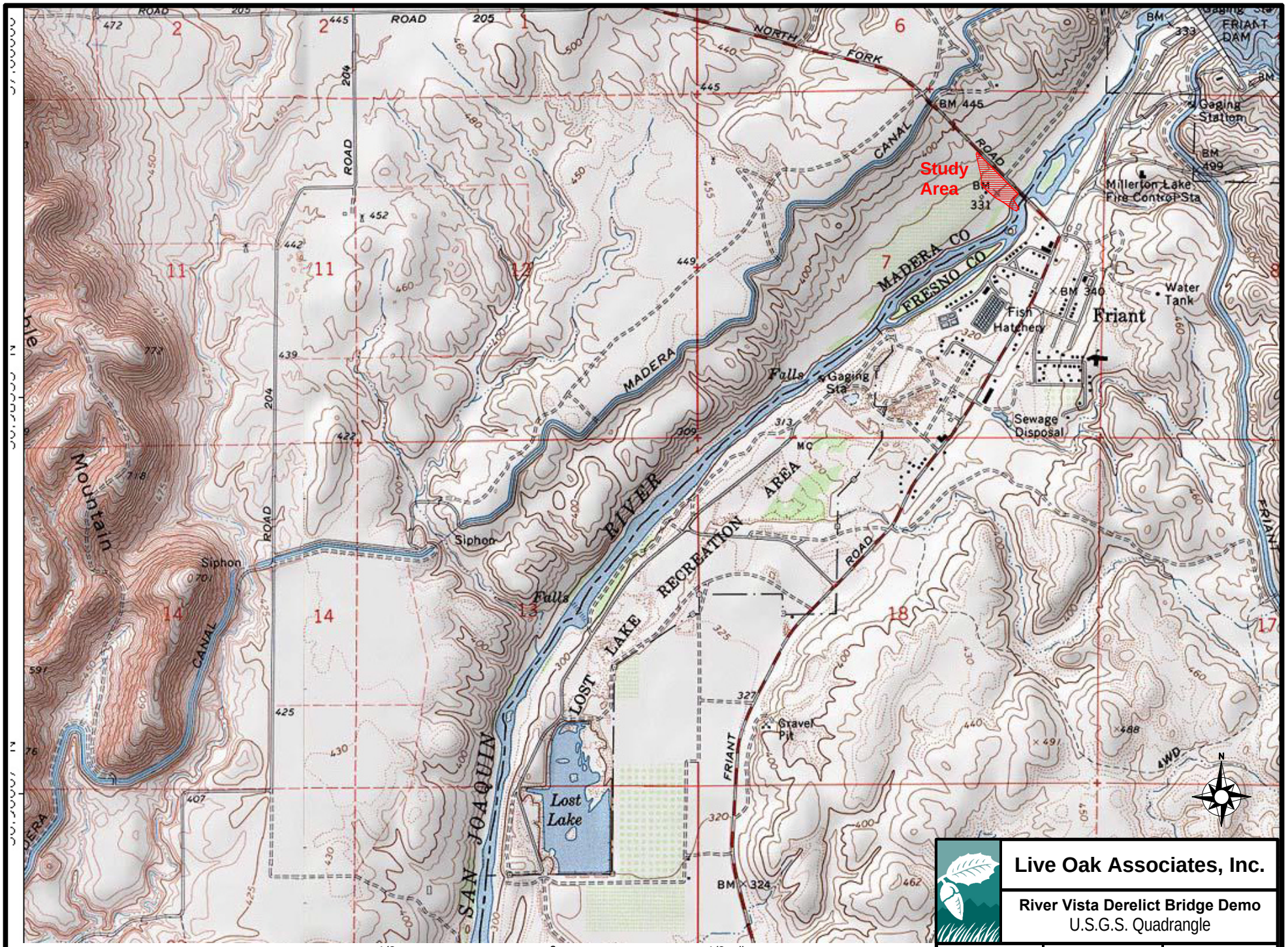


Live Oak Associates, Inc.

River Vista Derelict Bridge Demoltion

Site / Vicinity Map

Date	Project #	Figure #
7/22/2014	1658-03	1



From USGS
Friant 7.5' Quadrangle 1990 Courtesy of TOPO!

1/2 0 1/2 mile
approximate scale

Live Oak Associates, Inc.

River Vista Derelict Bridge Demo
U.S.G.S. Quadrangle

Date	Project #	Figure #
9/5/2014	**1658-03**	**2**

approximately 3,500 square feet in area, in the river bottom. Operating from this work base, the excavators will then break up the concrete bridge segments into manageable pieces and lift these pieces into dump trucks or onto temporary stockpiles on the river bank. Bridge foundations and structural supports will be excavated to the existing depth of the river bed. Below this depth, concrete may be left in place; however, rebar will be cut off level with any concrete left in place. At the close of riverbed work, cobble and sand will be redistributed to pre-project conditions on the upper bank of the river's north side, at the same location where the temporary fill was taken.

Demolition Work in Uplands. Concrete rubble will also be removed on the riverbank above the low water line. As in the river channel, excavators will break up the concrete into manageable pieces. The excavators will then be used to move broken concrete and any stockpiled rubble to an on-site portable crusher. One exception to the removal of the collapsed concrete bridge in the uplands of the project site is the intact old Friant Bridge north bridge abutment. The north bridge abutment will be protected in place and later use as an interpretive station with the development of the new proposed San Joaquin trail and staging area.

Crushing and Salvage. All concrete waste will be crushed to Conservancy specifications for later use for road and trail surfaces. This waste will be crushed on-site using a portable crusher, and will be stored on-site until moved for use by the Conservancy and/or other State of California agencies. All rebar will be salvaged and transported for off-site recycling within 5 business days after all other operations conclude.

Construction of Road Turnout and Access Road. In a separate project known as the River Vista Access Project that is undergoing CEQA review, the County of Madera has proposed development of a new trail and trailhead above the north bank of the San Joaquin River adjacent to the old Friant Bridge crossing ("River Vista Access project"). The access road to the trailhead parking area has undergone design revisions since LOA's preparation of the biological evaluation for that project. Initially the access road was to follow an existing gravel road southwest from Road 206 (North Fork Road) to the parking area; the new design calls for the access road to enter the site approximately 350 feet to the northwest, traveling generally south through previously undisturbed land to the parking area. Access to the parking area will require

new deceleration and acceleration lanes on Road 206. A new 150-foot long deceleration lane and a new 100-foot long acceleration lane on Rd 206 will be constructed following the removal of the concrete bridge ruins. The deceleration and acceleration lanes are located 250 feet north of the existing gravel road off Road 206. The new access road and deceleration and acceleration lanes are included in the current project. Collectively, these improvements will total 0.87 acre of new road surface, and represent the only permanent impacts associated with the River Vista Derelict Bridge Demolition Project.

All demolition and salvage work will be performed during normal working hours, on weekdays between 7 a.m. and 6 p.m. Parking and equipment storage will be limited to the grassland areas adjacent to the existing access road. During non-work hours, all construction equipment will be parked on the existing gravel road and adjacent grassland. During work hours, all workers' vehicles will be parked in the same area. The limits of the work area will be delineated with construction fencing. Temporary security fencing may be installed by the contractor around the demolition site.

Riverbed work will take place during August and/or September, during low flows (350 cfs or less). The depth of the river at the bridge ruins during low flows ranges from a few inches near the shore up to two or three feet in pooling areas. Riverbed work will be expedited, and is expected to be accomplished within three weeks. Remaining demolition and crushing operations will have a duration of two weeks. Construction of the new deceleration and acceleration lanes will be initiated after bridge removal operations conclude, and is expected to have a duration of 6 weeks.

1.2 REPORT OBJECTIVES

Projects such as this can potentially damage or modify biotic habitats used by sensitive plant and wildlife species as defined by state and regulatory agencies. Furthermore, the proposed project may be regulated by state and/or federal agencies, subject to provisions of the California Environmental Quality Act (CEQA), and covered by policies of the County of Madera General Plan and/or *San Joaquin River Parkway Master Plan*. This report addresses issues related to sensitive biological resources occurring, or potentially occurring, in the project site, the federal,

state and local laws related to such resources, and proposed mitigation measures that would minimize potential impacts. Accordingly, LOA has prepared this report to:

- Summarize all information related to existing biological resources of the site;
- Make reasonable inferences about the biological resources likely to occur on the site based on habitat suitability and the proximity of the site to a species' known range;
- Summarize California and federal natural resource protection laws that may be relevant to possible future site development;
- Identify and discuss Project-impacts to biological resources likely to occur on the site within the context of the CEQA Guidelines or any state or federal laws;
- Identify avoidance and mitigation measures that would reduce impacts to biological resources to a less than significant level (pursuant to the provisions of CEQA).

1.3 STUDY METHODOLOGY

The impact analysis, as discussed in Section 3.0 of this report, is based on the potential and known biological resources of the project site as discussed in Section 2.0. Information sources used in the preparation of this analysis included: the *California Natural Diversity Data Base* (CNDDB) (CDFW 2014a); the online *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2014); current listings from *Special Animals* (CDFW 2014c) and *State and Federally Listed Endangered, Threatened, and Rare Plants of California* (CDFW 2014b); *The Manual of California Vegetation* (Sawyer, Keeler-Wolf, and Evens 2009); biological studies conducted by LOA on adjacent properties, including the *River Vista Access Biological Evaluation* prepared by LOA in 2013 (field work conducted in 2012); and additional manuals and references related to plants and animals of California's Central Valley. Supplemental information was gathered in the field by LOA Biologists Wendy Fisher and Rebekah Jensen on May 14, 2014. This survey consisted of walking through accessible portions of the project site while identifying principal land uses and habitats of the site, noting each habitat's constituent plants and animals, mapping habitat suitable for special status species and other sensitive biological resources, and delineating the extent of potentially jurisdictional waters.

Waters with the potential to be claimed as jurisdictional by the U.S. Army Corps of Engineers (USACE) were delineated using a Trimble Global Positioning System (GPS) unit with sub-

meter accuracy. The site was also investigated for the presence of wetlands meeting the three technical criteria (wetland hydrology, hydrophytic vegetation, and hydric soils) upon which potential USACE jurisdictional status is based.

Detailed surveys for sensitive biological resources (including special status species) were not conducted for this study. The level of effort was, however, sufficient to locate and establish the general extent of habitat suitable for special status species that might be present on the site and adjacent lands.

2.0 EXISTING CONDITIONS

2.1 REGIONAL SETTING

The project site is located at the eastern edge of the San Joaquin Valley immediately below the low foothills of the Sierra Nevada. The center of the San Joaquin River forms the site's southeastern boundary. The topography of the site slopes gently from northwest to southeast (toward the San Joaquin River). Site elevations vary from approximately 365 feet National Geodetic Vertical Datum (NGVD) at the northwestern extent of the project site to approximately 300 feet NGVD within the bed of the San Joaquin River.

The project site, like most of California west of the Sierra Nevada, experiences a Mediterranean climate. Summers are hot and dry. Winters are cool and moist. Average annual precipitation in the general vicinity of the site is approximately 15 inches, most of which falls as rain between the months of October and April. Precipitation amounts vary considerably from year to year. During drought years, rainfall can be as little as 6-7 inches. During wet winters, rainfall can exceed 20 inches.

2.2 HYDROLOGY

The river bottom consists of a low flow channel and an adjacent flood plain approximately 10 feet higher in elevation. The low flow channel is subject to inundation during the winter and spring, depending on releases from Friant Dam during the spring snowmelt. Interim flows and restoration flows fluctuate per the implementation of the San Joaquin River Restoration Program (SJRRP). Precipitation either percolates into the soils of the site, or during the most intense storms drains from the site as sheet flow into the San Joaquin River.

2.3 SOILS

Three soil mapping units from two soil series were identified within the project site (NRCS 1990) (Table 1). One mapping unit identified within the project site, Tujunga and Hanford soils, channeled, 0-8% slopes, is hydric. Hydric soils are soils that are saturated, flooded, or ponded long enough to develop anaerobic conditions in the upper part; under sufficiently wet conditions, they support the growth and regeneration of hydrophytic vegetation (USDA Soil

Conservation Service 1985, as amended by the National Technical Committee for Hydric Soils in December 1986). The Tujunga and Hanford soils are located above the banks of the San Joaquin River, along the southeast boundary of the project site. They would likely become saturated during high flows but would do not hold water when the river level is low. These soils typically do not support vernal pool or wetland vegetation and components.

The entire site is located on alluvium transported from the Sierra Nevada. Alluvium of the site consists of sands and gravels derived from granite and some older metamorphic rock. This alluvium has accumulated on site since the time of the Pleistocene from overbank flooding of the San Joaquin River.

TABLE 1. SOILS OF THE PROJECT SITE (NRCS 1990).
Madera County, California

Soil Series/Soil	Map Unit Symbol	Parent Material	Drainage Class	Hydric
Hanford Series Hanford fine sandy loam, 0-1% slopes	HaA	Alluvium derived from igneous rock	Well drained	No
Hanford Series Hanford gravely sandy loam, 3-8% slopes	HeB	Alluvium derived from igneous rock	Well drained	No
Tujunga and Hanford Series Tujunga and Hanford soils, channeled, 0-8% slopes	TzB	Sandy alluvium derived from granite and alluvium derived from igneous rock	Somewhat excessively drained and well drained	Yes

2.4 SURROUNDING LANDS

The project site is bordered by a variety of habitats. A new orchard and the Madera Canal are located beyond the site's northwestern boundary. Road 206, open rangeland with a residence, and the Friant Dam are located to the northeast. The San Joaquin River and associated riparian and riverine habitat run along the site's southeastern boundary, beyond which is situated the town of Friant. California annual grassland contiguous with grasslands of the project site is located to the southwest.

A long history of use has resulted in considerable modification of the natural habitats of the site and adjacent lands. For example, the well-developed riparian corridor that characterizes much of the San Joaquin River downstream of the Friant Dam is likely an artifact of the dam itself.

Prior to dam construction, spring floods often pushed the river over its banks, shifting the configuration of the main channel and gravel and sand bars, and preventing the establishment of rooted vegetation. Since the construction of Friant Dam, flood flows have largely been controlled, and dense riparian vegetation has become established in many locations along the river, including the site and adjacent lands.

Higher portions of the flood plain were probably once open valley oak woodland interspersed with ox-bow wetlands and secondary channels of the San Joaquin River. These historic habitats have been modified in a number of ways. Water diversions from the main channel of the San Joaquin River via the Madera Canal and Friant-Kern Canal, as well as ground water pumping on adjacent lands, have substantially lowered the water table, likely resulting in the death of mature oaks within the river flood plain. Valley oak woodlands have likely also been adversely affected by the near-elimination of spring floods, as such flooding is positively associated with recruitment and survivorship of new valley oak trees. Farming and/or the planting of non-native trees have further modified the river flood plain and surrounding areas.

In summary, human activities have substantially modified the project site and adjacent lands from historic conditions. The biotic habitats of the site all retain elements of native habitats once present; however, alterations to the hydrology of the site (from actions occurring both on and off site) have substantially affected the habitats of the low-flow channel and upper flood plain of the San Joaquin River.

2.5 BIOTIC HABITATS/LAND USES

Six land uses/biotic habitats were identified within the project site. These included California annual grassland, ruderal roadside, alluvial gravel bar, valley foothill riparian, aquatic habitat of the San Joaquin River, and bridge remains (Figure 3). Acreages of land uses/habitats within the project site are shown in Table 2. A list of the vascular plants observed in the project site is included in Appendix A. A list of terrestrial vertebrates using, or potentially using, the project site is included in Appendix B. Selected photographs of the site are included in Appendix C.

250' 0 250 feet

Approximate Scale

Aerial Photograph:
Courtesy of Google Earth 4/2014

Live Oak Associates, Inc.

River Vista Derelict Bridge Demo
Biotic Habitats

Date	Project #	Figure #
9/25/2014	1658-03	3

TABLE 2. LAND USES/BIOTIC HABITATS WITHIN THE PROJECT SITE.			
Land Use / Biotic Habitat	Approximate Acreage	Approximate Square Footage	Percent of Project Site
California Annual Grassland	3.35	145,926	69.9
Ruderal Roadside	0.52	22,651	10.9
Alluvial Gravel Bar	0.29	12,632	6.1
Valley Foothill Riparian	0.27	11,761	5.6
Aquatic	0.21	9,148	4.4
Bridge Remains	0.16	6,970	3.1
Total	4.80	209,088	100.0

2.5.1 California Annual Grassland

The majority of the project site consists of California annual grassland habitat (Sawyer, Keeler-Wolf, and Evens 2009). Grasses and forbs of European origin dominate this habitat. Grass species common to this habitat include ripgut brome (*Bromus diandrus*), soft chess brome (*Bromus hordeaceus*), wild oats (*Avena fatua*), and rattail fescue (*Vulpia myuros*). Common forbs associated with these grass species include red-stem filaree (*Erodium cicutarium*), broad-leaf filaree (*Erodium botrys*), and smooth cat's-ear (*Hypochaeris glabra*). Grasslands of the site would also support a large variety of native spring-flowering annuals and perennials including rusty popcorn flower (*Plagiobothrys nothofulvus*), Eastwood's fiddleneck (*Amsinckia eastwoodiae*), blow-wives (*Achyrachaena mollis*), pretty face (*Triteleia ixioides* ssp. *scabra*), and bi-color lupine (*Lupinus bicolor*), to name just a few. Annual and perennial forbs observed on the site in the spring of 2014 included rusty popcorn flower, Eastwood's fiddleneck, red-stem filaree, and telegraph weed (*Heterotheca grandiflora*).

Annual grasslands of the site, like grasslands throughout the region, are productive biotic habitats supporting a large diversity of native terrestrial vertebrates. Due to the poor cover provided by grasses, most terrestrial species associated with this habitat are fossorial (live in underground burrows) or are large cursorial (fast running) mammals. Still others may forage in grassland habitats but seek shelter in other habitats. In the annual grasslands of the region, insects such as ants and grasshoppers are the most common animal species. Reptiles are the most common vertebrates.

Grasslands of the site provide suitable habitat for a number of amphibian and reptile species. Rodent burrows observed throughout the site provide suitable aestivation (oversummering)

habitat for western toads (*Bufo borealis*). Common reptile species likely to forage and seek cover on the site include western fence lizards (*Scleloporus occidentalis*), which were observed during the May 2014 field survey, as well as side-blotched lizards (*Uta stansburiana*), western whiptails (*Aspidoscelis tigris*), gopher snakes (*Pituophis melanoleucus*), common kingsnakes (*Lampropeltis getulus*), and western rattlesnakes (*Crotalus viridis*).

Grasslands of the region provide significant foraging habitat for a variety of resident and wintering raptors, as well as large numbers of other birds. A red-tailed hawk (*Buteo jamaicensis*) was observed during the May 2014 field survey; other raptor species expected in this habitat include the golden eagle (*Aquila chrysaetos*), ferruginous hawk (*Buteo regalis*), American kestrel (*Falco sparverius*), and barn owl (*Tyto alba*), all of which could prey on the reptiles and small birds and mammals of the project site. Other avian species observed during the May 2014 field survey include the mourning dove (*Zenaida macroura*), western scrub jay (*Aphelocoma californica*), and common raven (*Corvus corax*), all year-round residents of the region. Spring and summer migrants that frequent the region include the cliff swallow (*Petrochelidon pyrrhonota*) (observed) and western kingbird (*Tyrannus verticalis*) (observed). Common winter migrants attracted to grasslands of the region include savannah sparrow (*Passerculus sandwichensis*), American pipit (*Anthus rebescens*), and Say's phoebe (*Sayornis saya*).

The dense cover of non-native grasses and forbs in this habitat type provide cover for large populations of small mammals that in turn attract a diversity of predators. California ground squirrels (*Otospermophilus beecheyi*) individuals and Botta's pocket gopher (*Thomomys bottae*) burrows were observed during the May 2014 field survey. It is expected that California vole (*Microtus californicus*), deer mouse (*Peromyscus maniculatus*), and house mouse (*Mus musculus*) would also inhabit the grasslands of the site. A number of mammalian predators may move through the site from time to time, including the gray fox (*Urocyon cinereoargenteus*), bobcat (*Lynx rufus*), and coyote (*Canis latrans*).

2.5.2 Ruderal Roadside

Ruderal areas of the project site consist of several rarely used dirt roads and the disturbed margins of Road 206. Grasses and forbs common to ruderal areas in the project vicinity include Bermuda grass (*Cynodon dactylon*), ripgut, soft chess, barnyard barley (*Hordeum murinum ssp.*

leporinum), sow thistle (*Sonchus oleraceus*), and prostrate knotweed (*Polygonum aviculare*), among others.

Ruderal areas of the type observed on the project site do not provide significant habitat for native terrestrial vertebrate species. However, those species occurring in natural biotic habitats elsewhere on the project site no doubt pass through the site's ruderal areas occasionally while foraging.

2.5.3 Alluvial Gravel Bar

Alluvial gravel bar encompasses approximately 0.28 acres of the project site, and occurs in unvegetated areas directly adjacent to the valley foothill riparian habitat. Loose, unconsolidated sedimentary river rocks have been deposited in these areas within ordinary high water but above the low flow channel. These fluvial (riverine) deposits generally do not support growth of vegetation. Therefore, regular use by native wildlife is extremely minimal and limited to movement through this habitat into neighboring habitats.

2.5.4 Valley Foothill Riparian

Valley foothill riparian habitat is located in the southeast portion of the site, adjacent to the San Joaquin River. Relatively high species diversity is present in the riparian overstory. California black walnut (*Juglans californica*), sandbar willow (*Salix exigua*) and Goodding's black willow (*Salix gooddingii*) dominate this habitat, with arroyo willow (*Salix lasiolepis*), Fremont cottonwood (*Populus fremontii*), valley oak (*Quercus lobata*), Oregon ash (*Fraxinus latifolia*), velvet ash (*Fraxinus velutina*) and white alder (*Alnus rhombifolia*) present as well. Grasses in this habitat are similar to those listed for the California annual grassland. Herbs and shrubs observed within the valley foothill riparian habitat include species such as buttonwillow (*Cephalanthus occidentalis*), curly dock (*Rumex crispus*), rough cocklebur (*Xanthium strumarium*), and Himalayan blackberry (*Rubus armeniacus*).

Riparian habitats along rivers provide habitat value for a number of animal species that rely on the moisture-loving vegetation for food and cover. Amphibians likely to occur in this habitat of the project site include western toads and Pacific treefrogs (*Pseudacris regilla*). Reptiles likely to occur in this habitat would be those described for California annual grassland, with the

addition of the common gartersnake (*Thamnophis sirtalis*) and striped racer (*Coluber lateralis*); the latter was observed during the May 2014 field survey. Songbirds likely to use the valley foothill riparian habitat of the project site include many of those described for California annual grassland; additionally, cover-associated species such as the Bewick's wren (*Thryomanes bewickii*) (observed), house wren (*Troglodytes aedon*) (observed), and lesser goldfinch (*Spinus psaltria*) and riparian-associated species such as the song sparrow (*Melospiza melodia*) and common yellowthroat (*Geothlypis trichas*) are expected. Raptors commonly associated with riparian corridors include the red-shouldered hawk (*Buteo lineatus*); this species was observed in a September 2012 field visit conducted for the River Vista Access project. Small mammals and mammalian predators expected to occur in the valley foothill riparian habitat of the project site would be of a similar complement to that described for California annual grassland.

Valley foothill riparian habitat of the project site is part of a larger riparian corridor used by a number of wildlife species during migration and dispersal events. Large mammals moving along the San Joaquin River (and through the riparian habitat of the project site) would include mule deer (*Odocoileus hemionus*), coyote, gray fox, and the occasional mountain lion (*Felis concolor*). The riparian corridor also facilitates dispersal movements of many smaller mammals ranging from striped skunk (*Mephitis mephitis*) and raccoon (*Procyon lotor*) to vagrant shrew (*Sorex vagrans*) and small rodents.

2.5.5 Aquatic

The aquatic habitat of the San Joaquin River is highly variable from season to season and from year to year, because the amount of flow is regulated by the Bureau of Reclamation (BOR), the federal agency responsible for releasing water from Friant Dam. During the spring, when the Bureau of Reclamation is releasing substantial amounts of water to make room in the pool behind Friant Dam for the late spring early summer snowmelt, the entire low flow channel may be filled with rushing water. By late summer, flows have diminished significantly and one could easily wade across the channel. Although the aquatic habitat of the low flow channel is largely unvegetated, some aquatic plants were observed in the river during the spring of 2014. Emergent vegetation growing from the river's edge was well established in May of 2014 and

included pennyroyal (*Mentha pelugium*), iris-leaved rush (*Juncus xiphioides*), Pacific rush (*Juncus effusus* ssp. *pacificus*), and Mexican rush (*Juncus mexicanus*).

The aquatic habitat of the project site provides considerable value to a variety of aquatic and terrestrial vertebrate species, although a number of native species, particularly fish, are no longer present. Some native fish still present in the river include Sacramento sucker (*Catostomus occidentalis*), Sacramento pikeminnow (*Ptychocheilus grandis*), and threespine stickleback (*Gasterosteus aculeatus*). At certain times of the year, spring-run and/or fall-run Chinook salmon (*Oncorhynchus tshawytscha*) may occur within the project site as a result of SJRRP fish reintroduction efforts, as discussed in greater detail in Section 2.6.1 below. Some non-native fish species with the potential to occur within the project site include striped bass (*Morone saxatilis*), green sunfish (*Lepomis cyanellus*) and hatchery raised trout (*Oncorhynchus* sp).

The highest diversity of amphibians within the project site would occur in the aquatic habitat of the site. Bullfrogs (*Lithobates catesbeianus*), western toads, and Pacific treefrogs would breed in this habitat. Western pond turtles (*Emys marmorata*) are also known to occur in the San Joaquin River below Friant Dam (Dr. Mark Jennings, pers. communication). During the May 2014 field survey, a turtle species, potentially a western pond turtle, was briefly glimpsed in a backwater area along the western boundary of the project site. Common garter snakes would forage in this habitat for amphibians, small birds and small mammals.

A large number of birds occur within the habitats of the low flow channel. Many of these species seek the cover of the mixed riparian woodland, but forage in and over the aquatic habitat of the river. Belted kingfishers (*Megaceryle alcyon*), which were observed during the September 2012 field visit for the River Vista Access project, commonly forage for small fish from perches on overhanging tree branches. Black phoebes (*Sayornis nigricans*) were observed in 2012 hawking insects over the river from perches in riparian bushes growing from the bank. Though not observed, red-wing blackbirds (*Agelaius phoeniceus*) may nest in cattails and bulrushes growing along the river. A number of great blue herons (*Ardea herodias*) were observed during the 2012 field visit; other wading birds common in this habitat include green herons (*Butorides striatus*) and great egrets (*Ardea albas*). Double-crested cormorants

(*Phalacrocorax auritus*) were observed along the river corridor during the 2012 field visit. American coots (*Fulica americana*) would be expected, but were not observed on-site. The river is used by a diversity of waterfowl between the months of November and March. Waterfowl occurring in the river during the winter may serve as prey for bald eagles (*Haliaeetus leucocephalus*) that roost in the foothills around Lake Millerton from November to April.

Mammals, although common to the mixed riparian woodland adjacent to the aquatic habitat, are not common in the aquatic habitat itself. The aquatic habitat nonetheless provides drinking water and foraging habitat for many species. For example, a number of species of bats are attracted to the aquatic habitat of creeks and rivers, because these habitats sustain large insect populations on which bats feed. Ornate shrews (*Sorex ornatus*) would be common in dense herbaceous vegetation along the river's edge. The tracks of raccoons were observed in the damp sand along the river during the 2012 field visit.

2.5.6 Bridge Remains

The majority of the bridge ruins to be demolished and removed from the site lie below the ordinary high water line. These irregularly-shaped concrete bridge remains were themselves unvegetated. However, in places riparian trees and shrubs were rooted beneath the concrete and have grown around the large pieces of concrete. In other places, flows of the San Joaquin River around the rubble have resulted in irregular eddies and undermining. Sandy alluvial soils lie beneath the bridge remains and some portions of the irregularly-shaped remains shaded the underlying aquatic and riparian habitat. Review of historic Google Earth imagery revealed that the pieces lying within the bed of the river itself are mostly submerged during high flows. Other portions remain elevated above the rushing river.

Due to the lack of soil and vegetation on the structures themselves, the bridge remains generally do not offer significant wildlife habitat value for birds, reptiles, amphibians, or most types of mammals. A few common avian species could nest on the structures including house sparrows and house finch. Various species of bats, such as pallid bat (*Antrozous pallidus*), hoary bat (*Lasiurus cinereus*), western small-footed myotis (*Myotis ciliolabrum),* or Yuma myotis (*Myotis yumanensis*) might be attracted to roost within the many crevices found on the structures.

2.6 SPECIAL STATUS PLANTS AND ANIMALS

Several species of plants and animals within the state of California have low populations, limited distributions, or both. Such species may be considered "rare" and are vulnerable to extirpation as the state's human population grows and the habitats these species occupy are converted to agricultural and urban uses. As described more fully in Section 3.2, state and federal laws have provided the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to the state. A sizable number of native plants and animals have been formally designated as threatened or endangered under state and federal endangered species legislation. Still others have been designated as "species of special concern" by the CDFW. The California Native Plant Society (CNPS) has developed its own lists of native plants considered rare, threatened or endangered (CNPS 2012). Collectively, these plants and animals are referred to as "special status species."

A number of special status plants and animals occur in the vicinity of the project site (Figure 4). These species, and their potential to occur in the project site, are listed in Table 3 on the following pages. Sources of information for this table included *California's Wildlife, Volumes I, II, and III* (Zeiner et al. 1988), *California Natural Diversity Data Base* (CDFW 2014a), *Special Animals* (CDFW 2014b), *The Recovery Plan for Upland Species of the San Joaquin Valley, California* (USFWS 1998), *State and Federally Listed Endangered, Threatened, and Rare Plants of California* (CDFW 2014c), and *The California Native Plant Society's Online Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2014).

The CNDDB was used to search nine USGS 7.5 minute quadrangles in the vicinity of the project site for special status plant and animal species as well as natural communities of special concern. These quads included *Friant, Little Table Mountain, Millerton Lake West, Millerton Lake East, Lanes Bridge, Academy, Fresno North, Clovis*, and *Round Mountain*.

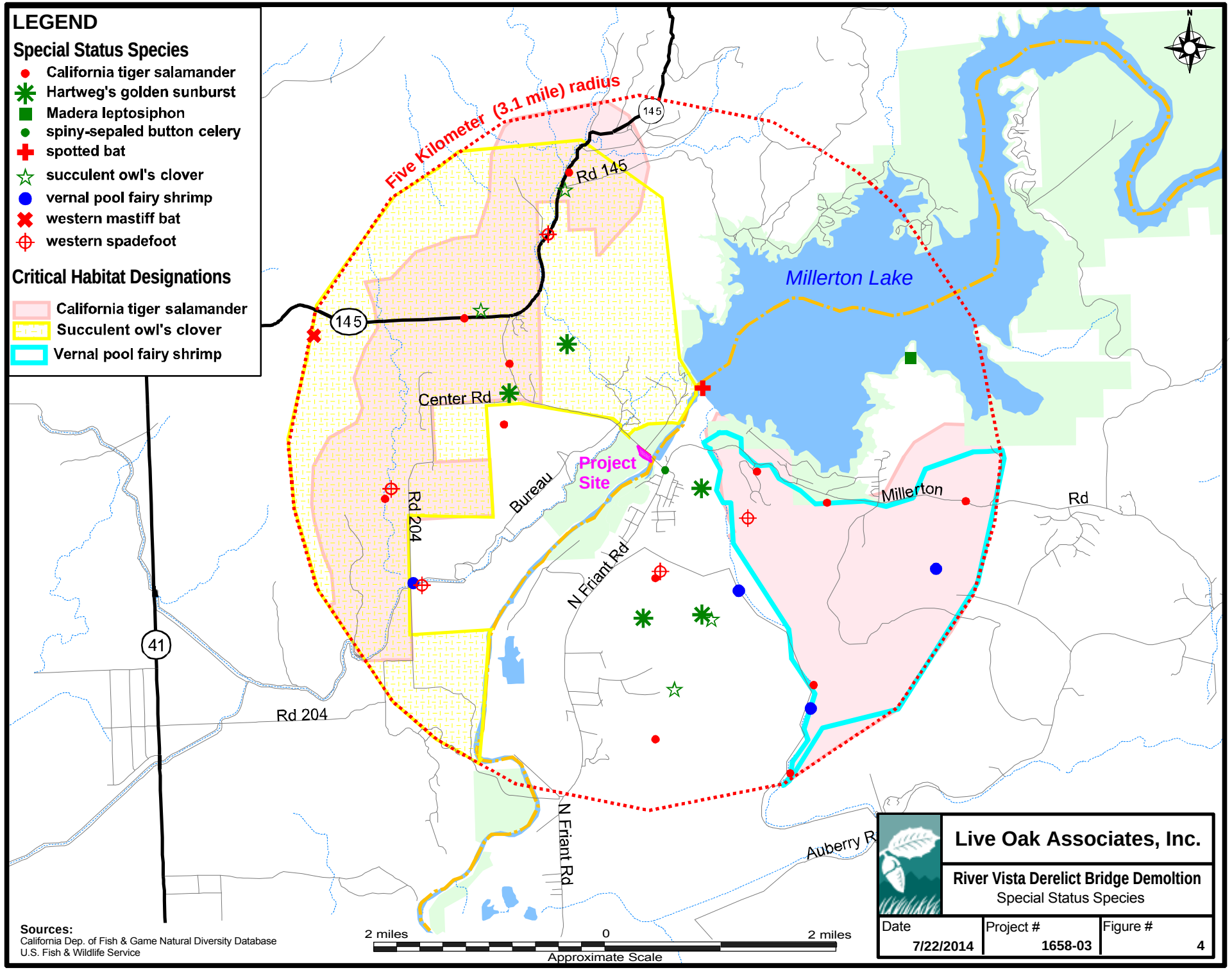

LEGEND
Special Status Species
California tiger salamander
Hartweg's golden sunburst
Madera leptosiphon
spiny-sepaled button celery
spotted bat
succulent owl's clover
vernal pool fairy shrimp
western mastiff bat
western spadefoot
Critical Habitat Designations
California tiger salamander
Succulent owl's clover
Vernal pool fairy shrimp
Five Kilometer (3.1 mile) radius
145
Rd 145
Millerton Lake
Center Rd
Project Site
Bureau
Rd 204
N Friant Rd
Millerton
Rd
41
Rd 204
N Friant Rd
Auberry R
N
Sources:
California Dep. of Fish & Game Natural Diversity Database
U.S. Fish & Wildlife Service
2 miles
0
2 miles
Approximate Scale
Live Oak Associates, Inc.
River Vista Derelict Bridge Demoltion
Special Status Species
Date
7/22/2014
Project #
1658-03
Figure #
4

TABLE 3. LIST OF SPECIAL STATUS SPECIES THAT OCCUR OR MAY OCCUR IN THE VICINITY OF THE PROJECT SITE

PLANTS (adapted from CDFW 2014 and CNPS 2014)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act

Species	Status	Habitat	Occurrence on the Project Site*
Tree-anemone (*Carpenteria californica*)	TE, CNPS 1B	Dry, wooded, granite ridges and slopes at elevations of 1,500-4,000 feet. Blooms Jun.–Jul.	**Absent.** Habitat suitable for this species is absent from the project site and surrounding area.
California Jewel-flower (*Caulanthus californicus*)	FE, CE, CNPS 1B	Chenopod scrub, valley and foothills grassland, pinyon-juniper grassland. Blooms Feb-May.	**Absent.** Suitable habitat is absent from the project site. Furthermore, populations in the Fresno area are presumed extirpated.
Boggs Lake Hedge Hyssop (*Gratiola heterosepala*)	CE, CNPS 1B	Clay substrates in vernal pools, small playa-type pools, marshy areas, on the margins of reservoirs and lakes, and in man-made habitats such as borrow pits and cattle ponds. Blooms Apr.–Aug.	**Absent.** Habitat suitable for this species is absent from the project site.
Greene's Tuctoria (*Tuctoria greenei)*	FE, CR, CNPS 1B	Occurs in vernal pools of California's Central Valley. Blooms May-Sept.	**Absent.** Suitable habitat in the form of vernal pools is absent from the project site.
Hartweg's Golden Sunburst (*Pseudobahia bahiifolia)*	FE, CE, CNPS 1B	Occurs in grasslands of the western foothills of the Sierra Nevada in volcanic pumice soils. Often found in soils of the Rocklin series; blooms Mar. to Apr.	**Absent.** Suitable habitat in the form of Rocklin soils is absent from the project site. There are five documented occurrences within 2 miles of the site in areas where Rocklin soils occur (see Figure 4).
San Joaquin Adobe Sunburst (*Pseudobahia peirsonii*)	FT, CE, CNPS 1B	Valley grassland and foothill woodland habitats at elevations of 0-1,000 feet in bare dark clay soils. Blooms Mar-May.	**Absent.** Adobe clay soils are absent from the project site. The nearest documented occurrence is more than 13 miles from the site.
Hairy Orcutt Grass (*Orcuttia pilosa*)	FE, CE, CNPS 1B	California's Central Valley Pools. Requires deep pools with prolonged periods of inundation. Blooms May-Sept.	**Absent.** Suitable habitat in the form of vernal pools is absent from the project site.
San JoaquinValley Orcutt Grass (*Orcuttia inaequalis*)	FT, CE CNPS 1B	Vernal pools California's Central Valley. Requires deep pools with prolonged periods of inundation. Blooms Apr.-Sept.	**Absent.** Suitable habitat in the form of vernal pools is absent from the project site.
Succulent Owl's-clover (*Castilleja campestris succulenta*)	FT, CE CNPS 1B	Vernal pools California's Central Valley. Blooms Apr.-May.	**Absent.** Suitable habitat in the form of vernal pools is absent from project site. There are two documented occurrences within 3 miles north of the project site in vernal pool habitat (see Figure 4).

CNPS-Listed Plants

Forked Hare-leaf (*Lagophylla dichotoma*)	CNPS 1B	Grasslands and openings in woodlands at elevations of 150-3000 feet. Blooms Apr.-Jun.	**Unlikely.** This species has not been documented in the vicinity. The nearest documented occurrence is more than 14 miles away from the project site.
Orange Lupine (*Lupinus citrinus var. citrinus*)	CNPS 1B	Granitic soils in open yellow-pine forest at elevations of 2,000-5,500 feet. Blooms Apr.-Jul.	**Absent.** Suitable habitat is absent from the project site

TABLE 3. LIST OF SPECIAL STATUS SPECIES THAT OCCUR OR MAY OCCUR IN THE VICINITY OF THE PROJECT SITE

PLANTS (cont'd)

CNPS-Listed Plants

Species	Status	Habitat	Occurrence on the Project Site*
Madera Leptosiphon (*Leptosiphon serrulatus*)	CNPS 1B	Occurs in cismontane woodland, foothill California annual grasslands and lower montane forest from Madera County south through Kern County. Blooms Apr.-May	**Unlikely.** The nearest historical sighting (1967) is approximately 2.5 miles east east of the project site.
Spiny-sepaled Button Celery (*Eryngium spinosepalum*)	CNPS 1B	Found in vernal pools and swales of Fresno and Tulare Counties. Blooms Apr.-May.	**Absent.** Seasonal wetland habitat required by this species is absent from the project site. There is one documented occurrence of this species approximately 0.1 mile southeast of the project site (see Figure 4).
Sanford's Arrowhead (*Sagittaria sanfordii*)	CNPS 1B	Freshwater marshes, pond margins, slow moving rivers, irrigation canals of California's Central Valley and low Sierra Foothills. Blooms May-Oct.	**Absent.** Aquatic habitat required by this perennial species is present within the San Joaquin River. However, this species was not seen on the project site during the May 2014 field survey.
Caper-fruited Tropidocarpum (*Tropidocarpum capparideum*)	CNPS 1B	Valley and foothill grassland. Blooms Mar.-April.	**Unlikely.** The last time this species was documented in the project vicinity was in the 1930s in Fresno.

ANIMALS (adapted from CDFW 2013)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act, and/or as California Fully Protected

Vernal Pool Fairy Shrimp (*Branchinecta lynchi*)	FT	Found in vernal pools and ruderal pools of California's Central Valley that do not contain fish.	**Absent.** Vernal pools required by this species are absent from the project site.
Vernal Pool Tadpole Shrimp (*Lepidurus packardi*)	FE	Occurs in vernal pools of California containing clear to highly turbid water.	**Absent.** Vernal pools required by this species are absent from the project site.
Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*)	FT	Lives in mature elderberry shrubs of California's Central Valley and Sierra foothills.	**Absent.** No blue elderberry shrubs, the obligate host plant for the VELB, occur within or directly adjacent to the project site.
Central Valley Steelhead (*Oncorhynchus mykiss*)	FT	The anadromous form of the rainbow trout, native to Pacific streams from Alaska to Mexico. Needs cool, clear, oxygenated streams and gravel beds for spawning. Found in deep pools, under bubble curtains, and underwater ledges.	**Absent.** The Central Valley steelhead is considered extirpated from the San Joaquin River above its confluence with the Merced River. Although restoration flows in the San Joaquin River may be sufficient to support this species, individuals will not be able to migrate upstream past Sack Dam except under flood conditions (Portz et al. 2013), until salmon passage is provided for the dam. Sack Dam is located more than 80 miles downstream of the project site.

TABLE 3. LIST OF SPECIAL STATUS SPECIES THAT OCCUR OR MAY OCCUR IN THE VICINITY OF THE PROJECT SITE

ANIMALS (cont'd)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act, and/or as California Fully Protected

Species	Status	Habitat	Occurrence on the Project Site*
Spring-run Chinook Salmon (*Oncorhynchus tshawytscha*)	FT, CT	Historically spawned in the upper Sacramento and San Joaquin watersheds. This population was largely eliminated from the San Joaquin watershed with the construction of the Friant Dam in 1942, but SJRRP reintroduction of this population into the San Joaquin River upstream of its confluence with the Merced River was initiated in April 2014. Spawns in gravel beds in riffle areas, typically at the downstream end of pools.	**Possible.** In April 2014, 54,000 juvenile spring-run Chinook salmon were reintroduced to the San Joaquin River upstream of its confluence with the Merced River. Juvenile releases will continue to take place annually in the springtime for five years. Juveniles are expected to migrate to the ocean each year shortly after their release, such that the species would not be present in this reach of the river during the late summer, fall, and winter months until the first cohort returns for spawning in 3 to 5 years.
California Tiger Salamander (*Ambystoma californiense*)	FT, CT	Found primarily in annual grasslands; requires seasonal pools for breeding and rodent burrows for refuge.	**Absent.** Breeding habitat is absent from the project site, but aestivation habitat is present. CTS breeding in the nearby known breeding ponds would have to cross an orchard and a canal, or the San Joaquin River, to aestivate within the project site. CTS occurrence on the project site is therefore considered absent.
Golden Eagle (*Aquila chrysaetos*)	CFP	Typically frequents rolling foothills, mountain areas, sage-juniper flats and desert.	**Possible.** This species may forage on the site, but breeding habitat is absent.
White-tailed Kite (*Elanus caeruleus*)	CFP	Open grasslands and agricultural areas throughout central California.	**Possible.** There is suitable breeding and foraging habitat on the site.
Swainson's Hawk (*Buteo swainsoni*)	CT	Uncommon resident and migrant in the Central Valley. Forages in grasslands and fields close to riparian areas.	**Possible.** Suitable nesting habitat occurs in large riparian trees along the San Joaquin River. The Swainson's hawk may occasionally fly over and forage on the site, though it is very infrequently, if ever, observed in this area.
Bald Eagle (*Haliaeetus leucocephalus*)	CE, CFP	Winters along the Central Valley. Mostly feeds on fish in large bodies of water or rivers.	**Possible**. A small population winters at nearby Millerton Lake, and several individuals have nested at Millerton Lake in recent years. The site offers foraging and roosting sites for this species, and large trees provide marginal nesting habitat.
American Peregrine Falcon (*Falco peregrinus anatum*)	CFP	Individuals breed on cliffs in the Sierra or in coastal habitats; occurs in many habitats of the state during migration and winter.	**Possible**. The site provides potential foraging habitat for transients and migrating birds. This site is not within suitable breeding range.

TABLE 3. LIST OF SPECIAL STATUS SPECIES THAT OCCUR OR MAY OCCUR IN THE VICINITY OF THE PROJECT SITE

ANIMALS (cont'd)

Species Listed as Threatened or Endangered under the State and/or Federal Endangered Species Act, and/or as California Fully Protected

Species	Status	Habitat	Occurrence on the Project Site*
Tricolored Blackbird (*Agelaius tricolor)*	State Emergency Listed; Dec. 3, 2014	Frequents grassland and cropland habitats; requires proximity to fresh water and emergent wetland vegetation with dense cattails and thickets of willow for nesting.	**Possible.** Breeding habitat occurs on the project site in the form of willow thickets. Ruderal and grassland habitat on the project site provide potential foraging habitat.
Western Yellow-billed Cuckoo (*Coccyzus americanus occidentalis*)	FC, CE	Occurs in valley foothill and desert riparian habitats in scattered locations in California. Requires extensive gallery riparian forests for nesting.	**Absent.** This species has not been observed in the Fresno area for over 100 years, and is presumed absent.
Fresno Kangaroo Rat (*Dipodomys nitratoides exilis*)	FE, CE	Occurs in alkali scrub and herbaceous habitats with scattered shrubs in the southwestern San Joaquin Valley.	**Absent.** Suitable habitat is absent from the project site.
San Joaquin Kit Fox (*Vulpes macrotis mutica)*	FE, CT	Occurs in desert alkali scrub and annual grasslands and may forage in adjacent agricultural habitats.	**Unlikely.** Habitats of the project site provide marginal breeding and foraging habitat for kit foxes. Credible kit fox sightings in the project vicinity are lacking.

State Species of Special Concern

Fall-run Chinook Salmon (*Oncorhynchus tshawytscha*)	CSC	Historically spawned in the Sacramento and San Joaquin drainages in the valley floor and lower foothill reaches. Until recently was absent from the San Joaquin above its confluence with the Merced, but is now being reintroduced to this reach. Spawns in gravel beds in riffle areas, typically at the downstream end of pools. Juvenile fall-run Chinook salmon spend 3 to 6 months rearing in freshwater before migrating to the sea.	**Possible.** SJRRP reintroduction of fall-run Chinook salmon in the San Joaquin River upstream of its confluence with the Merced River has been ongoing since 2012.

TABLE 3. LIST OF SPECIAL STATUS SPECIES THAT OCCUR OR MAY OCCUR IN THE VICINITY OF THE PROJECT SITE

ANIMALS (cont'd)

State Species of Special Concern

Species	Status	Habitat	Occurrence on the Project site*
Kern Brook Lamprey (*Entosphenus hubbsi*)	CSC	Endemic to the east side of the San Joaquin Valley. Prefer the silty backwaters of rivers leaving the Sierra foothills, at elevations ranging from 30-327 m. This species was first collected from the Friant Kern Canal but have since been found in the lower Merced, Kaweah, Kings, and San Joaquin rivers. Adults seek gravely riffles for spawning, most likely in the spring. Eggs develop into ammocoetes (larvae) which then burrow down into sand or mud bottomed backwaters and stream edges, where they begin their life as filter feeders	**Possible.** Suitable habitat for this species is present within the project area. This species has been identified within this reach of the San Joaquin River (CDFW 2007)
San Joaquin Roach (*Lavinia symmetricus ssp.* 1)	CSC	found in cool headwater streams as well as their warmwater lower reaches They are tolerant of relatively high temperatures and low oxygen levels They can utilize a range of habitats within a stream. They have an omnivorous diet, feeding both on algae and insects. They reach maturity in 2-3 years, utilizing shallow flowing water with a fine gravel bottom for spawning from March-July.	**Possible.** Suitable habitat is present for this species. Though it has not been documented recently, this species did occur here historically, and has some potential to still be present.
Hardhead (*Mylopharodon conocephalus*)	CSC	Occurs in low- to mid-elevation streams in the Sacramento-San Joaquin watershed. Prefers clear, deep pools with rocky or sandy substrate. Generally absent from streams in which non-native fish predominate, as well as from streams heavily altered by human activity.	**Unlikely.** The CNDDB lists a 1981 occurrence of hardhead approximately 10 miles downstream of the project site near Highway 41. However, Moyle et al. (1995) reported this species absent from valley reaches of the San Joaquin River.
Western Spadefoot (*Spea hammondii*)	CSC	Frequents annual grasslands and foothill hardwood woodlands; requires vernal pools or other temporary wetlands for breeding.	**Absent.** Breeding habitat is absent from the project site, but aestivation habitat is present. Spadefoot toads potentially breeding in the nearby ponds would have to cross an orchard and a canal, or the San Joaquin River, to aestivate within the project site. Western spadefoot is therefore considered absent.
Western Pond Turtle (*Emys marmorata*)	CSC	Occurs in suitable aquatic habitats such as ponds and rivers throughout California. Lays eggs in adjacent upland habitat.	**Likely.** Pond turtles likely occur within the San Joaquin River and they could use the site for foraging, basking, or nesting. A turtle species was observed during the May 2014 survey.

TABLE 3. LIST OF SPECIAL STATUS SPECIES THAT OCCUR OR MAY OCCUR IN THE VICINITY OF THE PROJECT SITE

ANIMALS (cont'd)

State Species of Special Concern

Species	Status	Habitat	Occurrence on the Project site*
Burrowing Owl (*Athene cunicularia*)	CSC	Frequents open, dry grasslands, deserts and ruderal areas; requires rodent burrows for nesting and roosting cover.	**Possible.** Suitable habitat in the form of grasslands with rodent burrows occurs on the project site. This species was documented in 2007 approximately 2 miles southwest of the project site in Lost Lake Park.
Northern Harrier (*Circus cyaneus*)	CSC	Frequents meadows, grasslands, open rangelands, freshwater emergent wetlands; uncommon in wooded habitats.	**Possible.** There is suitable foraging habitat on the site, but breeding habitat is absent.
Loggerhead Shrike (*Lanius ludovicianus)*	CSC	Frequents open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low herbaceous cover. Can often be found in cropland.	**Possible.** The project site provides suitable breeding and foraging habitat for this species.
Yellow Warbler (*Dendroica petechia brewster*)	CSC	This species breeds in riparian thickets of alder, willow and cottonwoods. Migrants move through many habitats of the state.	**Possible.** Suitable nesting and foraging habitat is present on the site, but focused studies conducted in the vicinity since 2002 have failed to detect any yellow warbler breeding activity. Yellow warblers are known to migrate through riparian woodlands along the San Joaquin River, and may pass through the project site.
Spotted Bat (*Euderma maculatum)*	CSC	Typically associated with prominent rocky habitats where it roosts in crevices, but is known to occur in a wide range of habitats.	**Possible.** The project site provides suitable foraging habitat for this species. Potential roosting habitat occurs in crevices of the bridge rubble.
Pallid Bat (*Antrozous pallidus*)	CSC	Frequents grasslands, shrub lands, woodlands and forests habitats; requires mines, caves or crevices for roosting and nesting.	**Possible.** The project site provides suitable foraging habitat for this species. Potential roosting habitat occurs in crevices of the bridge rubble.
Townsend's Big-eared Bat (*Corynorhinus townsendii*)	CPT, CSC	Most abundant in mesic habitats, it roosts in caves, minus, tunnels, buildings or other human-made structures throughout California.	**Possible.** The project site provides suitable foraging habitat for this species. Potential roosting habitat occurs in crevices of the bridge rubble.
Western Mastiff Bat (*Eumops perotis)*	CSC	Frequents grasslands to woodland habitats along the central and southern coast and the Central Valley; requires high buildings, cliff faces, trees or tunnels for roosting and nesting.	**Possible.** The project site provides suitable foraging habitat for this species. Potential roosting habitat occurs in crevices of the bridge rubble.
American Badger (*Taxidea taxus)*	CSC	Found in drier open stages of most shrub, forest and herbaceous habitats with friable soils.	**Possible.** The site provides suitable breeding and foraging habitat for the badger.

*** Explanation of Occurrence Designations and Status Codes**

Present: Species observed on the site at time of field surveys or during recent past.
Likely: Species not observed on the site, but it may reasonably be expected to occur there on a regular basis.
Possible: Species not observed on the site, but it could occur there from time to time.
Unlikely: Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient
Absent: Species not observed on the site, and precluded from occurring there because habitat requirements not met.

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
FPE	Federally Endangered (Proposed)	CPT	California Threatened (Proposed)
FC	Federal Candidate	CFP	California Fully Protected
		CSC	California Species of Special Concern
		CNPS 1B	Plant is Rare, Threatened, or Endangered

An expanded discussion is warranted for special status species that are known to occur in the project vicinity. Activities that could harm these species are regulated by the USFWS and the CDFW.

2.6.1 Chinook Salmon (*Oncorhynchus tshawytscha*); Central Valley Spring Run: Federally Threatened, State Threatened; Central Valley Fall Run: California Species of Special Concern

Ecology and conservation of the species. Chinook salmon have an anadromous life history, meaning that they spend most of their lives in the ocean and migrate to freshwater to spawn. Races, or runs, of Chinook salmon are named according to the time of year that adults migrate into freshwater. Fall-run Chinook salmon return to their natal streams in the fall, and begin spawning within a few days or weeks. Spring-run Chinook salmon return to their natal streams in the spring and early summer, and spend the summer holding in deep pools before spawning in the late summer and fall. Spawning takes place in riffle areas, typically at the downstream end of pools. The resulting juveniles rear in slower-moving water along the stream margin before migrating to the ocean. Adult Chinook salmon typically spend 2 to 4 years at sea before returning to their natal streams to spawn.

Prior to the construction of the Friant Dam in 1942, the San Joaquin River supported one of the largest spring runs of Chinook salmon on the Pacific coast. In the late 1800s, runs in the San Joaquin River probably exceeded 200,000 fish (Moyle et al. 1995). Construction of the dam resulted in most of the San Joaquin River's water being diverted by the Friant-Kern and Madera Canals to the San Joaquin Valley for agricultural use. These diversions ceased flow for portions

of approximately 153 miles of the river, resulting in the extirpation of salmon runs from the San Joaquin River above its confluence with the Merced River.

In 1988, a coalition of environmental and fishing groups filed a lawsuit to provide sufficient fish habitat in the San Joaquin River below Friant Dam. A settlement was reached in 2006, and implemented in 2009 in the form of the San Joaquin River Restoration Program (SJRRP). The SJRRP has as its central aim the restoration and maintenance of fish populations in the San Joaquin River between Friant Dam and the Merced River, including naturally reproducing and self-sustaining populations of Chinook salmon. Important SJRRP activities to date have included the restoration of sustainable flows in the river, and initial Chinook salmon reintroduction efforts. Interim flow water releases from the Friant Dam began in 2009, and restoration flow water releases in 2014. Transport of adult fall-run Chinook salmon from the San Joaquin River above the Hills Ferry Barrier to the San Joaquin River upstream of Highway 99 has been occurring each fall (October to December) since 2012. Reintroduction of spring-run Chinook salmon into the San Joaquin River below Friant Dam commenced in April 2014 with the release of 54,000 juveniles, and will continue to take place annually in the springtime for five years.

Potential to occur onsite. Due to SJRRP reintroduction efforts, both spring-run and fall-run Chinook salmon have the potential to occur in the reach of the San Joaquin River passing through the project site. Their potential for occurrence would fluctuate throughout the year. For the first five years of the spring-run reintroduction effort, spring-run juveniles will be released into the river below Friant Dam in the springtime, and would migrate downstream shortly afterward. The first cohort is expected to return to this reach of the river for spawning 3 to 5 years after their release date in 2014. Therefore, until 2017, spring-run Chinook salmon would only be expected to occur in the project vicinity in the spring and early summer months. Fall-run Chinook salmon transported upstream of Highway 99 are either allowed to spawn naturally in the river or are aided in this process with a streamside spawning program. The resulting juveniles are trapped and transported to continuous reaches of the river downstream of the Hills Ferry Barrier each year between February and May. Therefore, fall-run Chinook salmon have the potential to occur in the project vicinity from approximately October to May of each year.

2.6.2 San Joaquin Roach (*Lavinia symmetricus* ssp. 1); State Species of Special Concern

Ecology of the Species. The San Joaquin roach can be found in cool headwater streams as well as their warmwater lower reaches, but are most abundant in small warm streams at mid elevations of sierra foothills and lower reaches of some coastal streams. They are tolerant of relatively high temperatures and low oxygen levels, which enables them to survive in conditions too extreme for other species, however, they also do well in cold, clear, well aerated trout streams (Moyle 2002). They can utilize a range of habitats within a stream. They have an omnivorous diet, feeding both on algae and insects (Moyle 2002). They reach maturity in 2-3 years, utilizing shallow flowing water with a fine gravel bottom for spawning from March-July (Moyle 2002)

Potential to occur onsite. Surveys conducted by the California Department of Fish and Game within this reach of the river in March of 2005 (CDFG 2007) did not find San Joaquin Roach to be present. Nonetheless, this species was first described from a specimen collected in the San Joaquin River near Friant, indicating that this species occurred here historically. While there are no recent records of this species in this portion of the San Joaquin River, comprehensive surveys have not been conducted and the potential still exists for it to be present.

2.6.3 Kern Brook Lamprey (*Entosphenus hubbsi*); State Species of Special Concern

Ecology of the Species. The Kern brook lamprey is endemic to the east side of the San Joaquin Valley. They prefer the silty backwaters of rivers leaving the Sierra foothills, at elevations ranging from 30-327 m (Moyle 2002). This species was first collected from the Friant Kern Canal but have since been found in the lower Merced, Kaweah, Kings, and San Joaquin rivers. Adults seek gravely riffles for spawning, most likely in the spring. Eggs develop into ammocoetes (larvae) which then burrow down into sand or mud bottomed backwaters and stream edges, where they begin their life as filter feeders, feeding on detritus and algae (Moyle 2002). It is presumed that this species life history is similar to the western brook lamprey, who's ammocoetes live for 3-4 years, maturing in the spring (Moyle 2002).

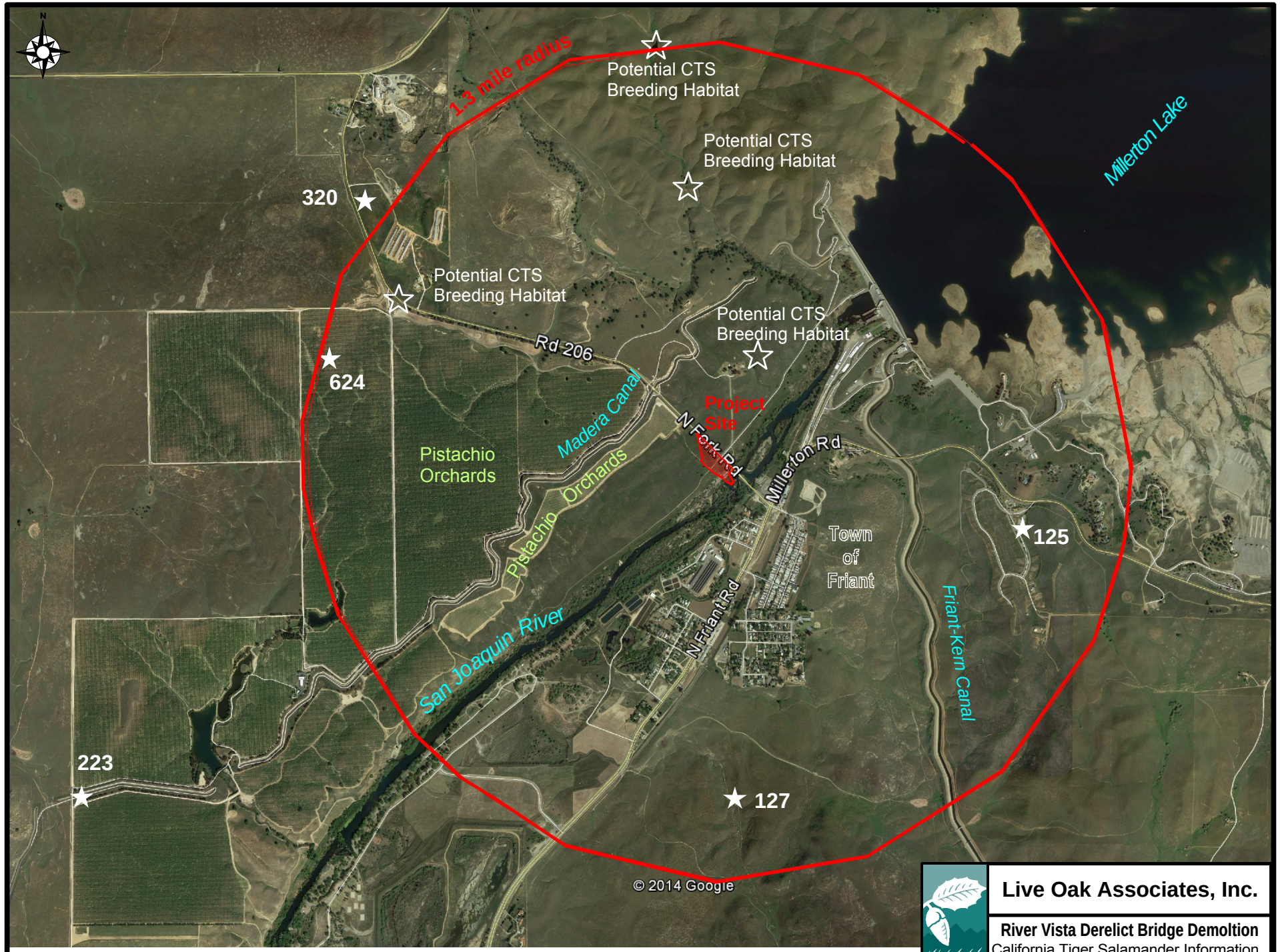
Potential to occur onsite. Surveys conducted by the California Department of Fish and Game within this reach of the river in March of 2005 identified lamprey spp. (CDFG 2007). This species could be present within the project area.

2.6.4 California Tiger Salamander (*Ambystoma californiense*); Federally Threatened, State Threatened

Ecology of the species. The California tiger salamander (CTS) occurs in areas of Central California where vernal pool complexes are located within extensive grassland habitats. Vernal pools within the CTS's range that hold water for 3-4 months of the winter and spring and do not support populations of predators such as fish or bullfrogs provide favorable breeding habitat for the this species. The CTS larvae mature in these vernal pools until the pools begin to dry in April and May. Juvenile CTS disperse from the drying pools to find the burrows of California ground squirrels and pocket gophers in which to aestivate (oversummer). While CTS may wander a mile or more from their breeding pools in search of aestivation habitat, studies of CTS aestivation indicate that 95% of all postbreeding adult salamanders aestivate within 0.4 mile of breeding habitat (Trenham and Shaffer 2005).

Potential to occur onsite. Breeding habitat for CTS in the form of stock ponds or vernal pools is absent from the project site. Grasslands of the project site provide suitable aestivation habitat for the CTS, but the San Joaquin River and town of Friant to the south, and extensive pistachio orchards and the Madera Canal to the north serve as significant barriers to CTS movements onto the project site from known breeding pools. Figure 5 shows potential and known CTS breeding ponds in the area.

The nearest pond that provides potential breeding habitat for CTS is located approximately one third of a mile north of the project area, between the northwest side of the San Joaquin River and the southeast side of the Madera Canal, downstream from the Friant Dam. The pond has an area of approximately 1,000 square feet, and is formed by a small earthen dam constructed in a seasonal drainage down slope and east of the Madera Canal. The nearest known breeding pool on the northwest side of the San Joaquin River is approximately 1.4 miles west of this pool. A historic aerial photo from June of 1946 shows the constructed Madera canal, without the pond in question. This means that the canal was function as a barrier prior to creation of the pond.



Live Oak Associates, Inc.

River Vista Derelict Bridge Demoltion
California Tiger Salamander Information

Date	Project #	Figure #
9/30/2014	1658-03	5

Furthermore, CTS larval sampling surveys were conducted in the springs of 2009 and 2010 in all potential CTS breeding ponds on the Kesterson property immediately to the north (i.e. the two suitable breeding ponds north of this pond shown on figure 5), and CTS were not found during either survey on this portion of the Kesterson property. Given the distance from the nearest breeding pool on this side of the river and the significant barrier created by the Madera Canal, CTS would not have opportunity to move into the area, such that they would now be using this manmade pond.

2.6.5 Western Spadefoot (*Spea hammondii*); State Species of Special Concern

Ecology of the species. The western spadefoot typically breeds between January and May in seasonal ponds occurring in chaparral, short grass plains, or coastal sage scrub. For the larvae to survive, development must be complete before the ponds dry. Mostly active at night, the spadefoot has adapted to digging in sandy soils and finding refugia in small rodent burrows, creating aestivation habitat that protects it from hot, arid daytime conditions.

Potential to occur onsite. The western spadefoot has similar life history requirements to the CTS, and is considered absent from the project site for the same reasons discussed for the CTS.

2.6.6 Western Pond Turtle (*Emys marmorata*); State Species of Special Concern

Ecology of the species. Once abundant in the San Joaquin Valley, with population estimates of over 3.5 million, the western pond turtle is now almost extinct in this region. Elsewhere in its range, it has experienced a decline of 75-80% from historic levels (Stebbins 2003). It is now designated as a California Species of Special Concern.

The western pond turtle is most often associated with rivers and streams, but may also use ponds and lakes. It generally does not use large reservoirs, impoundments, or other bodies of water heavily altered by humans. The western pond turtle requires basking structures such as rocks and logs, as well as underwater refugia such as submerged rocks and woody debris. Although primarily considered an aquatic turtle, this species may spend half the year or more on land. Turtles associated with streams and rivers generally leave the watercourse in the fall to overwinter burrowed in duff or soil (Reese 1996). Overwintering may occur in a range of habitats, including shrubby, open, and forested environments, but the microsite usually includes a thick duff layer

(Holland 1994). The western pond turtle nests in open, sunny areas adjacent to water, generally in clay or silt soils supporting sparse and low herbaceous vegetation (Bettelheim 2005). Nesting typically occurs 100 meters (384 ft.) or less from suitable aquatic habitat (Jennings and Hayes 1994). Eggs hatch in the fall, at which point hatchlings may either emerge and disperse to aquatic habitat, or overwinter in the nest and disperse the following spring.

Potential to occur onsite. Western pond turtles may occur on the project site within the river channel and adjacent uplands; however, the density and height of annual grasses observed on the project site are not favorable for nesting, and microsite characteristics typical of overwintering sites are generally lacking. As discussed, a turtle species, potentially a western pond turtle, was briefly glimpsed in a backwater of the river along the western boundary of the project site.

2.6.7 Bald Eagle (*Haliaeetus leucocephalus*); State Endangered

Ecology of the species. At the time of the bald eagle's listing as endangered under the Federal Endangered Species Act (FESA) in 1967 and the California Endangered Species Act (CESA) in 1971, fewer than 30 nesting pairs remained in California. Nationwide recovery efforts including a ban on the pesticide DDT and local measures including monitoring and protection of breeding territories and key winter habitats have helped to stabilize the population. Bald eagles may now be found in all 48 contiguous states, and in 41 of California's 58 counties. In 2007, the bald eagle was removed from the list of federally threatened and endangered species, although it remains endangered under CESA and is afforded additional legal protection as a California "fully protected" species.

Bald eagles are a member of the sea eagle group, and as such, are well adapted to aquatic environments. In California, bald eagles typically nest within 1 mile of water (Lehman 1979). The bald eagle diet comprises primarily fish, although waterfowl may be an important supplement in the winter and early nesting season (Hunt et al. 1992). Eagles hunt from perches in large trees or snags, or in flight, swooping to pluck prey from the water.

California's bald eagle population varies by season, with hundreds of winter migrants augmenting the year-round resident population from late fall through early spring of each year. Wintertime population estimates top 1000 individuals in some years. By day, wintering eagles

may be observed perched near or flying over lakes and rivers. By night, wintering eagles roost communally in dense conifer stands up to 12 miles from feeding areas (Spencer 1976).

Potential to occur onsite. The bald eagle occurs locally as a winter migrant, and has had limited nesting activity at the nearby Millerton Lake. A wintering population has been established at Millerton Lake since shortly after dam construction was completed in 1942. No nesting was known to occur at Millerton Lake until 2007, when one pair nested at the north end of the lake. Wintering eagles frequently forage along the San Joaquin River below Friant Dam, and would be expected to forage over the project site. Mature trees of the project site could theoretically be used for nesting by this species, however these trees would be considered marginal nesting habitat at best, given their proximity to the Town of Friant.

2.6.8 Swainson's Hawk (*Buteo swainsoni*); State Threatened

Ecology of the species. Swainson's hawks are large, broad-winged, broad-tailed hawks with a high degree of mate and territorial fidelity. They are breeding season residents of California, arriving at their nesting sites in March or April. The young hatch sometime between March and July and fledge 4 to 6 weeks later. By October, most birds have left for wintering grounds in South America. In the Central Valley, Swainson's hawks typically nest in large trees along riparian systems, but may also nest in oak groves, lone trees, trees in agricultural fields, and mature roadside trees. Nest sites are typically located adjacent to suitable foraging habitat. Swainson's hawks forage in large, open fields with abundant prey, including grasslands or lightly grazed pastures, alfalfa and other hay crops, and certain grain and row croplands. Their designation as a California Threatened species is based on population decline due in part to loss of foraging habitat to urban development (CDFG 1994).

Potential to occur onsite. Swainson's hawks are relatively uncommon along the eastern margin of the San Joaquin Valley. However, this species is occasionally observed in the project vicinity. Swainson's hawks were documented nesting in two trees along Highway 41 five miles northwest of the project site in 2011, and in one tree along Highway 41 four miles west of the site in 2013 (CDFW 2014c). The CNDDB also lists a 2011 nesting occurrence of Swainson's hawk in a blue oak stand on rangeland approximately 4 miles northwest of the project site. In spite of these nearby occurrences, very few Swainson's hawk sightings have been made in the

Friant and Millerton areas, and nesting Swainson's hawks have never been observed in this portion of the riparian corridor of the San Joaquin River. Suitable nesting habitat for these hawks does occur in the numerous trees that line the San Joaquin River, however, and Swainson's hawks may occasionally forage over the project site.

2.6.9 Burrowing Owl (*Athene cunicularia*); State Species of Special Concern

Ecology of the species. The burrowing owl, a California Species of Special Concern, is a small owl occurring in grassland habitats of the Central Valley that support California ground squirrels. This owl seeks shelter in ground squirrel burrows throughout the year and breeds in these burrows from February through July. In Fresno and Madera Counties, these owls most commonly occur on the valley floor. They are not as common in foothill habitats, and are entirely absent from areas of oak woodlands and chaparral.

Potential to occur onsite. The project site provides suitable foraging and nesting habitat for the burrowing owl. Although no evidence of burrowing owls was observed during the site surveys, they are known to occur in the project vicinity. One documented sighting was made in January of 2007 at Lost Lake Park, approximately 6 miles south of the project site (CDFW 2014a). Though LOA's site surveys to date have not found evidence of burrowing owls, these surveys were not focused on burrowing owls and the potential exists for this species to use the site.

2.6.10 Special Status Bat Species

Ecology of the Species. Bats spend over half of their lives subjected to the selective pressures of their roost environment. The roosting ecology of bats can be viewed as a complex interaction of physiological, behavioral, morphological adaptations and demographic response. Roosts provide sites for mating, hibernation, and rearing young. They promote social interactions and the digestion of food and offer protection from adverse weather and predators. Conditions that balance natality and mortality and enhance survivorship are intimately linked to roost characteristics and paramount to the success of the species. Bats are of particular concern for bridge projects as these structures are often used extensively by bats for roosting.

Potential to occur onsite. The structures of the derelict bridge remains provide many suitable roosting sites. Four species of bats listed as state and federal species of special concern may forage over the project area and roost on the bridge remains, including western mastiff bat (*Eumops perotis californicus*), pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), and spotted bat (*Euderma maculatum*). No bats, or evidence of them, were observed roosting on the bridge remains during our day-time reconnaissance survey, however, focused bat surveys were not conducted. Furthermore, the California Western mastiff bat uses tree crevices for roosting and could occur in the riparian trees along the banks of the San Joaquin River (Zeiner 1990).

2.6.11 San Joaquin Kit Fox (*Vulpes macrotis mutica*); Federally Endangered, State Threatened

Ecology of the species. By the time the San Joaquin kit fox (SJKF) was listed as federally endangered in 1967 and California threatened in 1971, it had been extirpated from much of its historic range. The smallest North American member of the dog family (Canidae), the kit fox historically occupied the dry plains of the San Joaquin Valley, from San Joaquin County to southern Kern County (Grinnell et al. 1937). Local surveys, research projects, and incidental sightings indicate that kit fox currently occupy fragmented habitat on the San Joaquin Valley floor and portions of the surrounding foothills, particularly those bordering the Valley to the west. The low foothills of the Sierra Nevada bordering the Valley to the east likely represent the eastern extent of the natural range of this species; in fact, there is no record of anyone ever having seen a kit fox east of Highway 99 in Madera County. Core SJKF populations are located in the natural lands of western Kern County, the Carrizo Plain Natural Area in San Luis Obispo County, and the Ciervo-Panoche Natural Area in western Fresno and eastern San Benito Counties (USFWS 1998).

The SJKF prefers habitats of open or low vegetation with loose soils. In the southern and central portion of the Central Valley, kit fox are found in valley sink scrub, valley saltbrush scrub, upper Sonoran subshrub scrub, and annual grassland (USFWS 1998). Kit fox may also be found in grazed grasslands, urban settings, and in areas adjacent to tilled or fallow fields (USFWS 1998). They require underground dens to raise pups, regulate body temperature, and

avoid predators and other adverse environmental conditions (Golightly and Ohmart 1984). In the central portion of their range, they usually occupy burrows excavated by small mammals such as California ground squirrels.

Potential to occur onsite. The CNDDB lists a single SJKF occurrence within a 20-mile radius of the project site. This observation, made by CDFW employee Dale Mitchell in 1994, was located about ¼ mile south of the project site at the San Joaquin Fish Hatchery in Friant. However, Mr. Mitchell has since stated that the fox he saw had likely been domesticated and transported to Friant by oil workers from Coalinga, a city on the western margin of the San Joaquin Valley that supports an urban population of kit foxes. The fox was observed eating out of a cat food dish at the fish hatchery; the oil workers lived nearby (D. Mitchell, pers. comm.).

A number of kit fox surveys conducted in recent years have failed to produce any evidence of this species in the Millerton and Friant area. Curt Uptain of the San Joaquin Valley Endangered Species Recovery team conducted a 3-day survey of the Millerton Specific Plan Area in 1997. He concluded, at that time that, the area did not constitute good habitat for kit foxes, due to lack of suitable denning habitat and the abundance of predators (i.e. coyotes, bobcats, raptors, etc.). He reiterated his opinions during a reconnaissance field survey of the area in March of 2002 (Curt Uptain, pers. comm.). LOA conducted den surveys on portions of the Millerton Specific Plan Area in the spring of 2002, as well as on lands just north of the San Joaquin River in Madera County. These surveys included the use of camera stations and track plates wherever burrows were arguably of a size suitable for kit foxes. No evidence of kit foxes was detected during these surveys. In October of 2003, LOA conducted an extensive survey for SJKF on lands fronting Friant Road in Fresno County. This study involved den surveys, photo stations, track plates, and night spotlighting. Again, the surveys failed to detect evidence of SJKF.

In summary, SJKF occurrence records and survey results indicate that if there ever was a kit fox population in the vicinity of the project site, it is no longer present.

2.6.12 American Badger (*Taxidea taxus*); State Species of Special Concern

Ecology of the species. The American badger is a burrowing member of the mink family that resides in grasslands, savannahs and prairies throughout much of the western United States.

Badgers prey primarily on small mammals including ground squirrels, pocket gophers, and mice, which they capture by digging out the animals' burrows. Adult badgers are primarily nocturnal, foraging at night and remaining underground in sleeping dens during the day. Badgers may reuse sleeping dens, or dig a new sleeping den each day. Badgers mate in late summer to early fall, and the young are born in natal dens in March and April. While badgers rarely remain in a sleeping den for more than a day, natal dens may be used for a period of 4-8 weeks as the female gives birth to and raises her young.

Potential to occur onsite. The American badger may occur in the grasslands of the project site, where it appears sufficient prey occurs and soils are suitable for digging. However, no badger dens or other sign of the species was observed on the project site.

2.7 JURISDICTIONAL WATERS

Jurisdictional waters include rivers, other natural drainages having a defined bed and bank (creeks), lakes, ponds, reservoirs, and wetlands. Such waters may be subject to the regulatory authority of the U.S. Army Corps of Engineers (USACE), the CDFW and the Regional Water Quality Control Board (RWQCB) (see Section 3.2.9 of this report for additional information).

Although it is yet to be submitted for verification, a preliminary wetland delineation was conducted simultaneously with this biological evaluation report. The USACE and RWQCB have jurisdiction over portions of the San Joaquin River below ordinary high water (approximately 0.86 acre). The CDFW has jurisdiction over the San Joaquin River to the top of bank, which generally correlate with OHW on this project site. State Lands Commission has jurisdiction of all areas below mean high water (approximately 1.11 acres).

2.8 DESIGNATED CRITICAL HABITAT

As will be discussed further in Section 3.2.3, the USFWS often designates areas of "critical habitat" when it lists species as threatened or endangered. Critical habitat is a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.

Units of critical habitat for the California tiger salamander, vernal pool fairy shrimp (*Branchinecta lynchi*) and succulent owl's clover (*Castilleja campestris succulenta*) are not found on the site itself but are located within approximately 1/3 mile of the project site (see Figure 4).

2.9 ESSENTIAL FISH HABITAT

As will be discussed further in Section 3.2.4, the National Marine Fisheries Service (NMFS) has designated "essential fish habitat" (EFH) for fish managed under the federal Magnuson-Stevens Fishery and Conservation Act. EFH encompasses all habitats required by federally managed species over the course of their life cycles under the three Fishery Management Plans (FMPs) (Pacific Coast FMP, Pacific Groundfish FMP, and the Coastal Pelagic Species FMP). Activities that have the potential to adversely affect EFH include dredging, filling, excavation, mining, discharge, water diversion, thermal additions, actions with contribute to non-point source pollution and sedimentation, introduction of exotic species, and conversion of aquatic habitats that may diminish or disrupt the functions of EFH.

The San Joaquin River below Friant Dam, including the reach of the river that passes through the project site, has been designated as EFH for Pacific salmon species. No focused fish surveys were conducted for this study. However, pacific salmon and steelhead were once common in the San Joaquin River, and the San Joaquin River Restoration Project is in the process of reintroducing both spring-run and fall-run chinook salmon into this portion of the river.

2.10 WILDLIFE MOVEMENT CORRIDORS

Wildlife movement corridors are routes that animals regularly and predictably follow during seasonal migration, dispersal from native ranges, daily travel within home ranges, and inter-population movements. Movement corridors in California are typically associated with valleys, ridgelines, and rivers and creeks supporting riparian vegetation. Such geographic and topographic features are present on the project site in the form of the San Joaquin River corridor. A number of wildlife species are expected to make use of this corridor for regular and seasonal movements. For example, mule deer (*Odocoileus hemionus*) are known to use the San Joaquin River corridor as a conduit between the foothills and the Central Valley. Similarly, a

number of elevational migrant birds travel along the San Joaquin River corridor between breeding grounds in the Sierra Nevada and wintering grounds in the Central Valley. North-south migrant birds may use the river corridor as a resting and/or feeding point during migration. Consequently, the river corridor on site is considered a significant wildlife movement corridor.

2.11 NATURAL COMMUNITIES OF SPECIAL CONCERN

Natural communities of special concern are habitats that are of limited distribution, distinguished by significant biological diversity, home to special status plant and animal species, and are of importance in maintaining water quality or sustaining flows, etc. Examples of sensitive habitats include vernal pools, emergent marsh, various types of riparian forest, etc. (Sawyer, Keeler-Wolf, and Evens 2009). Sensitive habitats of the project site include valley foothill riparian and aquatic habitat of the San Joaquin River.

3.0 IMPACTS AND MITIGATIONS

3.1 SIGNIFICANCE CRITERIA

General plans, area plans, and specific projects are subject to the provisions of CEQA. The purpose of CEQA is to assess the impacts of proposed projects on the environment before they are constructed. For example, site development may require the removal of some or all of its existing vegetation. Animals associated with this vegetation could be destroyed or displaced. Animals adapted to humans, roads, buildings, pets, etc. may replace those species formerly occurring on a site. Plants and animals that are state and/or federally listed as threatened or endangered may be destroyed or displaced. Sensitive habitats such as wetlands and riparian woodlands may be altered or destroyed. These impacts may be considered significant or not. "Significant effect on the environment" means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic interest. Based on Appendix G, part IV of the CEQA Guidelines specific project impacts to biological resources may be considered "significant" if they will:

- 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 CDFW or USFWS.

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS.

- 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.

- 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.

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

- Conflict with the provisions of an adopted Habitat Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Furthermore, CEQA Guidelines Section 15065(a) states that a project may trigger the requirement to make a "mandatory finding of significance" if the project has the potential to:

> Substantially 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 an endangered, rare or threatened species, or eliminate important examples of the major periods of California history or prehistory.

3.2 RELEVANT GOALS, POLICIES, AND LAWS

3.2.1 General Plan Policies of Madera County and the San Joaquin River Conservancy

The Madera County General Plan (1995) provides the County direction in project planning and approval with respect to land use, transportation, public facilities and services, recreation, cultural resources, health and safety, noise, agriculture, and natural resources. The Plan is implemented via a number of goals and corresponding policies. Natural resources goals relevant to the current project include protection and enhancement of water resources; protection of wetland and riparian areas; protection, restoration, and enhancement of fish and wildlife habitat to maintain populations at viable levels; preservation and protection of vegetation resources; and the preservation and enhancement of open space land.

The *San Joaquin River Parkway Master Plan* includes a number of policies related to habitat conservation in this reach of the San Joaquin River (SJRC 2000). A key component of the *Parkway Master Plan* is to establish and maintain a continuous wildlife corridor along the San Joaquin River. In the context of the Parkway, the "wildlife corridor" means land and water areas parallel to and along the San Joaquin River that are of sufficient width to facilitate the movement of large mammals between habitat areas.

3.2.2 Threatened and Endangered Species

As discussed, state and federal "endangered species" legislation has provided CDFW and USFWS with a mechanism for conserving and protecting plant and animal species of limited distribution and/or low or declining populations. Permits may be required from both the CDFW

and USFWS if activities associated with a proposed project will result in the "take" of a listed species. "Take" is defined by the state of California as "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill" (California Fish and Game Code, Section 86). "Take" is more broadly defined by the federal Endangered Species Act to include "harm" (16 USC, Section 1532(19), 50 CFR, Section 17.3). Furthermore, the CDFW and the USFWS are responding agencies under CEQA. Both agencies review CEQA documents in order to determine the adequacy of their treatment of endangered species issues and to make project-specific recommendations for their conservation.

3.2.3 Designated Critical Habitat

The USFWS often designates areas of "critical habitat" when it lists species as threatened or endangered. Critical habitat is defined by section 3(5)(A) of the federal Endangered Species Act as "(i) The specific areas within the geographic area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management considerations or protection; and (ii) specific areas outside the geographic area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species." The Act goes on to define "conservation" as "the use of all methods and procedures that are necessary to bring an endangered or threatened species to the point at which listing under the Act is no longer necessary."

The designation of a specific area as critical habitat does not directly affect its ownership. Federal actions that result in destruction or adverse modification of critical habitat are, however, prohibited in the absence of prior consultation with the USFWS according to provisions of the act. Furthermore, recent appellate court cases require that federal actions affecting critical habitat promote the recovery of the listed species protected by the critical habitat designation.

The USFWS designates critical habitat for a species by identifying general areas likely to contain the species' "primary constituent elements," or physical or biological features of the landscape that the species needs to survive and reproduce. Although a unit of critical habitat for a particular species may be quite large, only those lands within the unit that contain the species' primary constituent elements are actually considered critical habitat by the USFWS.

3.2.4 Essential Fish Habitat

In 1996, the NMFS designated "essential fish habitat" (EFH) for approximately 1,000 fish species managed under the federal Magnuson-Stevens Fishery Conservation and Management Act. EFH is the habitat necessary for managed fish to complete their life cycles, thus contributing to a fishery that can be harvested sustainably. EFH is defined as the waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. EFH applies to all life stages of managed fish. EFH for a particular species may span a variety of aquatic habitats to cover the range of environments in which that species spawns, breeds, feeds, and grows to maturity.

The Magnuson-Stevens Act requires NMFS to work with other Federal agencies to conserve and enhance EFH. As a result, whenever Federal agencies authorize, fund, or carry out actions that may adversely impact EFH, they must consult with NMFS regarding the impact of their activities on EFH. Specifically, the MSA requires: (1) federal agencies to consult with NMFS on all actions or proposed actions authorized, funded, or undertaken by the agency that could adversely affect EFH; (2) NMFS to provide conservation recommendations for any federal or State action that could adversely affect EFH; and (3) federal agencies to provide a detailed response in writing to NMFS within 30 days of receiving EFH conservation recommendations.

3.2.5 Migratory Birds

The Federal Migratory Bird Treaty Act (FMBTA: 16 USC 703-712) prohibits killing, possessing, or trading in any bird species covered in one of four international conventions to which the United States is a party, except in accordance with regulations prescribed by the Secretary of the Interior. The name of the act is misleading, as it actually covers almost all birds native to the United States, even those that are non-migratory. The FMBTA encompasses whole birds, parts of birds, and bird nests and eggs. Additionally, California Fish and Game Code makes it unlawful to take or possess any non-game bird covered by the FMBTA (Section 3513), as well as any other native non-game bird (Section 3800).

3.2.6 Birds of Prey

Birds of prey are protected in California under provisions of the Fish and Game Code (Section 3503.5), which states that it is unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks and eagles) or Strigiformes (owls), as well as their nests and eggs. The bald eagle and golden eagle are afforded additional protection under the federal Bald and Golden Eagle Protection Act (16 USC 668), which makes it unlawful to kill birds or their eggs.

3.2.7 Nesting Birds

In California, protection is afforded to the nests and eggs of all birds. California Fish and Game Code (Section 3503) states that it is "unlawful to take, possess, or needlessly destroy the nest or eggs of any bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Breeding-season disturbance that causes nest abandonment and/or loss of reproductive effort is considered a form of "take" by the CDFW.

3.2.8 Bats

Section 2000 and 4150 of the California Fish and Game Code states that it unlawful to take or possess a number of species, including bats, without a license or permit as required by Section 3007. Additionally, Title 14 of the California Code of Regulations states it is unlawful to harass, herd, or drive a number of species, including bats. To harass is defined as "an intentional act which disrupts an animal's normal behavior patterns, which includes, but is not limited to, breeding, feeding or sheltering".

3.2.9 Wetlands and Other Jurisdictional Waters

Natural drainage channels and adjacent wetlands may be considered "waters of the United States" or "jurisdictional waters" subject to the jurisdiction of the USACE. The extent of jurisdiction has been defined in the Code of Federal Regulations but has also been subject to interpretation of the federal courts. Jurisdictional waters generally include:

- All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

- All interstate waters including interstate wetlands:
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce;
- All impoundments of waters otherwise defined as waters of the United States under the definition;
- Tributaries of waters identified in paragraphs (a)(1)-(4) (i.e. the bulleted items above).

As determined by the United States Supreme Court in its 2001 *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (SWANCC) decision, channels and wetlands isolated from other jurisdictional waters cannot be considered jurisdictional on the basis of their use, hypothetical or observed, by migratory birds. Similarly, in its 2006 consolidated *Carabell/Rapanos* decision, the U.S. Supreme Court ruled that a significant nexus between a wetland and other navigable waters must exist for the wetland itself to be considered a navigable and therefore jurisdictional water.

The USACE regulates the filling or grading of jurisdictional waters under the authority of Section 404 of the Clean Water Act. The extent of jurisdiction within drainage channels is defined by "ordinary high water marks" on opposing channel banks. All activities that involve the discharge of fill into jurisdictional waters are subject to the permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agrees to provide mitigation that result in no net loss of wetland functions or values. No permit can be issued until the RWQCB issues a certification (or waiver of such certification) that the proposed activity will meet state water quality standards.

The filling of isolated wetlands, over which the USACE has disclaimed jurisdiction, is regulated by the RWQCB. It is unlawful to fill isolated wetlands without filing a Notice of Intent with the RWQCB. The RWQCB is also responsible for enforcing National Pollution Discharge Elimination System (NPDES) permits, including the General Construction Activity Storm

Water Permit. All projects requiring federal money must also comply with Executive Order 11990 (Protection of Wetlands).

CDFW has jurisdiction over the bed and bank of natural drainages and lakes according to provisions of Section 1601 and 1602 of the California Fish and Game Code (2003). Activities that would disturb these waters are regulated by the CDFW via a Streambed Alteration Agreement. Such an agreement typically stipulates that certain measures will be implemented which protect the habitat values of the drainage in question.

3.3 ENVIRONMENTAL IMPACT/MITIGATION

As described in Section 1.1, the proposed project is the demolition and removal of the derelict bridge ruins and the development of a road turnout to the planned River Vista Trail. All work in the river bed will take place in August and/or September of 2015 or 2016. The following analysis of impacts assumes that all uplands within the 4.8-acre site will be temporarily impacted by construction activities associated with demolition work, crushing and salvage, and/or construction of acceleration and deceleration lanes and a road turnout. The only permanent impacts associated with the project will be the 0.87-acre footprint of the new access road and road deceleration and acceleration lanes.

Less Than Significant Project Impacts

3.3.1 Potential Project Impacts to Special Status Plant Species

Impact. Fifteen special status vascular plant species are known to occur in the general project vicinity (see Table 3). With the exception of Sanford's arrowhead, the habitats required for these special status plants are absent from the project site, observations within the vicinity of the project site are old (40+ years), and/or observations are over 10 miles away (CDFW 2014a, CNPS 2014). Although aquatic habitat (suitable habitat for the Sanford's arrowhead) will be affected by implementation of the project, this species can be considered absent since it wasn't observed within the project site during the field survey in May of 2014, a time of year when this species would be identifiable. Therefore, the proposed project will have no adverse effect on regional populations of any special status plants.

Mitigation. No special status plant species are expected to occur in areas to be impacted on the site. Therefore, mitigation measures are not warranted.

3.3.2 Potential Project Impacts to Chinook Salmon

Impact. As discussed, spring-run and fall-run Chinook salmon may both occur in the reach of the San Joaquin River flowing through the project site as a result of SJRRP reintroduction efforts, but their potential for occurrence would fluctuate considerably throughout the year. In the early years of the reintroduction program, reintroduced spring-run juveniles would be expected to occur on-site only during the spring and early summer months, while transported fall-run adults and their offspring would be expected to occur on-site only between October and May. Beginning in 2017, spring-run adults may begin returning to this reach of the river for spawning; thereafter, spring-run Chinook salmon would have the potential to be present in the project vicinity throughout the year. However, during August and September of 2015 and 2016, individuals of both populations would be expected to be absent.

All work in the river bed will take place in August and/or September of 2015 or 2016, when both fall-run and spring-run Chinook salmon would be expected to be absent from the reach of the San Joaquin River flowing through the project site. Therefore, the project does not have the potential to result in injury or mortality of fall-run or spring-run Chinook salmon.

Removal of concrete rubble from the river channel may result in localized hydrological changes, altering the configuration of faster- and slower-moving water at the site of the collapsed bridge. These changes are not expected to significantly affect spring-run or fall-run Chinook salmon. Potential spawning and rearing habitat will continue to be available on and adjacent to the project site following project completion. Aside from these localized changes, all other project impacts to aquatic habitat will be temporary. Therefore, loss of habitat for Chinook salmon is considered a less than significant impact under CEQA.

Mitigation. Potential project impacts to Chinook salmon are less-than significant under CEQA. Therefore, no mitigation is warranted.

3.3.3 Potential Project Impacts to San Joaquin Roach

The project site provides suitable habitat for San Joaquin roach. This species is known to have occurred here historically, however, surveys conducted in 2005 did not detect this species. While there are no recent records of this species in this portion of the San Joaquin River, comprehensive surveys have not been conducted and the potential exists for it to still be present. If San Joaquin roach were to be present within the project area at the start of the project, construction could result in mortality. Given the small footprint of the project within the river (0.72 acre), the potential impacts to populations of this species, if present, are very limited. Additionally, suitable habitat for this species will remain undisturbed, throughout this reach of the river. Furthermore, impacts to San Joaquin roach habitat will be temporary. Therefore, potential impacts to San Joaquin Roach are considered less than significant.

Mitigation. Potential project impacts to San Joaquin roach are less-than significant under CEQA. Therefore, no mitigation is warranted.

3.3.4 Potential Project Impacts to Kern Brook Lamprey

The Kern brook lamprey prefers silty backwater habitats. As ammocoetes (larvae), they burrow down into sand or mud bottomed backwaters and stream edges, where they begin their life as filter feeders. Kern Brook Lamprey could use portions of the project area. In particular, ammocoetes could be burrowed into stream edges and backwater habitats of the project area, and would be unable to move out of the way during construction. As such, if ammocoetes are present within the project area, construction could result in mortality. Given the small footprint of the project within the river (0.72 acre), only a portion of which is suitable for Kern brook lamprey, the potential impacts to populations of this species, if present, are very limited. Additionally, suitable habitat for this species will remain undisturbed, throughout this reach of the river. Furthermore, impacts to Kern brook lamprey habitat will be temporary. Therefore, potential impacts to Kern brook lamprey are considered less than significant.

Mitigation. Potential project impacts to Kern brook lamprey are less-than significant under CEQA. Therefore, no mitigation is warranted.

3.3.5 Potential Project Impacts to Special Status Animal Species Absent or Unlikely to Occur on Site

Impact. Thirty special status animal species occur regionally (see Table 3). Of these 30 species, eight species would not occur on the project site due to the absence of suitable habitat. These species include the vernal pool fairy shrimp, vernal pool tadpole shrimp, valley longhorn elderberry beetle, Central Valley steelhead, hardhead, Western yellow-billed cuckoo, Fresno kangaroo rat, and San Joaquin kit fox. Two other species, the California tiger salamander and the western spadefoot, would be absent because the site lacks suitable breeding habitat, and significant barriers in the form of extensive pistachio orchards, Madera Canal, and the San Joaquin River are present between the project area and the nearest known breeding habitat, such that they would not aestivate on site. The proposed project would have no effect on regional populations of these ten species.

Mitigation. The project will have no adverse effect on regional populations of ten special status animal species absent from or unlikely to occur on the project site. Mitigation measures are not warranted.

3.3.6 Potential Project Impacts to Special Status Animal Species that May Forage on the Site, but would Breed Elsewhere

Impact. Three special status species may occasionally forage within the site, but would breed elsewhere. These species include the peregrine falcon, northern harrier, and golden eagle. The site does not provide regionally important foraging habitat for any of these species. Project construction may, at most, temporarily disrupt available foraging habitat or foraging patterns for some of these species. The project would not result in direct mortality of any of these species because breeding habitat for these species does not occur within the project site. Therefore, the project would have a less than significant impact on these three special status species.

Mitigation. The project will have no adverse effect on regional populations or result in the direct mortality of the three special status species that may utilize the site for foraging, but would breed elsewhere. Mitigation measures are not warranted.

3.3.7 Potential Project Impact to Designated Critical Habitat

Impact. The project site occurs outside of designated USFWS Critical Habitat for federally listed species, including vernal pool fairy shrimp, California tiger salamander and succulent owls clover. Therefore, the project will have no adverse effects on designated Critical Habitat.

Mitigation. Project impacts to designated critical habitat will be less than significant. Mitigation measures are not warranted.

3.3.8 Potential Project Impact to Essential Fish Habitat

The proposed project could have a temporary impact on EFH. Construction will have a temporary effect on potential spawning habitat for Chinook salmon, however, work in the river bed will take place in August and/or September of 2015 or 2016, while these species are absent from the river. Removal of concrete rubble from the river channel may result in localized hydrological changes, altering the configuration of faster and slower-moving water at the site of the collapsed bridge. These changes are not expected to significantly affect EFH. Potential spawning and rearing habitat will continue to be available on and adjacent to the project site following project completion. In fact, there will be a permanent net increase in potential spawning habitat as a result of removal of bridge remains. Bridge demolition and removal will not impede movement of fish in the river, as no coffer dams or dewatering is proposed during project implementation. Therefore, temporary impacts to designated EFH would be considered less than significant.

Nonetheless, authorization from the NMFS will be necessary through Section 7 consultation initiated by the USACE. An EFH Assessment will be prepared as part of the 404 permit application, which the USACE will submit to NMFS for their evaluation of impacts to EFH..

Mitigation. Project impacts to EFH will be less than significant. Mitigation measures are not warranted.

3.3.9 Potential Project Impact to Fish or Wildlife Movement Corridors

Impact. The project site includes a short segment of the San Joaquin River corridor (approximately 100 linear feet), a regionally important movement corridor for a number of

wildlife species. Although demolition, crushing, and salvage activities may temporarily disrupt the movements of native wildlife in this corridor, there are no permanent impacts associated with these project components, and wildlife would be expected to resume normal movement patterns when the activities cease. Demolition, crushing, and salvage work is expected to have a duration of only five weeks; therefore, the period of potential disruption will be very brief. Road improvement activities will take place more than 100 feet from the edge of the riparian canopy, and are not expected to disrupt native wildlife movements within the San Joaquin River corridor.

Mitigation. Project impacts to fish and native wildlife movement corridors will be less than significant. Mitigation measures are not warranted.

3.3.10 Consistency of Project with Local Ordinances Protecting Biological Resources

Impact. The proposed project is being designed to be consistent with policies of the County of Madera General Plan (1995) and San Joaquin River Parkway Master Plan (SJRC 2000). One of the key provisions of the *Parkway Master Plan* is to maintain a continuous wildlife corridor along the San Joaquin River. As discussed in Section 3.3.9, the project may temporarily disrupt wildlife movements in this corridor, but will not impact the corridor itself. Wildlife are expected to resume normal movement patterns at the close of project activities. The project will therefore be consistent with this element of the *Parkway Master Plan.*

Mitigation. This project will not be in conflict with any local policies or ordinances protecting biological resources; therefore, mitigation measures are not warranted.

Potentially Significant Project Impacts

3.3.11 Potential Project Impacts to the Western Pond Turtle

Impact. Western pond turtles likely occur in the aquatic habitat of the project site, and could use uplands of the site from time to time. Most of the site's uplands would be considered marginal to unsuitable for this species; tall, dense vegetative growth would likely preclude nesting in the California annual grassland of the site, and lack of refugia such as duff and leaf litter would discourage overwintering in both grassland and ruderal habitats. Turtles do have the potential to

overwinter or bask in the valley foothill riparian habitat of the project site, and could nest in ruderal areas; however, these habitats comprise less than one acre of the project site, and most impacts in these areas will be temporary. Loss of upland habitat for the western pond turtle is therefore considered a less than significant impact under CEQA. All project impacts to aquatic habitat will be temporary; therefore, loss of aquatic habitat for the western pond turtle is also considered a less than significant impact.

Western pond turtles are at risk of construction-related injury or mortality, particularly when work is occurring in aquatic or valley foothill riparian habitats of the project site, where the species is most likely to occur. Injury or mortality of western pond turtles as a result of project activities is considered a potentially significant impact under CEQA.

Mitigation. Implementation of the following measures will reduce potential project impacts to the western pond turtle to a less than significant level under CEQA.

- ***Mitigation Measure 3.3.1a: Employee Education Program.*** Prior to the start of project activities, the applicant will retain a qualified biologist to train all construction staff on the identification, life history, habitat needs, and legal context of the western pond turtle, as well as procedures to follow if turtles are observed within or near the work area during project activities.

- ***Mitigation Measure 3.3.1b: Avoidance.*** Any turtles observed within or near the work area during project activities will be avoided, and allowed to move out of the area unharmed.

- ***Mitigation Measure 3.3.1c: Relocation.*** If it is determined that an individual turtle or turtles cannot be avoided, or have the potential to be harmed by project activities, the turtle(s) shall be relocated to suitable habitat by a qualified biologist.

3.3.12 Potential Project Impacts to Burrowing Owl

Impact. Although burrowing owls were not observed on the project site during the field surveys, the California annual grassland of the site offers potentially suitable nesting, roosting, and foraging habitat for this species. The majority of project impacts will be temporary in nature. The small area of permanent impacts associated with construction of the road turnout will be concentrated in ruderal roadside habitats that would be marginal, at best, for the burrowing owl. Therefore, loss of habitat for the burrowing owl would be considered a less than significant impact of the project under CEQA.

If burrowing owls were present at the time of construction, they would be at risk of construction-related injury or mortality. These small raptors are protected under the Federal Migratory Bird Treaty Act and California Fish and Game Code. Mortality of individual owls would be a violation of state and federal law, and would constitute a significant impact of the project under CEQA.

Mitigation. Implementation of the following measures adapted from the *Staff Report on Burrowing Owl Mitigation* (CDFG 1995 and 2012) will reduce potential project impacts to the burrowing owl to a less than significant level under CEQA.

- ***Mitigation Measure 3.3.12a: Pre-construction Surveys.*** A pre-construction survey will be conducted by a qualified biologist for burrowing owls within 30 days of the onset of project activities involving ground disturbance or heavy equipment use. The survey area will include all suitable habitat on and within 500 feet of project impact areas, where accessible.

- ***Mitigation Measure 3.3.12b: Avoidance of Active Nests.*** If pre-construction surveys and subsequent project activities are undertaken during the breeding season (February 1-August 31) and active nest burrows are located within or near project impact areas, a 250-foot construction setback will be established around active owl nests, or alternate avoidance measures implemented in consultation with CDFW. The buffer areas will be enclosed with temporary fencing to prevent construction equipment and workers from entering the setback area. Buffers will remain in place for the duration of the breeding season, unless otherwise arranged with CDFW. After the breeding season (i.e. once all young have left the nest), passive relocation of any remaining owls may take place as described below.

- ***Mitigation Measure 3.3.12c: Passive Relocation of Resident Owls.*** During the non-breeding season (September 1-January 31), resident owls occupying burrows in project impact areas may be passively relocated to alternative habitat in accordance with a relocation plan prepared by a qualified biologist and approved by CDFW. Passive relocation may include one or more of the following elements: 1) establishing a minimum 50 foot buffer around all active burrowing owl burrows, 2) removing all suitable burrows outside the 50 foot buffer and up to 160 feet outside of the impact areas as necessary, 3) installing one-way doors on all potential owl burrows within the 50 foot buffer, 4) leaving one-way doors in place for 48 hours to ensure owls have vacated the burrows, and 5) removing the doors and excavating the remaining burrows within the 50 foot buffer.

3.3.13 Potential Project Impact to American Badger

Impact. Although no evidence of the American badger was observed on the project site during the field surveys, the California annual grassland of the site offers suitable foraging and denning habitat for this species. The small area of permanent impacts associated with construction of the road turnout will be concentrated in ruderal roadside habitats that would be marginal, at best, for this species. The limited loss of marginal habitat for the American badger is considered a less than significant impact under CEQA.

In the unlikely event that one or more badgers were to be denning on the project site at the time of construction, these individuals would be at risk of construction-related injury or mortality. Construction mortality of badgers is a potentially significant impact of the project under CEQA.

Mitigation. Implementation of the following measures will reduce potential project impacts to the American badger to a less than significant level under CEQA.

- ***Mitigation Measure 3.3.13a: Pre-construction Surveys.*** A pre-construction survey for American badgers will be conducted by a qualified biologist within 30 days of the onset of project-related activities involving ground disturbance or heavy equipment use. Pre-construction surveys will be conducted in all suitable denning habitat within and immediately adjacent to the project area.

- ***Mitigation Measure 3.3.13b: Avoidance.*** Should an active den be identified during the preconstruction surveys, a disturbance-free buffer will be established around the den and maintained until a qualified biologist has determined that the cubs have dispersed or the den has been abandoned.

3.3.14 Potential Project Impact to Nesting Birds

Impact. The project site provides nesting habitat for numerous bird species protected under the federal Migratory Bird Treaty Act and related state laws. Among these are the Swainson's hawk and bald eagle, which are afforded additional protections under the California Endangered Species Act, the white-tailed kite, which is California Fully Protected, and the loggerhead shrike, yellow warbler, and tricolored blackbird (which was recently granted emergency protection by the State), which are California Species of Special Concern. In the event that special status or other migratory birds were to be nesting on site at the time of construction, individuals would be at risk of construction-related injury or mortality. In addition to direct

"take" of nesting birds, project activities could disturb birds nesting within and adjacent to work areas such that they would abandon their nests. Project-related nest abandonment and mortality of individual birds would constitute a violation of California Fish and Game Code and the federal Migratory Bird Treaty Act, and would be considered a significant impact of the project under CEQA.

Mitigation. Implementation of the following measures will reduce potential project impacts to nesting migratory birds, including special status bird species, to a less than significant level under CEQA.

- ***Mitigation Measure 3.3.14a: Avoidance.*** If feasible, project activities will occur outside of the typical avian nesting season, or between September 1 and January 31. If the project is constructed entirely outside of the nesting season, there will be no impacts to nesting birds, and no further mitigation is required.

- ***Mitigation Measure 3.3.14b: Pre-construction Surveys.*** If project activities must occur during the nesting season, a pre-construction survey shall be conducted by a qualified biologist for nesting birds within 30 days of the onset of construction. The survey will include the project site and surrounding lands within a radius of one half-mile for the Swainson's hawk, bald eagle, and white-tailed kite, and a radius of 500 feet for all other avian species.

- ***Mitigation Measure 3.3.14c: Establish Buffers.*** Should any active nests be discovered, the biologist will determine appropriate construction setback distances based on applicable CDFW guidelines and/or the biology of the affected species. Construction-free buffers will be identified on the ground with flagging, fencing, or by other easily visible means, and will be maintained until the biologist has determined that the young have fledged.

3.3.15 Potential Project Impact to Roosting Special Status Bat Species

Impact. The crevices and ledges occurring on the bridge remains provide suitable roosting habitat for four species of special status bats, including pallid bat, spotted bat, western mastiff bat, and California mastiff bat. The California mastiff bat may also use riparian trees along the San Joaquin River for roosting. Although no bats, or evidence of, were observed on the project site during the site survey, absence of bats cannot be determined from reconnaissance level surveys. If roosting colonies of any of these species is present, then the project could result in a significant impact to special status bat species.

Mitigation. Implementation of the following measures will reduce potential project impacts to roosting special status bats to a less than significant level under CEQA.

- ***Mitigation Measure 3.3.15a: Employee Education Program.*** Prior to the start of project activities, the applicant will retain a qualified biologist to train all construction staff on the identification, life history, habitat needs, and legal context of the special status bats potentially present, as well as procedures to follow if bats are observed within or near the work area during project activities.

- ***Mitigation Measure 3.3.15b: Preconstruction Surveys.*** To be in compliance with Fish and Game Code 1801, the County should have a qualified biologist examine the bridge remains and all riparian trees for use by bats. At a minimum, the applicant should have a preconstruction survey for bats within 30 days of project construction regardless of the time of year. If bats are found to be using the bridge remains as night roosts, construction can proceed during daylight hours with no impact.

- ***Mitigation Measure 3.3.15c: Exclusion Plan.*** In the event that either trees or the bridge remains are being used as day roosts, a plan will need to be developed by a qualified biologist to exclude bats from these areas before construction can proceed. If no bats, or evidence of, are found during preconstruction surveys, the project will result in no impacts to bats.

3.3.16 Potential Project Impact to State and Federally Protected Wetlands and Jurisdictional Waters

Impact. The project will have temporary adverse effects on state and federally protected wetlands or jurisdictional waters. The project is anticipated to result in temporary impacts to approximately 0.72 acre (31,578 square feet) of jurisdictional waters (i.e. below ordinary high water). Temporary impacts to aquatic habitat will consist of placement of fill for a workpad (3,500 square feet with a temporary fill volume of 390 cubic yards). The temporary workpad will be constructed within the river and adjacent to the bridge remains to be demolished and removed. The material for the temporary fill workpad will be taken from a 3,500 square foot area within the alluvial gravel bar (above ordinary high water), and replaced to the same location upon project completion. Once the temporary fill has been removed, the river bed will be restored to its original contours.

Mitigation. The following measures will be implemented to mitigate for impacts to jurisdictional waters during construction of the project.

Mitigation Measure 3.3.16a. (Erosion Control Measures). Impacts can be reduced to a less than significant level through implementation of measures to protect water quality during construction. Limits of disturbance within and adjacent to the river will be clearly identified with highly visible markers prior to commencement of construction activities within waters of the U.S. Markers will be maintained properly until construction is complete and soils have been stabilized. All activities that could impact waters of the U.S. outside of the permit limits will be prohibited. Geotextile mats will be placed on the surface of the riverbottom where the temporary landing will be constructed. Impermeable floating containment barriers or mats will be installed immediately downstream of the work area in order to contain fallen debris during demolition. Turbidity curtains will be installed along the downstream perimeter of the floating containment barriers to minimize the spread of sediment into downstream waters.

Mitigation Measure 3.3.16b. (Restoration Plan). A restoration plan will be prepared that demonstrates how all temporary fills and structures will be removed and the area will be restored to pre-project conditions. This restoration plan is required as part of the USACE Nationwide 33 permit (see Mitigation Measure 3.3.16e below).

Mitigation Measure 3.3.16c. (Revegetation of Disturbed Areas). After construction, all disturbed areas will be restored. The river edge is anticipated to revegetate naturally with freshwater emergent species. The remainder of the site will be hydroseeded with a native seed mix of species found in the region. Tree compensation will be provided as outlined in Section 3.3.17 below. The revegetation effort will serve to stabilize the disturbed soils.

Mitigation Measure 3.3.16d. (Employee Education Program). A qualified biologist will conduct an environmental awareness program for all construction and on-site personnel prior to project construction. Training will include a discussion of avoidance and minimization measures being implemented to protect federally protected wetlands and jurisdictional waters.

Mitigation Measure 3.3.16e. (Compliance with State and Federal Regulations; Notification for a Section 404 and Section 401 Clean Water Act Permits). Construction activities involving grading or deposition of fill within areas mapped as potentially jurisdictional is presently regulated by the USACE. These activities could lawfully occur only after first obtaining a Clean Water Act permit from the USACE. Although it is ultimately up to the discretion of the USACE to determine which permit may apply, the project appears to meet the qualifications for a Nationwide Permit 33, which authorizes temporary construction and access in jurisdictional waters. This nationwide permit requires preconstruction notification, compliance with general conditions of the permit, removal of temporary fills from jurisdictional areas, preparation of a restoration plan and revegetation, as appropriate.

The USACE cannot issue a Clean Water Act permit until the RWQCB issues a Section 401 Water Quality Certification, so notification to the RWQCB and obtaining the certification will also be required. Furthermore, CDFW requires notification and

issuance of a streambed alteration agreement prior to working within the San Joaquin River.

The project is essentially a self-mitigating project due to the largely temporary nature of the project. Implementation of the above measures will reduce impacts to federally protected wetlands and jurisdictional waters to a less than significant level and ensure that the project is in compliance with state and federal laws protecting this resource.

3.3.17 Potential Project Impact to Natural Communities of Special Concern

Impact. As discussed in Section 2.11, riparian and aquatic habitats (considered natural communities of special concern), are present within the boundaries of the project site. LOA completed a tree evaluation during the preliminary site survey in May of 2014. Based on overlaying the tree data onto the site plan, seven of the twelve mature native riparian trees identified within the project boundaries cannot be avoided from implementation of the proposed project. Four trees are white alder, one is Goodding's black willow and two are Oregon ash. These trees are located within a 2,400 square foot area that will require vegetation removal. Impacts to riparian and aquatic habitat are considered potentially significant.

Mitigation. The following measures will be implemented to mitigate for impacts to riparian and other sensative habitats during construction of the project.

> ***Mitigation Measure 3.3.17. (Revegetation of Disturbed Areas).*** After construction, all disturbed areas will be restored. The river edge is anticipated to revegetate naturally with freshwater emergent species. The remainder of the site will be hydroseeded with a native seed mix of species found in the region. The revegetation effort will serve to stabilize the disturbed soils.
>
> The applicant will provide compensation for removal of riparian trees. Replacement planting will be implemented at a ratio of 3:1 for trees between 4-24 inches in diameter at breast height (DBH), and at a ratio of 10:1 for trees greater than 24 inches in DBH. All seven trees are between 4-24 inches in DBH, resulting in replacement of 21 trees. If additional trees are removed, then they will be compensated for by following these same replacement guidelines. Species chosen for the plant pallet will include native riparian trees such as valley oaks, Oregon ash and Fremont's cottonwoods. Seed and cuttings will be gathered from its lands fronting the San Joaquin River in Madera County, if possible. These trees will be planted as container plants and cuttings. All planting material will be installed in the late fall or early winter. All plantings will be monitored annually for a minimum of five years. A revegetation plan will be completed for the project which will

detail the maintenance, monitoring, performance criteria and success rate for trees planted within the project site.

Implementation of the above measures will reduce impacts to riparian and other sensitive habitats to a less than significant level.

3.3.18 Degradation of Water Quality in Seasonal Creeks, Reservoirs and Downstream Waters

Impact. The project, as described in Section 1.1, includes the removal and demolition of the derelict bridge remains, as well as construction of acceleration and deceleration lanes on Road 206. Activities such as concrete crushing and salvage could result in debris fallout and sedimentation of aquatic habitat of the San Joaquin River or adjacent riparian areas. Equipment staging and storage within upland areas of the site could leave soils of these area barren of vegetation and, therefore, vulnerable to erosion. Eroded soil is generally carried as sediment in surface runoff to be deposited in the river. Furthermore, runoff is often polluted with grease, oil, pesticide and herbicide residues, heavy metals, etc. Runoff from staging and storage areas will flow towards, and will eventually be discharged into, the San Joaquin River.

The possible sedimentation resulting from fallout of concrete debris directly into aquatic habitat of the San Joaquin River, erosion of staging and storage areas, the concomitant deposition of silt into downstream waters, and the introduction of pollutants into stormwater runoff entering the San Joaquin River represent a potentially significant adverse environmental impact of the Project. However, since the work will be scheduled in August or September, the work will be constructed during the dry season when the chance for significant rainfall and stormwater runoff is very low.

Mitigation. The following measures are designed to reduce soil erosion on the site during construction and the concomitant deposition of sediment into the San Joaquin River.

***Mitigation Measure 3.3.18: Preparation and Implementation of an Erosion Control Plan*:** Prior to the onset of construction, an erosion control plan will be prepared by a qualified engineer consistent with the requirements of a Madera County grading permit and a General Construction Permit (an NPDES permit issued by the Regional Water

Quality Control Board for Projects in which one or more acres of land are graded), if needed. Typically, specified erosion control measures must be implemented prior to the start of demolition and removal of bridge remains. The project site must then be monitored periodically during the 3 week construction schedule to ensure that the erosion control measures are successfully preventing excessive sedimentation, on-site erosion, and the concomitant deposition of sediment off-site. Elements of this plan would address both the potential for soil erosion and non-point source pollution. At a minimum, elements of the erosion control plan will include the following:

- Protection of exposed graded slopes from sheet, rill and gully erosion. Such protection could be in the form of erosion control fabric, hydromulch containing the seed of native soil-binding plants, straw mechanically imbedded in exposed soils, or some combination of the three. Hay bale check dams, or other similar measure, should be installed below graded areas so that any sediment carried by surface runoff is intercepted and retained behind the check dams before it can enter the San Joaquin River.

- Protection of the San Joaquin River from sedimentation. Impermeable floating containment barriers or mats will be installed immediately downstream of the work area in order to contain fallen debris during demolition. Turbidity curtains will be installed along the downstream perimeter of the floating containment barriers to minimize the spread of sediment into downstream waters.

Compliance with mitigation measures described above would reduce impacts to water quality to a less than significant level.

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APPENDIX A: VASCULAR PLANTS OF THE PROJECT SITE

APPENDIX A: VASCULAR PLANTS OF THE PROJECT SITE

The plants species listed below were observed on the project site during surveys conducted by Live Oak Associates, Inc. on May 14, 2014. The U.S. Fish and Wildlife Service wetland indicator status of each plant has been shown following its common name.

OBL - Obligate
FACW - Facultative Wetland
FAC - Facultative
FACU - Facultative Upland
UPL - Upland

ANACARDIACEAE – Pepper Tree Family		
Schinus molle	Pepper Tree	FACU
APIACEAE – Carrot Family		
Conium maculatum	Poison Hemlock	FACW
APOCYNACEAE – Dogbane Family		
Asclepias fascicularis	Narrow Leaf Milkweed	FAC
ASTERACEAE - Sunflower Family		
Ambrosia psilostachya	Western Ragweed	FACU
Artemisia douglasiana	Mugwort	FAC
Erigeron canadensis	Canada Horseweed	FACU
Filago gallica	Filago	UPL
Grindelia camporum	Great Valley Gumweed	UPL
Helianthus annuus	Common Sunflower	FACW
Heterotheca grandiflora	Telegraph Weed	UPL
Holocarpha heermannii	Heermann's Tarweed	UPL
Hypochaeris glabra	Smooth Cat's Ear	UPL
Lactuca serriola	Prickly Lettuce	FACU
Madia elegans	Tarweed	UPL
Helminthotheca echioides	Sow Thistle	FACU
Pseudognaphalium luteoalbum	Cudweed	FAC
Sonchus oleraceus	Prickly Sow Thistle	UPL
Xanthium strumarium	Rough Cocklebur	FAC
BETULACEAE – Birch Family		
Alnus rhombifolia	White Alder	FACW
BORAGINACEAE – Borage Family		
Amsinckia eastwoodiae	Eastwood's Fiddleneck	UPL
Plagiobothrys nothofulvus	Popcornflower	FAC
BRASSICACEAE – Mustard Family		
Brassica nigra	Black Mustard	UPL
CYPERACEAE- Sedge Family		
Carex sp.	Sedge	OBL
Cyperus sp.	Umbrella Sedge	FACW or OBL
EUPHORBIACEAE – Spurge Family		
Chamaesyce ocellata	Valley Spurge	UPL
Croton setiger	Doveweed	UPL
FABACEAE – Legume Family		

Acmispon americanus	Spanish Clover	UPL
Acmispon glaber	Deerweed	UPL
FAGACEAE – Beech Family		
Quercus lobata	Valley Oak	FACU
Quercus wizlisenii	Interior Live Oak	UPL
GERANEACEAE - Geranium Family		
Erodium botrys	Broad-leaf Filaree	UPL
Erodium cicutarium	Red-stemmed Filaree	UPL
HYPERICACEAE – St. John's Wort Family		
Hypericum anagalloides	Tinker's Penny	OBL
JUGLANDACEAE – Walnut Family		
Juglans californica	California Black Walnut	FAC
JUNCACEAE – Rush Family		
Juncus balticus	Baltic Rush	FACW
Juncus effusus ssp. *pacificus*	Pacific Rush	FACW
Juncus mexicanus	Mexican Rush	FACW
Juncus xiphioides	Iris-leaved Rush	OBL
LAMIACEAE – Mint Family		
Marrubium vulgare	Common Horehound	UPL
Mentha pulegium	Pennyroyal	OBL
Trichostema lanceolatum	Vinegar Weed	FACU
LYTHRACEAE – Loosestrife Family		
Punica granatum	Pomegranate	UPL
OLEACEAE – Ash Family		
Fraxinus latifolia	Oregon Ash	FACW
Fraxinus velutina	Velvet Ash	FAC
ONAGRACEAE – Fuschia Family		
Epilobium sp.	Unk. Willowweed	-
OXALIDACEAE – Sorrel Family		
Oxalis corniculata	Oxalis	FACU
POACEAE - Grass Family		
Avena fatua	Wild Oats	UPL
Briza minor	Quaking Oat Grass	FAC
Bromus diandrus	Ripgut	UPL
Bromus hordeaceus	Soft Chess	FACU
Cynodon dactylon	Bermuda Grass	FACU
Echinochloa crus-galli	Barnyard Grass	FACW
Hordeum murinum ssp. *leporinum*	Barnyard Barley	FAC
Leptochloa fusca ssp. *fascicularis*	Bearded Sprangletop	UPL
Lolium perenne	Perennial Ryegrass	FAC
Paspalum dilatatum	Dallis Grass	FACW
Polypogon monspeliensis	Rabbitsfoot Grass	FACW
Setaria sp.	Unk. Bristlegrass	-
Sonchus oleraceus	Prickly Sow Thistle	FAC
Stipa miliacea	Smilo Grass	UPL
Teinatherum caput-medusae	Medusa Head	UPL
Vulpia myuros ssp. *hirsuta*	Rattail Fescue	FACU
POLYGONACEAE – Smartweed Family		
Polygonum aviculare	Prostrate Knotweed	FACW
Rumex crispus	Curly Dock	FAC
Rumex salicifolius	Willow Dock	FACW

ROSACEAE – Rose Family		
Rubus armeniacus	Himalayan Blackberry	FACU
RUBIACEAE – Madder Family		
Cephalanthus occidentalis	Button Willow	OBL
Galium parisiense	Wall Bedstraw	UPL
SALICACEAE – Willow Family		
Populus fremontii	Fremont Cottonwood	FACW
Salix exigua	Sandbar Willow	FACW
Salix gooddingii	Goodding's Black Willow	FACW
Salix laseolepis	Arroyo Willow	FACW
SCROPHULARIACEAE – Figwort Family		
Verbascum thapsus	Common Mullein	FACU
SOLANACEAE - Nightshade Family		
Datura wrightii	Jimson Weed	UPL
Nicotiana glauca	Tree Tobacco	FAC
URTICACEAE- Nettle Family		
Urtica dioica ssp. *holericea*	Stinging Nettle	FAC
VISCACEAE – Mistletoe Family		
Phoradendron sp.	Mistletoe	UPL
VITACEAE – Grape Family		
Vitis californica	California Grape	FACU

APPENDIX B: TERRESTRIAL VERTEBRATE SPECIES THAT POTENTIALLY OCCUR ON THE SITE

APPENDIX B
TERRESTRIAL VERTEBRATE SPECIES THAT MAY OCCUR ON THE SITE

The species listed below are those that may reasonably be expected to use or pass through the habitats of the site. The list was not intended to include birds that are vagrants or occasional transients. Its purpose is rather to include those species that may be expected to routinely and predictably use or pass through the project site during some or all of the year. An asterisk denotes a species observed on or immediately adjacent to the site during surveys conducted for the current project on May 14, 2014, and/or for the River Vista Access Project on July 20 and September 27, 2012.

CLASS: AMPHIBIA
ORDER: SALIENTIA (Frogs and Toads)
FAMILY: BUFONIDAE
Western Toad (*Bufo boreas*)
FAMILY: HYLIDAE (Treefrogs and Relatives)
Pacific Treefrog (*Hyla regilla*)
ORDER: SALIENTIA (Frogs and Toads)
FAMILY: RANIDAE (True Frogs)
*Bullfrog (Rana catesbeiana)

CLASS: REPTILIA
ORDER: TESTUDINES
FAMILY: EMYDIDAE
*Western Pond Turtle (*Emys marmorata*)
ORDER: SQUAMATA (Lizards and Snakes)
SUBORDER: SAURIA (Lizards)
FAMILY: PHRYNOSOMATIDAE
*Western Fence Lizard (*Sceloporus occidentalis*)
Side Blotched Lizard (*Uta stansburiana*)
FAMILY: SCINCIDAE (Skinks)
Gilbert Skink (*Eumeces gilberti*)
FAMILY: TEIIDAE (Whiptails and relatives)
*Western Whiptail (*Cnemidophorus tigris*)
FAMILY: ANGUIDAE (Alligator Lizards and Relatives)
Southern Alligator Lizard (*Elgaria multicarinata*)
SUBORDER: SERPENTES (Snakes)
FAMILY: COLUBRIDAE (Colubrids)
Ringneck Snake (*Diadophis punctatus*)
*Striped Racer (*Coluber lateralis*)
Gopher Snake (*Pituophis melanoleucus*)
Coachwhip (*Masticophis flagellum*)
Glossy snake (*Arizona elegans*)
Common Kingsnake (*Lampropeltis getulus*)
Common Garter Snake (*Thamnophis sirtalis*)

FAMILY: VIPERIDAE
Western Rattlesnake (*Crotalus viridis*)

CLASS: AVES
ORDER: GAVIIFORMES (Loons)
FAMILY: PODICIPEDIDAE (Grebes)
Pied-Billed Grebe (*Podilymbus podiceps*)
ORDER: PELECANIFORMES (Tropicbirds, Pelicans and Relatives)
FAMILY: PHALACROCORACIDAE (Cormorants)
*Double-Crested Cormorant (*Phalacrocorax auritus*)
ORDER: CICONIIFORMES (Herons, Storks, Ibises and Relatives)
FAMILY: ARDEIDAE (Herons and Egrets)
Great Egret (*Casmerodius albus*)
*Great Blue Heron (*Ardea herodias*)
Snowy Egret (*Egretta thula*)
Cattle Egret (*Bubulcus ibis*)
Green Heron (*Butorides virescens*)
Black-Crowned Night Heron (*Nycticorax nycticorax*)
FAMILY: CATHARTIDAE (New World Vultures)
*Turkey Vulture (*Cathartes aura*)
ORDER: ANSERIFORMES (Screamers, Ducks and Relatives)
FAMILY: ANATIDAE (Swans, Geese and Ducks)
Canada Goose (*Branta canadensis*)
Wood Duck (*Aix sponsa*)
Gadwall (*Anas strepera*)
American Wigeon (*Anas americana*)
Mallard (*Anas platyrhynchos*)
Cinnamon Teal (*Anas cyanoptera*)
Northern Shoveler (*Anas clypeata*)
Northern Pintail (*Anas acuta*)
Green-Winged Teal (*Anas crecca*)
Common Merganser (*Mergus merganser*)
ORDER: FALCONIFORMES (Vultures, Hawks, and Falcons)
FAMILY: ACCIPITRIDAE (Hawks, Old World Vultures, and Harriers)
White Tailed Kite (*Elanus leucurus*)
Northern Harrier (*Circus cyaneus*)
Sharp-shinned Hawk (*Accipiter striatus*)
Cooper's Hawk (*Accipiter cooperi*)
*Red-shouldered Hawk (*Buteo lineatus*)
Swainson's Hawk (*Buteo swainsoni*)
*Red-tailed Hawk (*Buteo jamaicensis*)
Ferruginous Hawk (*Buteo regalis*)
Rough-legged Hawk (*Buteo lagopus*)
Bald Eagle (*Haliaeetus leucocephalus*)
Golden Eagle (*Aquila chrysaetos*)
FAMILY: FALCONIDAE (Caracaras and Falcons)

*American Kestrel (*Falco sparverius*)
Merlin (*Falco columbarius*)
Peregrine Falcon (*Falco peregrinus*)
Prairie Falcon (*Falco mexicanus*)

ORDER: GRUIFORMES (Cranes and Rails)

FAMILY: RALLIDAE (Rails)

Common Moorhen (*Gallinula chloropus*)
American Coot (*Fulica americana*)

ORDER: CHARADRIIFORMES (Plovers, Sandpipers, Gulls, and Terns)

FAMILY: CHARADRIIDAE (Plovers)

Killdeer (*Charadrius vociferus*)

FAMILY: RECURVIROSTRIDAE (Avocets and Stilts)

Black-Necked Stilt (*Himantopus mexicanus*)
American Avocet (*Recurvirostra americana*)

FAMILY: SCOLOPACIDAE (Sandpipers)

Greater Yellowlegs (*Tringa melanoleuca*)
Lesser Yellowlegs (*Tringa flavipes*)
Spotted Sandpiper (*Actitis macularia*)
Long-billed Dowitcher (*Limnodromus scolopaceus*)
Least Sandpiper (*Calidris bairdii*)
Wilson's Snipe (*Gallinago delicata*)

FAMILY: LARIDAE (Skuas, Gulls, Terns and Skimmers)

Ring-Billed Gull (*Larus delawarensis*)
California Gull (*Larus californicus*)
Herring Gull (*Larus argentatus*)

ORDER: COLUMBIFORMES (Pigeons and Doves)

FAMILY: COLUMBIDAE (Pigeons and Doves)

Rock Pigeon (*Columba livia*)
*Mourning Dove (*Zenaida macroura*)

ORDER: STRIGIFORMES (Owls)

FAMILY: TYTONIDAE (Barn Owls)

Barn Owl (*Tyto alba*)

FAMILY: STRIGIDAE (Typical Owls)

Western Screech Owl (*Otus kennicottii*)
Great Horned Owl (*Bubo virginianus*)
Burrowing Owl (*Athene cunicularia*)

ORDER: CAPRIMULGIFORMES (Goatsuckers and relatives)

FAMILY: CAPRIMULGIDAE (Goatsuckers)

Lesser Nighthawk (*Chordeiles acutipennis*)
Common Poorwilll (*Phalaenoptilus nuttallii*)

ORDER: APODIFORMES (Swifts and Hummingbirds)

FAMILY: APODIFORMES (Swifts)

White-Throated Swift (*Aeronautes saxatalis*)

FAMILY: TROCHILIDAE (Hummingbirds)

Anna's Hummingbird (*Calypte anna*)

ORDER: CORACIIFORMES (Kingfishers and Relatives)

FAMILY: ALCEDINIDAE (Kingfishers)
*Belted Kingfisher (*Ceryle alcyon*)
ORDER: PICIFORMES (Woodpeckers and Relatives)
FAMILY: PICIDAE (Woodpeckers and Wrynecks)
Lewis' s Woodpecker (*Melanerpes lewis*)
Acorn Woodpecker (*Melanerpes formicivorus*)
Red-Breasted Sapsucker (*Sphyrapicus ruber*)
Nuttall's Woodpecker (*Picoides nuttallii*)
Downy Woodpecker (*Picoides pubescens*)
Northern Flicker (*Colaptes auratus*)
ORDER: PASSERIFORMES (Perching Birds)
FAMILY: TYRANNIDAE (Tyrant Flycatchers)
Western Wood-Pewee (*Contopus sordidulus*)
Pacific-Slope Flycatcher (*Empidonax difficilis*)
*Black Phoebe (*Sayornis nigricans*)
Say's Phoebe (*Sayornis saya*)
Ash-Throated Flycatcher (*Myiarchus cinerascens*)
*Western Kingbird (*Tyrannus verticalis*)
FAMILY: LANIIDAE (Shrikes)
Loggerhead Shrike (*Lanius ludovicianus*)
FAMILY: VIREONIDAE (Typical Vireos)
Hutton's Vireo (*Vireo huttoni*)
Warbling Vireo (*Vireo gilvus*)
FAMILY: CORVIDAE (Jays, Magpies, and Crows)
*Western Scrub-Jay (*Aphelocoma californica*)
*American Crow (*Corvus brachyrhynchos*)
*Common Raven (*Corvus corax*)
FAMILY: ALAUDIDAE (Larks)
Horned Lark (*Eremophila alpestris*)
FAMILY: HIRUNDINIDAE (Swallows)
*Violet-green Swallow (*Tachycineta thalassina*)
Northern Rough-winged Swallow (*Stelgidopteryx serripennis*)
Barn Swallow (*Hirundo rustica*)
*Cliff Swallow (*Petrochelidon pyrrhonota*)
FAMILY: PARIDAE (Titmice and Relatives)
Oak Titmouse (*Baeolophus inornatus*)
FAMILY: AEGITHALIDAE (Bushtit)
Bushtit (*Psaltriparus minimus*)
FAMILY: SITTIDAE (Nuthatches)
White-Breasted Nuthatch (*Sitta carolinensis*)
FAMILY: TROGLODYTIDAE (Wrens)
Rock Wren (*Salpinctes obsoletus*)
*Bewick's Wren (*Thryomanes bewickii*)
*House Wren (*Troglodytes aedon*)
Marsh Wren (*Cistothorus palustris*)
FAMILY: REGULIDAE (Kinglets)

Ruby-Crowned Kinglet (*Regulus calendula*)
FAMILY: SYLVIIDAE (Old World Warblers and Gnatcatchers)
Blue-Gray Gnatcatcher (*Polioptila caerulea*)
FAMILY: TURDIDAE (Thrushes)
Western Bluebird (*Sialia mexicana*)
Mountain Bluebird (*Sialia currucoides*)
Hermit Thrush (*Catharus guttatus*)
American Robin (*Turdus migratorius*)
FAMILY: TIMALIIDAE (Babblers)
Wrentit (*Chamaea fasciata*)
FAMILY: MIMIDAE (Mockingbirds and Thrashers)
Northern Mockingbird (*Mimus polyglottos*)
FAMILY: STURNIDAE (Starlings and Allies)
*European Starling (*Sturnus vulgaris*)
FAMILY: MOTACILLIDAE (Wagtails and Pipits)
American Pipit (*Anthus rubrescens*)
FAMILY: BOMBYCILLIDAE (Waxwings)
Cedar Waxwing (*Bombycilla cedrorum*)
FAMILY: PTILOGONATIDAE (Silky Flycatchers)
Phainopepla (*Phainopepla nitens*)
FAMILY: PARULIDAE (Wood Warblers and Relatives)
Orange-Crowned Warbler (*Vermivora celata*)
Yellow Warbler (*Dendroica petechia*)
Yellow-Rumped Warbler (*Dendroica coronata*)
Black-Throated Gray Warbler (*Dendroica nigrescens*)
Common Yellowthroat (*Geothlypis trichas*)
Wilson's Warbler (*Wilsonia pusilla*)
FAMILY: EMBERIZIDAE (Emberizines)
Spotted Towhee (*Pipilo maculatus*)
California Towhee (*Pipilo crissalis*)
Lark Sparrow (*Chondestes grammacus*)
Savannah Sparrow (*Passerculus sandwichensis*)
Fox Sparrow (*Passerella iliaca*)
Song Sparrow (*Melospiza melodia*)
Lincoln's Sparrow (*Melosp iza lincolnii*)
White-Crowned Sparrow (*Zonotrichia leucophrys*)
Golden-Crowned Sparrow (*Zonotrichia atricapilla*)
Dark-Eyed Junco (*Junco hyemalis*)
FAMILY: CARDINALIDAE (Cardinals, Grosbeaks and Allies)
Black-Headed Grosbeak (*Pheucticus melanocephalus*)
Blue Grosbeak (*Passerina caerulea*)
Lazuli Bunting (*Passerina amoena*)
FAMILY: ICTERIDAE (Blackbirds, Orioles and Allies)
Red-Winged Blackbird (*Agelaius phoeniceus*)
Western Meadowlark (*Sturnella neglecta*)
Brewer's Blackbird (*Euphagus cyanocephalus*)

Great-Tailed Grackle (*Quiscalus mexicanus*)
Brown-Headed Cowbird (*Molothrus ater*)
Bullock's Oriole (*Icterus bullockii*)

FAMILY: FRINGILLIDAE (Finches)

House Finch (*Carpodacus mexicanus*)
Lesser Goldfinch (*Carduelis psaltria*)
American Goldfinch (*Carduelis tristis*)

FAMILY: PASSERIDAE (Old World Sparrows)

*House Sparrow (*Passer domesticus*)

CLASS: MAMMALIA

ORDER: DIDELPHIMORPHIA (Marsupials)

FAMILY: DIDELPHIDAE (Opossums)

Virginia Opossum (*Didelphis virginiana*)

ORDER: INSECTIVORA (Shrews and Moles)

FAMILY: TALPIDAE (Moles)

Broad-footed Mole (*Scapanus latimanus*)

ORDER: CHIROPTERA (Bats)

FAMILY: VESPERTILIONIDAE (Vespertilionid Bats)

Yuma Myotis (*Myotis yumanensis*)
Long-eared Myotis, (*Myotis evotis*)
Fringed Myotis (*Myotis thysanodes*)
California Myotis (*Myotis californicus*)
Long-legged Myotis (*Myotis volans*)
Small-footed Myotis (*Myotis leibii*)
Red Bat (*Lasiurus borealis*)
Hoary Bat (*Lasiurus cinereus*)
Big Brown Bat (*Eptesicus fuscus*)
Spotted Bat (*Euderma maculatum*)
Townsend's Western Big-eared Bat (*Corynorhynus townsendii townsendii*)
Pallid Bat (*Antrozous pallidus*)

FAMILY: MOLOSSIDAE (Free-tailed Bat)

Western Mastiff Bat (*Eumops perotis*)

ORDER: LAGOMORPHA (Rabbits, Hares, and Pikas)

FAMILY: LEPORIDAE (Rabbits and Hares)

Brush Rabbit (*Sylvilagus bachmani*)
Desert Cottontail (*Sylvilagus audubonii*)
Black-Tailed Jackrabbit (*Lepus californicus*)

ORDER: RODENTIA (Squirrels, Rats, Mice, and Relatives)

FAMILY: SCIURIDAE (Squirrels, Chipmunks, and Marmots)

*California Ground Squirrel (*Spermophilus beecheyi*)

FAMILY: GEOMYIDAE (Pocket Gophers)

*Botta's Pocket Gopher (*Thomomys bottae*)

FAMILY: HETEROMYIDAE

California Pocket Mouse (*Chaetodipus californicus*)

Heermann's Kangaroo Rat (*Dipodomys heermanii*)

FAMILY: CASTORIDAE (Beavers)

*American Beaver (*Castor canadensis*)

FAMILY: MURIDAE (Mice, Rats and Voles)

Western Harvest Mouse (*Reithrodontomys megalotis*)

California Mouse (*Peromyscus californicus*)

Deer Mouse (*Peromyscus maniculatus*)

Brush Mouse (*Peromyscus boylii*)

Pinyon Mouse (*Peromyscus truei*)

Dusky-footed Woodrat (*Neotoma fuscipes*)

House Mouse (*Mus musculus*)

ORDER: CARNIVORA (Carnivores)

FAMILY: CANIDAE (Foxes, Wolves, and Relatives)

*Coyote (*Canis latrans*)

Gray Fox (*Urocyon cinereoargenteus*)

FAMILY: PROCYONIDAE (Raccoons and Relatives)

Raccoon (*Procyon lotor*)

FAMILY: MUSTELIDAE (Weasels, Badgers, and Relatives)

Long-tailed Weasel (*Mustela frenata*)

American Badger (*Taxidea taxus*)

FAMILY: MEPHITIDAE

Striped Skunk (*Mephitis mephitis*)

FAMILY: FELIDAE

Feral Cat (*Felis catus*)

Mountain Lion (*Felis concolor*)

Bobcat (*Felis rufus*)

FAMILY: CERVIDAE (Deer, Elk and Relatives)

*Mule Deer (*Odocoileus hemionus*)

APPENDIX C: SELECTED PHOTOGRAPHS OF THE PROJECT SITE

Photograph #1. Looking southwest at pieces of the derelict bridge within the San Joaquin River during the May 2014 Field visit.

Photograph #2. Looking northwest across the alluvial deposits to the bridge remains.

Photograph #3. Looking southeast at bridge remains in the bed of the San Joaquin River.

Photograph #4.Non-native grassland within the project site.

Photograph #5. Turnouts will be installed along Road 206 at the entrance to River Vista.

Photograph #6. A few burrows of various shapes and sizes were found within the project site.