

Butte 99 Roadway Rehabilitation

BUTTE COUNTY, CALIFORNIA
DISTRICT 3-BUT-99, KP 13.8/21.1 (PM 8.6/13.1)
366900

Initial Study with Proposed Mitigated Negative Declaration



Prepared by the
State of California Department of Transportation



GENERAL INFORMATION ABOUT THIS DOCUMENT

What's in this document:

The Department of Transportation (Caltrans) has prepared this Initial Study (IS), which examines the potential environmental impacts of the proposed project located in Butte County, California. This document describes why the project is being proposed, alternatives for the project, the existing environment that could be affected by the project, the potential impacts from each of the alternatives, and the proposed avoidance, minimization and/or mitigation measures.

What you should do:

- Please read this Initial Study. Additional copies of this document are available at the Butte County Library, Biggs Branch, at 464A B Street, Biggs, CA and the Chico Branch at 1108 Sherman Avenue, Chico, CA. The Biggs branch is open Tuesday and Thursday from 2:00 pm to 5:00 pm. The Chico Branch is open Monday through Thursday from 9:00 am to 8:00 pm, and on Friday and Saturday from 9:00 am to 5:00 pm. Copies of the technical studies used to prepare this document are available for review at 2389 Gateway Oaks Drive, Sacramento, CA 95833.
- This document has also been placed on the Internet at:
<http://www.dot.ca.gov/dist3/departments/envinternet/envdoc.htm>
- Attend public informational meeting.
- We welcome your comments. If you have any comments regarding the proposed project please send your written comments to Caltrans by the deadline.
- Submit comments via postal mail to:
Jeremy Ketchum, Branch Chief, Environmental Management S1
Attention: Jennifer S. Clark, Environmental Coordinator
2389 Gateway Oaks Drive
Sacramento, CA 95833
- Submit comments via email to [Jennifer S. Clark@dot.ca.gov](mailto:Jennifer_S_Clark@dot.ca.gov).
- Submit comments by the deadline: **November 28, 2005**.

What happens next:

After comments are received from the public and reviewing agencies, Caltrans may: (1) give environmental approval to the proposed project, (2) undertake additional environmental studies, or (3) abandon the project. If the project is given environmental approval and funding is appropriated, Caltrans could design and construct all or part of the project.

For individuals with sensory disabilities, this document can be made available in Braille, large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to: Department of Transportation, Attn: Jennifer S. Clark, 2389 Gateway Oaks Drive, Sacramento, CA 95833; (916) 274-0572 Voice or use the California Relay Service TTY number, (530) 741-4509.

03-BUT-99-KP 13.8/21.1
(PM 8.6/13.1)
366900

Rehabilitate Roadway on State Route 99 from KP 13.8 (PM 8.6) to KP 21.1 (PM 13.1),
just north of the town of Biggs in Butte County

INITIAL STUDY with Proposed Mitigated Negative Declaration

Submitted Pursuant to: (State) Division 13, California Public Resources Code

THE STATE OF CALIFORNIA
Department of Transportation

29 September 2005
Date of Approval


John D. Webb, Chief
North Region Environmental Services
California Department of Transportation

PROPOSED MITIGATED NEGATIVE DECLARATION

Pursuant to: Division 13, Public Resources Code

Project Description

The Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA) propose to rehabilitate the roadway on State Route (SR) 99 just north of the town of Biggs in Butte County from kilometer post (KP) 13.8 to 21.1, postmile (PM) 8.6 to 13.1. The purpose of this project is to rehabilitate and extend the life of the existing pavement and to improve safety.

Determination

This proposed Mitigated Negative Declaration (MND) is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt a MND for this project. This does not mean that Caltrans' decision regarding the project is final. This MND is subject to modification based on comments received by interested agencies and the public.

Caltrans has prepared an Initial Study for this project, and pending review, expects to determine from this study that the proposed project would not have a significant effect on the environment for the following reasons:

The project would have no effect on coastal zones, wild and scenic rivers, timberlands, paleontology, parks and recreation, growth, community character and cohesion, Environmental Justice, pedestrian facilities, cultural resources, hydrology and floodplains, geology, seismology, topography, or hazardous waste/materials.

In addition, the proposed project would have a less than significant effect on land use, farmland, community resources, utilities/emergency services, traffic and transportation, bicycle facilities, visual resources/aesthetics, water quality and storm water run-off, soils, air quality, and noise. The proposed project will have less than significant cumulative impacts.

The proposed project would have less than significant impacts on biological resources with mitigation incorporation. Impacts to giant garter snake, vernal pool fairy shrimp, vernal pool tadpole shrimp and Swainson's hawk will be reduced by implementing measures to protect sensitive species during construction, including but not limited to, using Environmentally Sensitive Area (ESA) fencing, using work windows, and limiting equipment use where feasible. Mitigation credits will also be purchased to offset the effects of the proposed project.

John D. Webb, Chief
North Region Environmental Services
California Department of Transportation

Date

SUMMARY

The proposed project would widen shoulders, add turn lanes, replace the Biggs Extension Canal Bridge and repair the existing pavement within the project limits. In order to construct this project, right of way acquisition will be required. Temporary construction easements will be needed to construct the project and relocate utilities. Widening of the shoulders and providing a clear recovery zone will result in the loss of farmland and would impact sensitive plant communities and habitats, and listed species. The following table quantifies impacts to farmland and biological resources:

Farmland	Area
Prime and Unique Farmland	1.70 ha (4.20 ac)
Farmland of either Statewide or Local Importance	3.40 ha (8.40 ac)
Prime Farmland that is enrolled in Williamson Act Contracts	0.61 ha (1.51 ac)
Fairy Shrimp Habitat (vernal pools/swales)	Area
Total vernal pool acreage within 250 ft.	2.60 ha (6.42 ac)
Total direct effects (USFWS)	0.30 ha (0.74 ac)
Total indirect effects (USFWS)	1.51 ha (3.74 ac)
Swainson's Hawk Foraging Habitat	Area
Total in project area	47.60 ha (117.63 ac)
Permanent impacts	2.79 ha (6.89 ac)
Temporary impacts	5.70 ha (14.08 ac)
Giant Garter Snake Habitat	Area
Temporary direct (construction easements)- Upland	2.99 ha (7.39 ac)
Temporary direct (construction easements)- Aquatic	0.57 ha (1.41 ac)
Temporary direct (rice fields)- Aquatic	4.33 ha (10.70 ac)
Permanent (cut and fill)- Upland	7.13 ha (17.63 ac)
Permanent (cut and fill)- Aquatic	4.25 ha (10.52 ac)
Temporary indirect (within 200 feet of project)- Upland	5.46 ha (13.49 ac)
Temporary indirect (within 200 feet of project)- Aquatic	35.88 ha (88.67 ac)
Jurisdictional Wetlands	Area
Waters of the U.S. (Biggs, Lateral Canals- Gain of waters)	0.02 ha (0.05 ac)
Vernal pools (USACE permanent (fill))	0.09 ha (0.21 ac)
Vernal pools (USACE temporary (construction easements))	0.02 ha (0.05 ac)
Seasonal (emergent) wetlands permanent	0.07 ha (0.17 ac)
Seasonal (emergent) wetlands temporary	0.29 ha (0.71 ac)
Waters of the U.S. permanent (ditch)	0.02 ha (0.06 ac)
Waters of the U.S. temporary (dewatering canals)	0.02 ha (0.06 ac)

Permits and consultation will be required for impacts to wetlands and habitat for sensitive species. Permits include a Regional State Water Quality Control Board Section 401 Certification for potential impacts to water quality. The United States Army Corps of Engineers would require a Clean Water Act Section 404 permit for impacts to wetlands from this project. In addition, formal consultation with the United States Fish and Wildlife Service (USFWS) would be required for potential impacts to vernal pool fairy shrimp habitat, vernal pool tadpole shrimp habitat, and giant garter snake habitat. The California Department of Fish and Game will require consultation for impacts to Swainson's hawk foraging habitat. A Categorical Exemption will be prepared pursuant to the National Environmental Policy Act (NEPA).

TABLE OF CONTENTS

PROPOSED MITIGATED NEGATIVE DECLARATION	i
SUMMARY	ii
TABLE OF CONTENTS.....	iii
LIST OF TABLES.....	iv
LIST OF FIGURES	iv
LIST OF ABBREVIATED TERMS	v
CHAPTER 1. PROPOSED PROJECT	1
1.1. Purpose and Need	1
1.2. Project Description.....	4
1.3. Alternatives	4
1.4. Proposed Order of Construction Work	5
1.5. Permits and Approvals Needed.....	5
CHAPTER 2. AFFECTED ENVIRONMENT, ENVIRONMENTAL CONSEQUENCES, AND AVOIDANCE, MINIMIZATION &/OR MITIGATION MEASURES	9
2.1. Human Environment.....	9
2.1.1. Land Use	9
2.1.2. Growth	10
2.1.3. Farmlands.....	12
2.1.4. Community Impacts.....	15
2.1.5. Utilities/Emergency Services.....	17
2.1.6. Traffic and Transportation/Pedestrian and Bicycle Facilities.....	18
2.1.7. Visual/Aesthetics	18
2.1.8. Cultural Resources	19
2.2. Physical Environment	20
2.2.1. Hydrology and Floodplain	20
2.2.2. Water Quality and Storm Water Runoff	21
2.2.3. Geology/Soils/Seismic/Topography	22
2.2.4. Hazardous Waste/Materials	22
2.2.5. Air Quality	23
2.2.6. Noise	25
2.3. Biological Environment	26
2.3.1. Biological Setting.....	26
2.3.2. Wetlands and Other Waters	29
2.3.3. Plant Species	31
2.3.4. Animal Species	32
2.3.5. Threatened and Endangered Species	34
2.3.6. Invasive Species.....	41
2.4. Cumulative Impacts	42
CHAPTER 3. LIST OF PREPARERS AND TECHNICAL STUDIES.....	44
CHAPTER 4. DISTRIBUTION LIST	45
Appendix A. CEQA CHECKLIST.....	46
Appendix B. FORM AD-1006	56
Appendix C. DEPARTMENT OF CONSERVATION CORRESPONDANCE.....	57
Appendix D. TITLE VI POLICY STATEMENT	59

Appendix E.	AVOIDANCE, MINIMIZATION AND MITIGATION SUMMARY	60
Appendix F.	ENVIRONMENTAL STUDY LIMIT MAPPING	64

LIST OF TABLES

Table 1: Accident Data	3
Table 2: Regional Sensitive Species Table.....	27
Table 3: Areas of Impacts to Waters of the U.S. in the Project Study Area.....	31
Table 4: GGS Habitat Types and Areas of Impact.	36
Table 5: Project Impacts to Fairy Shrimp Habitat.	39
Table 6: Mitigation Ratios for Fairy Shrimp Habitat.....	40
Table 7. Direct Impacts to Fairy Shrimp Habitat From Area Highway Projects.....	43

LIST OF FIGURES

FIGURE 1: PROJECT VICINITY MAP.....	6
FIGURE 2: PROJECT LOCATION MAP.....	7
FIGURE 3: OROVILLE-THERMALITO COMPLEX.....	11
FIGURE 4: FARMLAND ANALYSIS.....	14

LIST OF ABBREVIATED TERMS

ac	acres
USACE	Army Corps of Engineers
ADL	Aerially deposited lead
BMPs	Best Management Practices
Caltrans	California Department of Transportation
CDFG/DFG	California Department of Fish and Game
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CRZ	Clear Recovery Zone
Dbh	Diameter at breast height
DWR	California Department of Water Resources
ESA	Environmentally Sensitive Area
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
ft	foot/feet
GPS	Global Positioning System
ha	Hectares
HDM	Highway Design Manual
in	inch(es)
km	kilometer(s)
KP	kilometer post
m	meter(s)
MBGR	Metal beam guard rail
mi	mile(s)
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
PM	post mile
RWQCB	Regional Water Quality Control Board
RRR	Resurfacing, Restoration, and Rehabilitation
RSP	Rock Slope Protection
R/W	Right of Way
SR	State Route
SSP	Standard Specification Plans
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRQCB	State Water Resources Control Board
WPCP	Water Pollution Control Plan
USFWS	United States Fish and Wildlife Service

CHAPTER 1. PROPOSED PROJECT

1.1. PURPOSE AND NEED

The Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA) propose to rehabilitate the roadway on State Route (SR) 99 just north of the town of Biggs in Butte County from 0.3 km (0.2 mi) north of Rio Bonito Road, to 0.1 km (0.1 mi) south of SR 162 East (Richvale Road). It is proposed to fund this Resurfacing, Restoration, and Rehabilitation (RRR) project from the State Highway Operation and Protection Program (SHOPP) program. See Figures 1 & 2 for Project Vicinity and Location Maps and Appendix F for Environmental Study Limit Mapping.

This project is located along a segment of SR 99 between the town of Gridley and the SR 99/SR 149 junction, south of Chico. It is a rural 2-lane conventional highway with 3.6 m (12.0 ft) lane widths and shoulder widths varying from 0.3 m to 1.2 m (1.0 ft to 4.0 ft). Segments to the north and to the south of the project limits have standard 2.4-m shoulder widths. This segment of SR 99 crosses flat terrain and is classified as a Principal Arterial Roadway.

The purpose of this project is to extend the life of the existing pavement, rehabilitate the roadway and to improve safety. Although not considered a capacity increasing project, improvements made as a result of this project will also enhance traffic flow. This project proposes to repair the numerous pavement failures within the project limits, and also to bring this portion of SR 99 into compliance with existing design standards.

Extend the Life of the Existing Pavement

A Deflection Study was performed on Mar. 29, 2004 that showed the pavement was in poor condition. Various types of cracking are prominent in lower layers and have traveled up to the top of the asphalt concrete surface. Therefore, to prolong the life of the existing pavement, it is necessary to repair localized pavement failures, seal pavement cracks, and overlay the entire roadway with Rubberized Asphalt Concrete (RAC) Type "G" in combination with Pavement Reinforcing Fabric (PRF). In addition, a new application of Rubberized Asphalt Concrete Type "O" is needed as a friction course and wearing surface.

Rehabilitate the Roadway

This portion of SR 99 will be brought into conformance with existing design standards, closing the gap between the northern and southern sections, which have standard shoulder widths. In addition, scour issues at the Biggs Extension Canal Bridge will be resolved.

Existing shoulder widths range from approximately 0.3 m to 1.2 m (1.0 ft to 4.0 ft). The Caltrans Highway Design Manual (HDM) states that the minimum shoulder width for Resurfacing, Restoration, and Rehabilitation (RRR) projects shall be 2.4 m (8.0 ft), (HDM Topic 307.3). It is proposed to widen the existing shoulders to 2.4 m (8.0 ft), which will yield a paved cross section 12.0 m (40.0 ft) wide.

A right-turn lane for southbound SR 99 to westbound SR 162 is proposed as an operational improvement.

The Biggs Extension Canal Bridge (Bridge # 12-004) is not found on the list of structures that require seismic retrofit. However, it is on the Structures Replacement And Improvement Needs (STRAIN) list and a Structures Replacement Recommendation dated July 29, 1993 concluded that this bridge should be replaced to correct scour issues at the abutments and central pier. In addition, the bridge rails need upgrading. Bridge replacement is preferred over widening for the following reasons:

- If Rock Slope Protection (RSP) is used to eliminate scour, it will reduce the hydraulic capacity of the canal.
- The existing bridge in its present condition is inadequate to support Alternate Military Loading.
- The existing bridge does not have sufficient capacity to support the additional asphalt concrete (AC) blanket that would be required to maintain cross slopes for widening.
- A new bridge that eliminates the center pier would improve the channel hydraulics.
- New abutments could be founded on piles, which would improve their ability to maintain structural integrity in the event of continued scour problems.

Failing cross culverts will be replaced and or updated.

The double reinforced concrete box (RCB) culvert located at KP 15.4 (PM 9.56) has railing made from metal beam guardrail (MBGR) using steel I-beam posts bolted onto the side of the headwall. This type of railing is no longer preferred and needs to be upgraded to current standards.

The current posted speed limit is 65 miles per hour (mph). However, four vertical curves within the project limits do not meet sight distance standards for this speed. These vertical curves are located at KP 16.6 (PM 10.32), KP 17.4 (PM 10.81), KP 19.0 (PM 11.82), and KP 20.0 (PM 12.44). Using a minimum design speed of 105 km/hr (65 mph), it is necessary to adjust these vertical curves.

Improve Safety

Although the actual vs. average accident rates do not qualify this project as a safety project, certain features of it will improve safety and enhance traffic flow. Of the 32 accidents shown on Table 1, 10 accidents were “hit object” accidents and 6 were “rear end” accidents. Regarding vehicle movements just prior to collision, 6 vehicles were stopped or slowing and 13 vehicles ran off the road. Moving fixed objects outside the Clear Recovery Zone (CRZ), adding left turn lanes, widening shoulders, adding rumble strips, and adding and upgrading highway lighting will decrease the possibility of these types of accidents.

The CRZ for this type of roadway is defined in the Caltrans’ HDM Topic 309.1 (2) as 6.0 m (20.0 ft) from the edge of traveled way (ETW). Throughout the project limits, there are culverts, headwalls, and high voltage utility poles located less than 6.0 meters from the ETW. Poles will be moved as needed and drainage structures will be replaced or extended to relocate them beyond the CRZ. Moving these objects outside the CRZ will reduce the likelihood of “hit object” type accidents.

Although sparsely populated with few local roads and driveways, slow moving vehicles are common along this stretch of SR 99. Slow moving or turning vehicles can create long queues that impair the flow of traffic and can become a safety hazard. The addition of left turn lanes at Hamilton Road will allow traffic to continue to flow rather than backing up behind a turning vehicle. This improves safety by reducing the possibility of “rear end” accidents.

Another safety enhancement is widening the shoulders to 2.4 meters and adding rumble strips just outside the ETW. The wider shoulder provides an escape area both to react to the errant passing moves of oncoming traffic and to react to slowing or stopping vehicles in the direction of travel.

The vertical curve corrections as described earlier to improve sight distance will enhance safety.

The upgrade of lighting at the SR 99/SR 162 West intersection and the addition of highway lighting at the SR 99/Hamilton Road intersection will enhance safety by improving nighttime visibility at these locations.

Pending approval, Traffic Operation Systems signage may also be added to alert motorists of possible hazards such as fog.

Table 1: Accident Data

The following collision data is for the period of 06/01/01 to 05/31/04.

Location	Total Number of Collisions	Fatal *	Fatal + Injury
PM 8.55/13.20	32	2	17

Actual Rates (per million vehicle miles)			Average Rates (per million vehicle miles)		
Fatal	Fatal + Injury	Total (all collisions reported)	Fatal	Fatal + Injury	Total (all collisions reported)
0.038	0.33	0.61	0.035	0.45	0.93

* Of the two fatal collisions, one was head-on and the other was a sideswipe.

This project is consistent with other planning in the area. The 2004 Transportation Concept Report recommends that the shoulders be brought up to current design standards at the westbound SR 99/SR 162 junction. In addition, the Richvale Roadway Improvements Project, EA 03-3C2004, is planned for this corridor. It proposes to signalize and rehabilitate the intersection of SR 99/SR162 East at KP 21.2 (PM 13.16), which is at the northernmost limit of this Butte 99 Roadway Rehabilitation Project. There will be coordination between the two projects and this project will be designed to conform to the Richvale project.

1.2. PROJECT DESCRIPTION

The project proposes the following improvements to rehabilitate the roadway and to bring it into conformance with current design standards:

Rehabilitate pavement. The roadbed will be overlaid with Rubberized Asphalt Concrete Type "G" in combination with Pavement Reinforcing Fabric (PRF). In addition, Rubberized Asphalt Concrete Type "O" will be placed as a friction course and wearing surface. Localized pavement failures will be repaired.

Widen shoulders. The project will increase the width of the existing roadway to 12.0 m (40.0 ft) by widening the existing shoulders from approximately 0.3 m (1.0 ft) to 2.4 m (8.0 ft). Rumble strips will be added to the shoulders.

Add left-turn channelization. Left-turn pockets will be added at the Hamilton Road intersection. Existing left-turn pockets at SR 162 West will be extended to meet current design standards.

Add Right-Turn Channelization. Add a right-turn lane for southbound SR 99 to westbound SR 162.

Replace bridge. The Biggs Extension Canal Bridge, Bridge # 12-0004, will be replaced with a single span structure on a pile foundation. It will be made with concrete slabs or with precast girders. The existing bridge deck and central pier wall will be removed. The existing abutments will be left in place.

Adjust Vertical Profile. The vertical profile will be adjusted to meet current sight distance standards and to accommodate drainage.

Conform to Clear Recovery Zone (CRZ). A CRZ of 6.0 m from the edge of traveled way will be applied. Utility poles in conflict will be moved. In addition, drainage structures will be replaced and extended beyond the CRZ. Items that cannot be relocated will be shielded.

Improve Highway Lighting. Highway lighting will be added at the SR 99/Hamilton Road intersection. In addition, existing lighting at the SR 99/SR 162 West intersection will be updated to current design standards.

1.3. ALTERNATIVES

Build

This project has one build alternative (preferred alternative) as described in the "Project Description" section above. New right of way (R/W) will be acquired for this alternative.

No-Build

The No-Build alternative would do nothing to improve or extend the life of this section of roadway and to improve the mobility and safety of motorists.

1.4. PROPOSED ORDER OF CONSTRUCTION WORK

The proposed project is expected to require two construction seasons. Because much of the adjacent farmland is seasonally flooded for use as rice fields, the acquisition of portions of this farmland will necessitate check dams, ditches, and access roads on these fields to be constructed prior to the first construction season. This construction will likely be done to the farmer's convenience. Work on the replacement bridge over the Biggs Extension Canal will also take two construction seasons and will likely be performed between January and April to avoid impacts to the canal during the growing season.

1.5. PERMITS AND APPROVALS NEEDED

A Categorical Exemption will be prepared pursuant to the National Environmental Policy Act (NEPA).

Work on this proposed project would require an Army Corps of Engineers Section 404 permit for impacts to wetlands. The Regional State Water Quality Control Board requires a Section 401 Certification for potential impacts to water quality.

This project will be covered by the Caltrans National Pollutant Discharge Elimination System (NPDES) Permit (CAS # 000003, Order # 99-06-DWQ), issued by the State Water Resources Control Board.

Formal consultation to comply with Section 7 (Endangered Species Act 16 U.S.C. 1536) would be conducted with U.S. Fish and Wildlife Service (USFWS) through FHWA for impacts to federally listed species. The California Department of Fish and Game (CDFG) requires consultation for impacts to state listed and sensitive species (Section 2081 b) and sensitive habitats such as vernal pools/swales.

Federal Endangered Species Act Consultation Summary

Section 7 of the Federal Endangered Species Act of 1973 requires consultation with the USFWS whenever a federal action may threaten the continued existence of listed species or destroy or adversely modify designated critical habitat, and to conserve Federally listed species. The following federal listed species may be affected by this project:

- Vernal pool fairy shrimp (*Branchinecta lynchi*)
- Vernal pool tadpole shrimp (*Lepidurus packardii*)
- Giant garter snake (*Thamnophis gigas*)

A Biological Assessment has been submitted to the USFWS, pursuant to Section 7 of the Federal Endangered Species Act.

California Endangered Species Act Consultation Summary

Consultation with the California Department of Fish and Game (CDFG) is required when a project may result in take of a state listed species. CDFG must insure that the impacts of the taking are "fully mitigated" (Fish and Game Code sec. 2081). This project will result in loss of Swainson's hawk foraging habitat, an impact that would be subject to CDFG consultation. Caltrans will also consult with CDFG for take of giant garter snake (GGS) and GGS habitat.

FIGURE 1: PROJECT VICINITY MAP

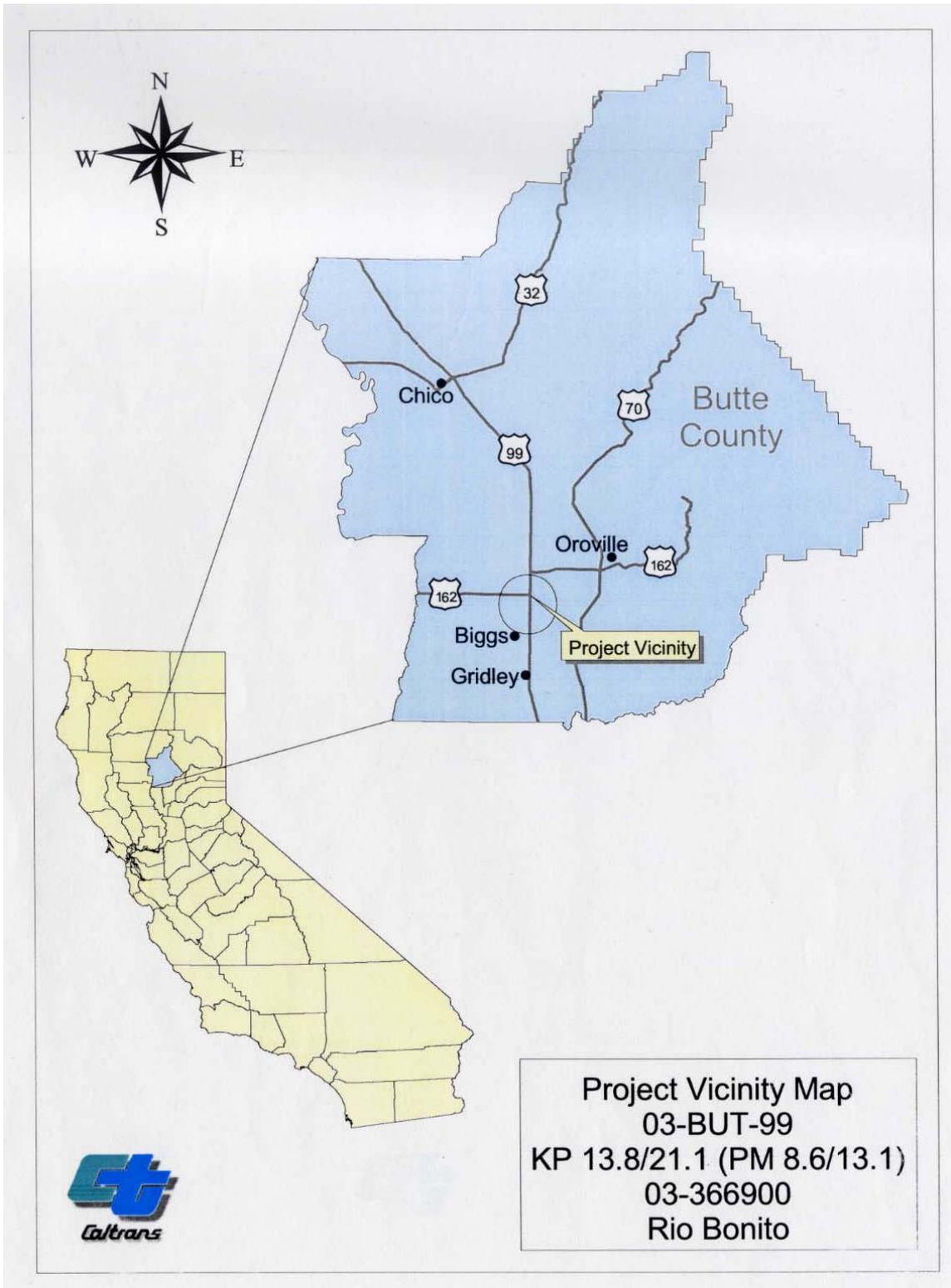
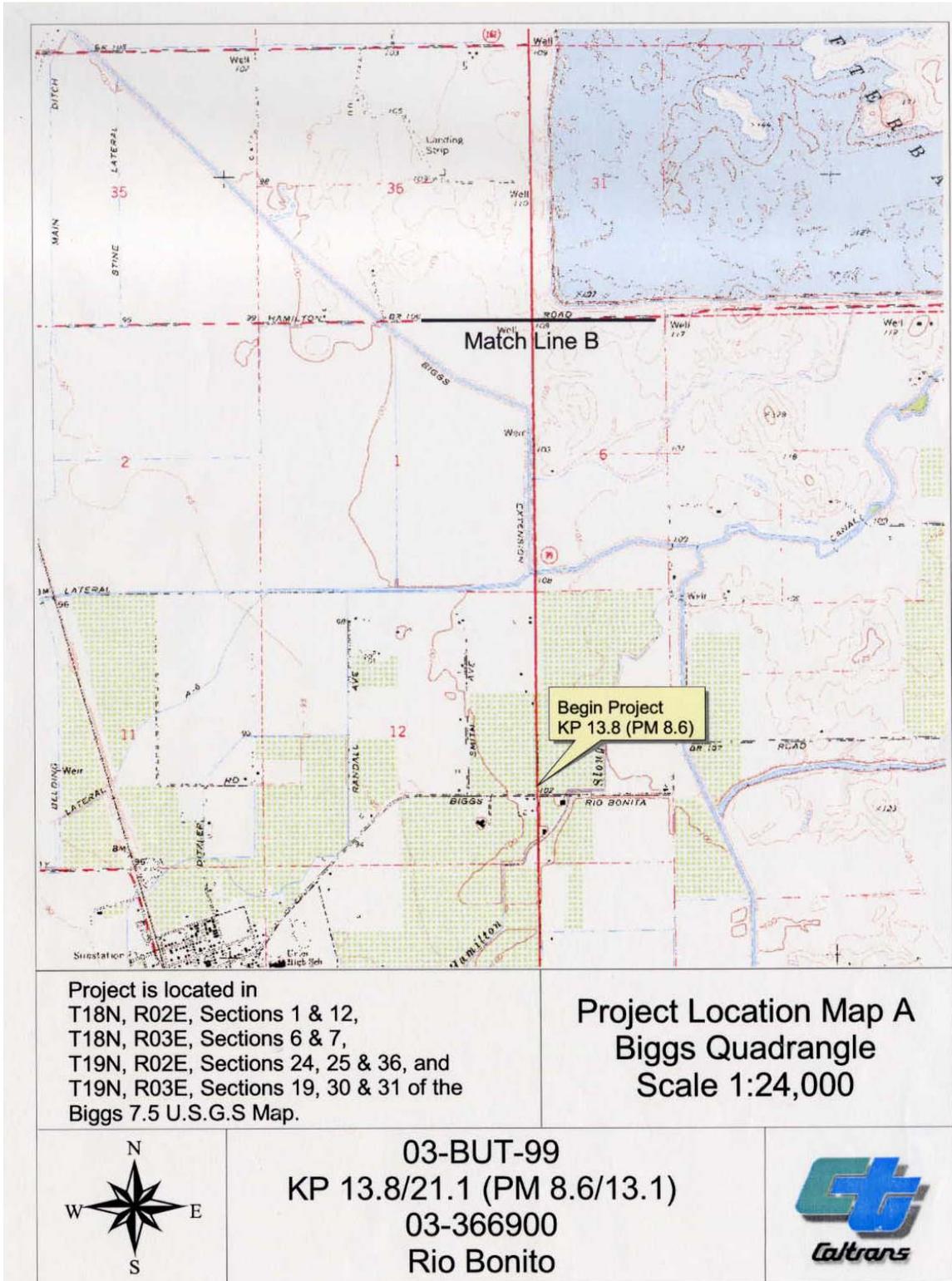
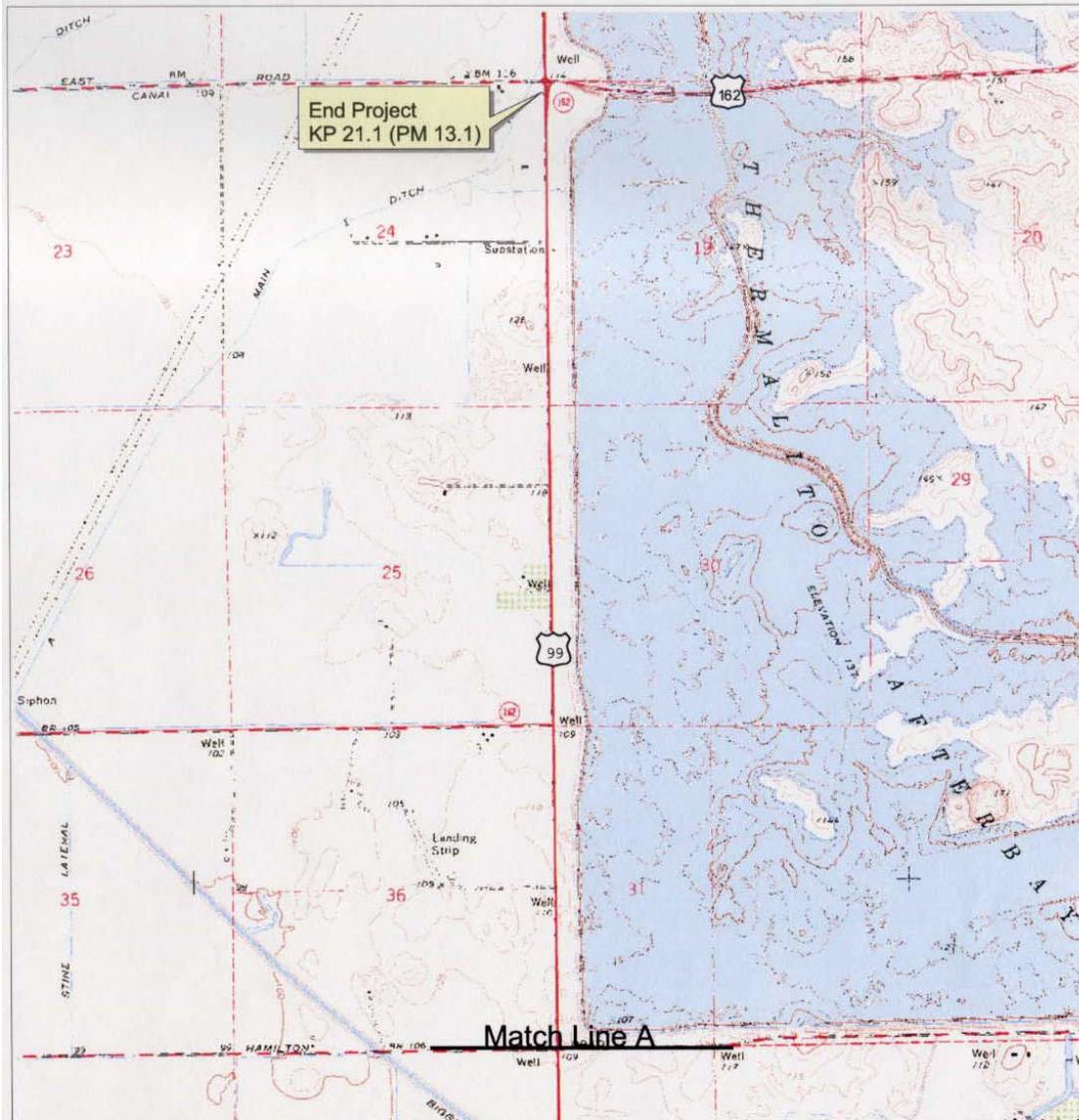


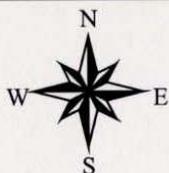
FIGURE 2: PROJECT LOCATION MAP





Project is located in
 T18N, R02E, Sections 1 & 12,
 T18N, R03E, Sections 6 & 7,
 T19N, R02E, Sections 24, 25 & 36, and
 T19N, R03E, Sections 19, 30 & 31 of the
 Biggs 7.5 U.S.G.S Map.

Project Location Map B
Biggs Quadrangle
Scale 1:24,000



03-BUT-99
 KP 13.8/21.1 (PM 8.6/13.1)
 03-366900
 Rio Bonito



CHAPTER 2. AFFECTED ENVIRONMENT, ENVIRONMENTAL CONSEQUENCES, AND AVOIDANCE, MINIMIZATION &/OR MITIGATION MEASURES

2.1. HUMAN ENVIRONMENT

As part of the scoping and environmental analysis conducted for the project, the following environmental resources were considered:

Coastal Zone
Wild and Scenic Rivers
Timberlands
Paleontology

These resources are not present within project limits and will not be affected by the project. No potential for adverse impacts to these resources was identified. Consequently, there is no further discussion regarding these resources in this document.

2.1.1. Land Use

Existing and Future Land Use

The proposed project is located in unincorporated Butte County between the City of Biggs and SR 162. The area is sparsely populated; most of the length of the project is adjacent either to the Thermalito Afterbay to the east or farmland to the west.

Butte County has designated most of the land in this area for Orchard and Field Crops (OFC). Along Thermalito Afterbay's levee, land is designated Resource Conservation (RC). Some commercial zoning is also present, accommodating small produce stands. Small strips of the parcels adjacent to the highway will need to be acquired to construct this project. The acquisition of this land is not expected to substantially affect existing or future land use.

CEQA Considerations

Less than significant impacts to land use pursuant to CEQA are anticipated.

Consistency with State, Regional and Local Plans

The proposed project is located within Butte County's jurisdiction, therefore the Butte County General Plan and its elements apply to this area. The proposed project is consistent with the General Plan's goals, policies, and objectives. The Agricultural Element emphasizes the conservation of OFC zones and requires that public uses be located so as not to unduly interfere with existing or planned agricultural activities. The Circulation Element supports using the existing roadway system to the greatest extent possible while providing for the safe and efficient movement of goods. The proposed project balances the conservation of agricultural resources with the region's

transportation needs by widening an existing roadway that is perceived as insufficient for current and projected traffic volumes, while using the minimum amount of adjacent farmland.

Parks and Recreational Facilities

Thermalito Afterbay

The Thermalito Afterbay is located to the east of SR 99, north of Hamilton Road (see Figure 3). The Thermalito Afterbay was constructed in the late 1960s. It is an off stream reservoir operated by the California Department of Water Resources (DWR). In addition to providing a controlled flow of water to the Feather River and helping to regulate power systems, the Afterbay is a large body of water open to the public for recreational purposes.

Department of Fish and Game Fish Rearing Ponds

To compensate for the steelhead trout and salmon-rearing habitat lost to the construction of Oroville Dam in the 1960s, the Oroville-Thermalito Complex includes a fish ladder and hatchery. One component of this hatchery, the Thermalito Fish Facility operated jointly by the California Department of Fish and Game and the Department of Water Resources, is located east of SR 99 in the project area. The Thermalito Fish Facility provides ponds for rearing salmon fry.

Freeman Bike Trail

Running along the shores of Thermalito Afterbay, Thermalito Forebay, and the crest of Oroville Dam, the Freeman Bike Trail offers 41 miles of mostly flat bicycling trails.

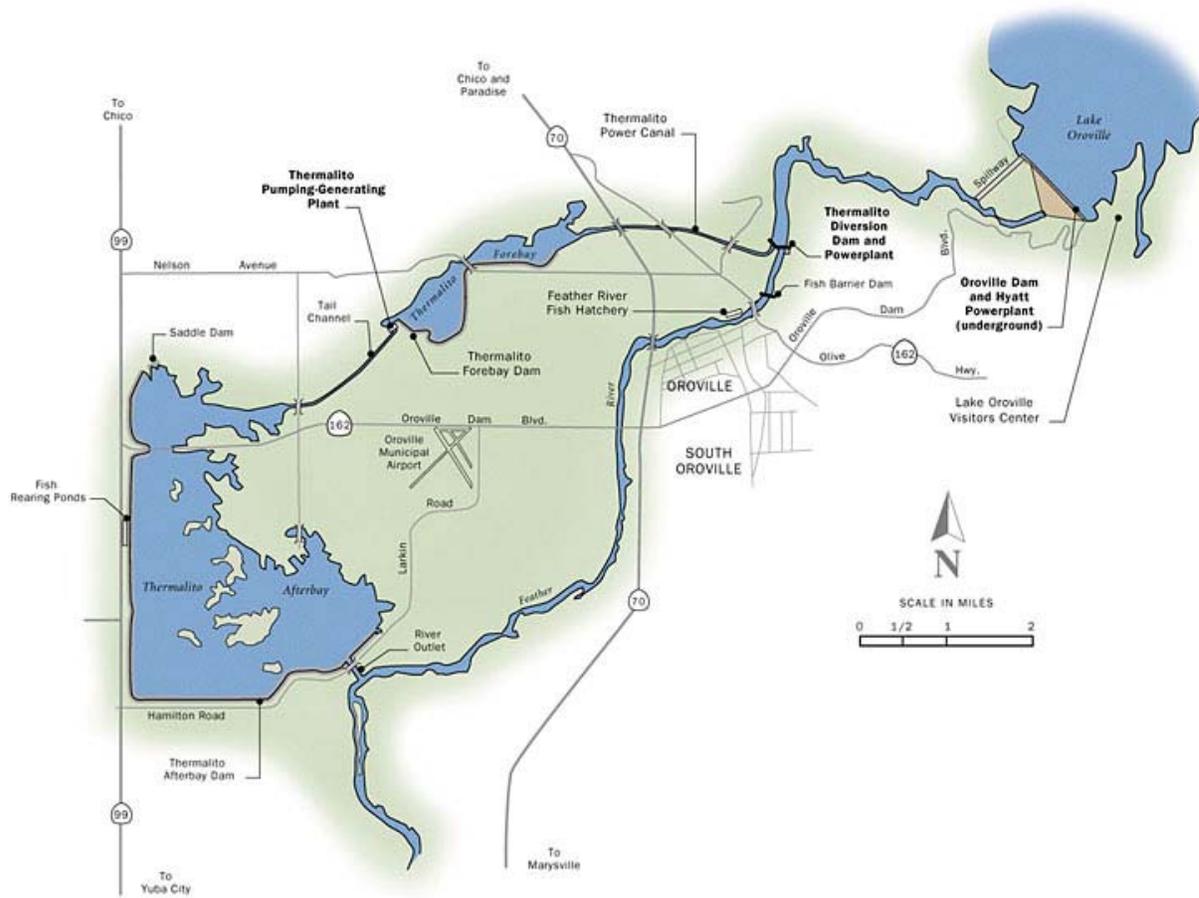
Impacts

This project will not affect the Thermalito Afterbay, the Fish Rearing Ponds or the Freeman Bike Trail.

2.1.2. Growth

The proposed project does not include any improvement in roadway capacity in this area and would provide only marginal improvements in travel times along this portion of the SR 99 corridor. The proposed project would not affect growth rates in nearby communities.

FIGURE 3: OROVILLE-THERMALITO COMPLEX



2.1.3. Farmlands

Regulatory Setting

The Farmland Protection Policy Act (FPPA, USC 4201-4209; and its regulations, 7 CFR Ch. VI Part 658) requires federal agencies, such as FHWA, to coordinate with the Natural Resources Conservation Service (NRCS) if their activities may irreversibly convert farmland (directly or indirectly) to nonagricultural use. For purposes of the FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. The land does not currently have to be used for cropland. It can be forestland, pastureland, cropland, or other land, but not water or urban developed land.

The California Environmental Quality Act requires the review of projects that would convert Williamson Act contract land to non-agricultural uses. The main purposes of the Williamson Act are to preserve agricultural land and to encourage open space preservation and efficient urban growth. The Williamson Act provides incentives to landowners through reduced property taxes to deter the early conversion of agricultural and open space lands to other uses.

Affected Environment

Butte County has 381,000 acres in farms, approximately 1.5 percent of the farmland in California. Rice is the most widely planted crop in the County, with nearly 95,000 acres in the year 2002. The proposed project would require the direct conversion of 12.6 acres of land adjacent to the existing roadway from farmland (orchards and rice fields) to roadway use. See Figure 4 for an overview of the existing farmland within the project area.

Of the 12.6 acres to be converted, 4.2 acres are considered by the NRCS to be Prime and Unique Farmland. Prime Farmland is land with a combination of physical and chemical features that make it best able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Unique Farmlands have lesser soils but are used for producing the State's leading agricultural crops.

The remainder of the farmland to be converted, 8.4 acres, is classified as Farmland of either Statewide or Local Importance. Farmland of Statewide Importance is irrigated farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture.

The proposed project would require the use of 1.51 acres of Prime Farmland that are enrolled in Williamson Act contracts. These contracts, established under the California Land Conservation Act of 1965, provide incentives, through reduced property taxes, to deter the early conversion of agricultural and open space lands.

Impacts-Farmland

The primary tool for determining the potential impacts of farmland conversion is Form AD-1006, provided in Appendix B. This form provides a system for rating farmland's characteristics and measuring the impacts of farmland conversion. The NRCS rates the land's quality on a scale of 0 to 100. The federal agency (or Caltrans as FHWA's designee in this case) rates the conversion's impact on a scale of 0 to 160. If the

combination of these two scores exceeds 160 points, the guidelines require that the federal agency consider alternatives, such as using areas that have already been developed, that are not considered farmland, or that have inferior soils.

The NRCS provided a score of 47 for Land Evaluation Criterion and Caltrans determined a score of 91 for Site Assessment Criteria, resulting in a total score of 138. According to the federal guidelines, projects receiving a total score less than 160 points need not be given further consideration for protection and no alternatives to the proposed project need to be evaluated.

The 12.6 acres of farmland that would be converted to roadway use as a result of this project represent 0.003 percent of the total farmland in the county. Based on the evaluation of farmland conversion impacts done in conjunction with the NRCS, this conversion is not likely to have an adverse affect on the county's supply of Prime Farmland or Farmland of Statewide or Local Importance.

CEQA Considerations

Less than significant impacts to farmlands pursuant to CEQA are anticipated.

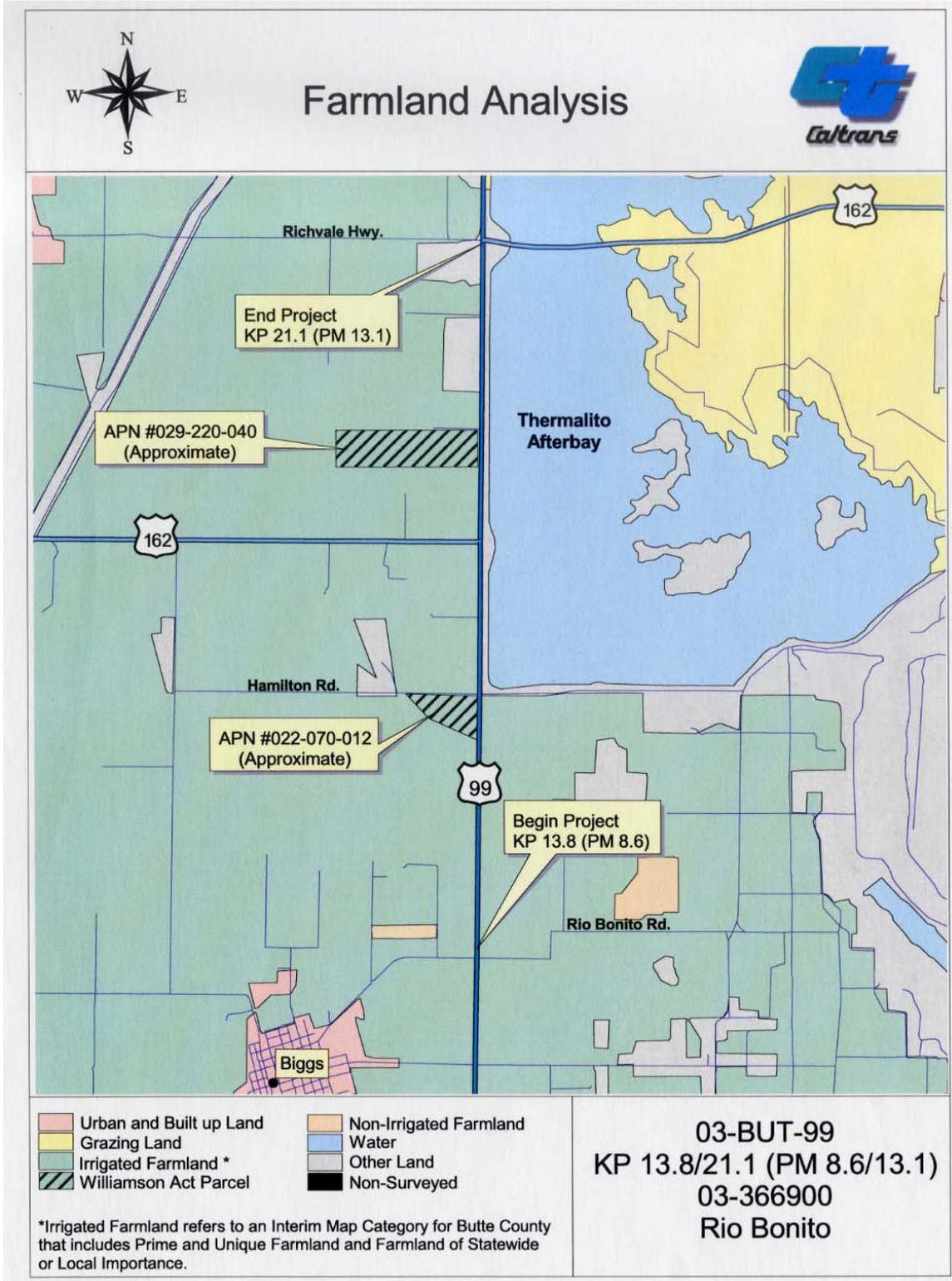
Impacts-Williamson Act Properties

Caltrans is required to notify the California Department of Conservation and the local governing body when considering the acquisition of Williamson Act lands (See Appendix C). Additionally, California Government Code §51292 requires that a public agency not locate public improvements in agricultural preserves unless it can find that 1.) The location is not based primarily on cost and that 2.) There is no other land on which it is reasonably feasible to locate the improvement. In this case, the proposed roadway widening is constrained to the east by Thermalito Afterbay and its facilities, including underground pumps, gas lines, vernal pools and a fish hatchery. Also, project construction must avoid impacts to the Biggs Extension Canal. Based on these conditions, the two findings required by §51292 are made.

CEQA Considerations

Less than significant impacts to Williamson Act Properties pursuant to CEQA are anticipated.

FIGURE 4: FARMLAND ANALYSIS



2.1.4. Community Impacts

Community Character and Cohesion

Regulatory Setting

Under the California Environmental Quality Act, an economic or social change by itself is not to be considered a significant effect on the environment. However, if a social or economic change is related to a physical change, then social or economic change may be considered in determining whether the physical change is significant. Since this project would result in physical change to the environment, it is appropriate to consider changes to community character and cohesion in assessing the significance of the project's effects.

Affected Environment

The project proposes improvements to an existing two-lane highway. These improvements would not add capacity to the highway. As a fairly busy roadway, SR 99 currently has the effect of separating residents on one side of the highway from those on the other.

Impacts

The proposed project would not be likely to alter the existing setting in an appreciable manner. No impacts to community character and cohesion are anticipated.

Relocations

Regulatory Setting

The Department's Relocation Assistance Program (RAP) is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) and Title 49 Code of Federal Regulations (CFR) Part 24. The purpose of RAP is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole.

All relocation services and benefits are administered without regard to race, color, national origin, or sex in compliance with Title VI of the Civil Rights Act (42 U.S.C. 2000d, et seq.). Please see Appendix D for a copy of the Department's Title VI Policy Statement.

Affected Environment

The area within the project limits is sparsely populated. Retail business activity is limited to a mandarin stand, a strawberry stand and a produce stand. There are also three billboards within the project limits.

Impacts

The project would not require any residential displacements. The project may require the relocation of three wells located on private property. Replacement locations for wells are plentiful in this area.

The project would not require the displacement of any of the businesses in this portion of SR 99. The proposed project may have temporary construction impacts on the small produce stand located at 3542 State Route 99, as a result of restrictions in access during work on the roadway's shoulder.

Doering's Mandarins, located at 4583 State Route 99, does not operate during the summer months, when construction is most likely to occur. Some portion of the mandarin orchard may be acquired as a result of the project.

Impacts to the strawberry stand located at the northern end of the project are likely to be minimal. Some portion of the strawberry fields associated with the stand may be acquired by the project. Construction activities at this end of the project may include the use of the area at the SR 99/Richvale Highway intersection as a staging area, which may affect the produce stand's visibility to southbound traffic. Impacts would be temporary.

The proposed project would require relocating the billboard located at KP 20.6 (PM 12.8). There appears to be no shortage of nearby property onto which this billboard could be relocated.

There are several other properties including rice fields and orchards adjacent to the highway that will be affected by the construction of this project. Small strips of individual parcels will need to be permanently acquired. Temporary Construction Easements will also be needed to relocate ditches, field levees, and field roads. Because of this, some farmers may temporarily lose production from a portion of their acreage for all or part of one season.

Caltrans Right of Way Department will coordinate with affected property owners concerning compensation for loss of property and business.

CEQA Considerations

Less than significant impacts due to relocations pursuant to CEQA are anticipated.

Environmental Justice

Regulatory Setting

This project has been developed in accordance with the Civil Rights Act of 1964, as amended, and Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." The Executive Order requires each Federal agency (or its designee) to take the appropriate and necessary steps to identify and address "disproportionately high and adverse" effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law.

Impacts

The adverse impacts of the proposed project would be largely limited to the impacts of project construction, such as detours, and construction noise and dust.

The project would require that Caltrans acquire land from nearby property owners, but no residential displacements would be necessary. Property acquisition would primarily be from rice fields.

The project area is home to both low-income and minority populations. These residents would experience the adverse impacts of project construction, primarily in the form of temporary traffic delays. However, these impacts would fall evenly on all of the people who live in this part of Butte County or who use this portion of SR 99.

The proposed project would not cause disproportionately high and adverse effects on any minority or low-income populations as defined in Executive Order 12898 regarding environmental justice.

2.1.5. Utilities/Emergency Services

Affected Environment

Between SR 99 and the Thermalito Afterbay levee to the east there are a number of wells and pumping stations associated with the Afterbay. Pacific Gas and Electric's "Tres Vias" substation is also located east of SR 99 in this area. PG&E's transmission lines, including 60 KV power lines and gas lines, run along the highway's east side. Telephone lines run along the west side of the highway.

Four water/irrigation districts provide service to farms and residents in this area: the Biggs-West Gridley Water District, the Butte Water District, the Richvale Irrigation District, and the Western Canal Water District. The Biggs Extension Canal, jointly maintained by the Richvale Irrigation District and the Biggs-West Gridley Water District crosses under the highway in the project limits.

Several law enforcement agencies provide emergency services in this area.

Impacts

Several utilities will need to be moved for construction of this project including the poles for the 60 KV power lines. The environmental studies for the proposed project have included sufficient area for utility relocation. The PG&E "Tres Vias" substation will not be affected by the project.

The project proposes replacement of the bridge over the Biggs Extension Canal. This would involve excavation and work in the canal itself. Low flow in the canal occurs from February to mid-April. Currently, the construction schedule for the proposed project anticipates doing work in the canal during this low flow period.

During construction, traffic will be delayed, causing potential for reduced emergency response times.

CEQA Considerations

Less than significant impacts to utilities and emergency services pursuant to CEQA are anticipated.

Avoidance and Minimization Measures

A detailed Traffic Management Plan will be included as part of the Contractor's specification package in order to manage temporary construction delays.

2.1.6. Traffic and Transportation/Pedestrian and Bicycle Facilities

Affected Environment

Currently, there is a Class III bicycle facility on SR 99 in the project area. (Class III indicates that bicycles are permitted on the roadway shoulders and signage indicates a shared roadway to cyclists and drivers, but there is no separate bike lane.)

Impacts

No special signage or markings for bicycle facilities will be provided through this area, but the 2.4-meter shoulder width will enhance bicycle travel.

The wider shoulders and addition of left turn lanes is expected to enhance the flow of traffic in the project area.

During construction, motorists and cyclists will experience delays. It is anticipated that lane closures will be required and one lane with reversible control will be used to manage traffic. Impacts to motorists and cyclists will be temporary.

CEQA Considerations

Less than significant impacts to traffic and transportation and bicycle facilities pursuant to CEQA are anticipated.

Avoidance and Minimization Measures

A detailed Traffic Management Plan will be included as part of the Contractor's specification package in order to manage temporary construction delays.

2.1.7. Visual/Aesthetics

Regulatory Setting

The California Environmental Quality Act (CEQA) establishes that it is the policy of the state to take all action necessary to provide the people of the state "with...enjoyment of *aesthetic*, natural, scenic and historic environmental qualities." [CA Public Resources Code Section 21001(b)]

Affected Environment

A Visual Impact Assessment was prepared in August 2004 to analyze the project impacts on visual resources. This section of highway is predominantly agricultural in character, including orchards and open fields with driveways and local roads having direct access to the highway. On the east side of SR 99 are power lines and a fish hatchery in front of the Thermalito Afterbay levee.

The fish hatchery is a long and narrow in shape enclosed by a chain link fence. This structure is in close proximity to SR 99 and is visually out of character for this area. The Thermalito Afterbay levee is approximately 30 feet tall. This levee runs parallel to SR 99 and blocks background views to the east.

The unifying attributes for this region are the highway corridor having a straight alignment, surrounded by orchards and farmhouses. The levee and fish hatchery give the project area a low visual quality for intactness, unity and vividness. SR 99 is not

officially designated as a State Scenic Highway nor is it eligible to be a State Scenic Highway.

Impacts

The road will be widened and obstructions within 6 meters (20 ft) of the road will be moved, including utility poles and trees, to provide a clear recovery zone (CRZ).

At the south end of the project there are approximately 14 oak trees on the west side of SR 99 close to the CRZ, including one tree that is possibly 200 years old with a caliper of 65 inches at breast height. This tree's canopy is roughly 40 meters wide, having a good portion of the canopy cast over SR 99. A field review was conducted with an arborist on July 29, 2004 to inspect the condition of the existing oak trees. All of the oak trees were in good condition. It is anticipated that three oak trees, which are too close the CRZ, will be removed. The 200-year-old tree and those not in the CRZ will be protected during construction.

Orchard trees will be also need to be removed that are within the cut/fill lines and within the CRZ, however these should not be noticeable with the orchards still intact behind.

CEQA Considerations

Less than significant impacts to visual resources pursuant to CEQA are anticipated.

Avoidance and Minimization Measures

- Preserve and protect all oak tree canopies shadowing over the Caltrans right of way by placing a temporary fence around the drip line of oak trees.
- It is recommended to protect trees on the margin of the clear recovery zone with MBGR where possible.
- Where oak trees need to be removed they will be replaced at a ratio of 1 acorn per one inch of caliper tree removed.
- A certified Arborist shall do any pruning.
- All areas disturbed during construction shall receive permanent erosion control measures. All finished slopes shall be hydroseeded with a permanent seed mix composed of native plant species indigenous to the areas. A Landscape Architect shall prepare the erosion control plans and specifications. Where drainage structures are widened or replaced, all exposed soil needs to be replanted with native grass plugs or hydroseeded for storm water requirements.
- In order to further Caltrans' goal to reduce the usage of chemical herbicides within the right of way by 80% by the year 2012, and reduce fires from starting, the following measure is being considered for use within the project limits:
 1. Use polymer for a natural soil pavement to prevent weed growth under (MBGR) around signposts, power line poles and a 4-foot swath parallel to the edge of roadway to keep fires from starting.

2.1.8. Cultural Resources

Regulatory Setting

The National Historic Preservation Act (NHPA), as amended, sets forth national policy and procedures regarding "historic properties" -- that is, districts, sites, buildings, structures and objects included in or eligible for the National Register of Historic Places.

Section 106 of NHPA requires federal agencies to consider the effects of their undertakings on such properties, following regulations issued by the Advisory Council on Historic Preservation (36 CFR 800).

Under California law, cultural resources are protected by the CEQA as well as Public Resources Code Section 5024.1, which established the California Register of Historic Places. Section 5024.5 requires state agencies to provide notice to, and to confer with the State Historic Preservation Officer (SHPO) before altering, transferring, relocating, or demolishing state-owned historic resources.

Impacts

Record searches and field reviews were performed and a Historic Property Survey Report (HPSR) was completed. No prehistoric resources were identified. The HPSR examined two properties built prior to 1955, which were within the project's area of potential effects (APE). It was determined that neither of the two properties was eligible for inclusion on the National Register of Historic Places (NRHP) as they had no strong associations with significant historical events or persons and are not examples of outstanding architectural or engineering design or function. The Federal Highway Administration concurred with Caltrans' findings on January 5, 2005. No impacts to cultural resources are expected to occur as a result of this project. However, should cultural resources be encountered during construction, the following avoidance and minimization measures will protect those resources.

Avoidance and Minimization Measures

In the remote event that archaeological materials (e.g. artifacts including, arrowheads, bottles, foundations etc.) are discovered during construction, it is Caltrans' policy that work temporarily cease in the area of the find until the Caltrans District Archeologist can evaluate the nature and significance of the materials and consult with the State Historic Preservation Office about the disposition of the materials (Environmental Handbook, Vol. 2, Chapter 1). In the event that human remains are discovered or recognized during construction, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the appropriate county coroner has determined that the remains are not subject to provisions of Section 27491 of the Government Code. If the coroner determines the remains to be Native American, he shall contact the Native American Heritage Commission (NAHC) within 24 hours. The NAHC will appoint a Most Likely Descendent for disposition of the remains (Health and Safety Code Sect. 7050.5, Public Resources Code Sect. 5097.24).

2.2. PHYSICAL ENVIRONMENT

2.2.1. Hydrology and Floodplain

A Floodplain Analysis was prepared using data from Caltrans' Graphic Information Services (GIS) Library. The GIS data was obtained from the Federal Emergency Management Agency (FEMA). The Floodplain Analysis found that the project limits are outside of the FEMA 100 Year Floodplain. This project will not affect a FEMA designated floodplain.

2.2.2. Water Quality and Storm Water Runoff

Regulatory Setting

The primary federal law regulating Water Quality is the Clean Water Act. To ensure compliance with Clean Water Act, the State Water Resources Control Board (SWRCB) has issued a National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit to regulate storm water discharges from Caltrans' facilities. The permit regulates storm water discharges from Caltrans right-of-way during and after construction, as well as from existing facilities and operations.

In addition, the SWRCB has issued a construction general permit for most construction activities covering greater than 1 acre (0.40 hectare), that are part of a Common Plan of Development exceeding 5 acres (2.02 hectare) or that have the potential to significantly impair water quality. Some construction activities may require an individual construction permit. All Caltrans 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 Caltrans review and approval, the contractor prepares both the SWPPP and the WPCP. The WPCP and SWPPP identify construction activities that may cause pollutants in storm water and measures to control these pollutants. Since neither the WPCP nor the SWPPP are prepared at this time, the following discussion focuses on anticipated pollution controls.

Affected Environment

The project is located in a Mediterranean climate, which is characterized by hot, dry summers and cool, moist winters. Most of the rainfall occurs from October through April where the average annual precipitation is approximately 23 inches.

The project is within the jurisdiction of the Central Valley Region (Region V) of the California Regional Water Quality Control Board (RWQCB). The Central Valley Basin Plan lists many beneficial uses for streams and springs near the project area including municipal and domestic supply, irrigation, recreation (contact), recreation (non-contact), freshwater habitat (cold and warm), migration (cold and warm), spawning (cold and warm), and wildlife habitat. The Basin Plan also states that waters designated for use as domestic or municipal supply, shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in the Title 22 of the California Code of Regulations.

Section 303(d) of the Clean Water Act and EPA water quality planning management regulations require states to identify waters that do not meet, or are not expected to meet, water quality standards even after technology-based or other required controls are in place. These water bodies are considered water quality-limited and are reported by states in their 303(d) list. Feather River, Lower (Lake Oroville Dam to confluence with Sacramento River) is on the 303(d) list of impaired water bodies for diazinon, Group A pesticides, mercury and unknown toxicity. Caltrans highway runoff is not a likely contributor to the presence of these impairments.

Impacts

Avoidance and minimization measures will be incorporated into project design and into the project's special provisions to avoid any potential impacts to water quality that may occur during construction of this project.

CEQA Considerations

Less than significant impacts to water quality pursuant to CEQA are anticipated.

Avoidance and Minimization Measures

In order to address Permit compliance, appropriate selection of both structural and non-structural control measures will be considered to reduce, to the extent practicable, the discharge of pollutants from the construction and operation of this project. Adherence to the following is recommended to ensure compliance with the terms of the National Pollutant Discharge Elimination System (NPDES) Permit (Order No. 99-06-DWQ) and to prevent receiving water pollution as a result of construction activities and/or operation of this section of SR 99.

- The project will adhere to the conditions of the Caltrans Statewide NPDES Permit, Order # 99-06-DWQ # CAS000003, issued by the State Water Resources Control Board. Adherence to the compliance requirements of the NPDES General Permit, Order # 99-08-DWQ # CAS000002, for construction activities is also required since the construction activity related to this project will disturb more than one acre of soil.
- The contractor will be required to prepare a Storm Water Pollution Prevention Plan (SWPPP) containing effective erosion and sediment control measures. These measures must address soil stabilization practices, sediment control practices, tracking control practices, and wind erosion control practices. In addition, the project plan must include non-storm water controls, waste management and material pollution controls. It is generally accepted that practices that perform well by themselves can be complemented by other practices to raise the collective level of erosion control effectiveness and sediment retention.
- Standard Special Provision (SSP) 07-345 is a set of specifications used for projects that disturb more than one acre of soil. SSP 07-345 will be included in the construction specifications for this project and will clearly outline the contractor's responsibilities with respect to preparation and implementation of the SWPPP.

2.2.3. Geology/Soils/Seismic/Topography

This project will require grading of soil to adhere to design standards. Erosion control methods will be used to avoid additional loss of topsoil. There will be no geology, seismic, or topography impacts from this project.

CEQA Considerations

Less than significant impacts to soils pursuant to CEQA are anticipated.

2.2.4. Hazardous Waste/Materials

Regulatory Setting

Many state and federal laws regulate hazardous materials and hazardous wastes. 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.

Affected Environment

A Hazardous Waste Site Investigation found the following:

- Asbestos is present in the expansion joint material of the Biggs Extension Canal Bridge (Bridge # 12-004).
- The yellow traffic stripe in the existing portion of the roadway may contain heavy metals such as lead and chromium which may exceed hazardous waste thresholds established by the California Code of Regulations (CCR) and may produce toxic fumes when heated.

Impacts

With the following avoidance and minimization measures in place, no impacts due to hazardous waste are anticipated.

Avoidance and Minimization Measures

- Special provisions will be added to the project's specifications for removal, containerization, transportation and disposal of the asbestos.
- The removed yellow traffic stripe material shall be disposed of at a Class 1 disposal facility. Special provisions will be added to the project's specifications for the removal of the traffic stripe and pavement marking.

2.2.5. Air Quality

Regulatory Setting

The Clean Air Act as amended in 1990 is the federal law that governs air quality. Its counterpart in California is the California Clean Air Act of 1988. These laws set standards for the quantity of pollutants that can be in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). Standards have been established for carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃) and particulate matter that is 10 microns in diameter or smaller (PM₁₀).

Under the 1990 Clean Air Act Amendments, the U.S. Department of Transportation cannot fund, authorize, or approve Federal actions to support programs or projects that are not first found to conform to the Clean Air Act requirements. Conformity with the Clean Air Act takes place on two levels—first, at the regional level and second, at the project level. The proposed project must conform at both levels to be approved.

Regional level conformity is concerned with how well the region is meeting the standards set for the pollutants listed above. At the regional level, Regional Transportation Plans (RTP) are developed that include all of the transportation projects planned for a region over a period of years, usually 20. Based on the projects included in the RTP, an air quality model is run to determine whether or not the implementation of those projects would result in a violation of the Clean Air Act. If no violations would occur, then the regional planning organization, such as Butte County Association of Governments (BCAG) for Butte County and the appropriate federal agencies, such as the Federal Highway Administration, make the determination that the RTP is in conformity with the Clean Air Act. Otherwise, the projects in the RTP must be modified until conformity is attained. If the design and scope of the proposed transportation project are the same as described in the RTP, then the proposed project is deemed to be in conformity at the regional level.

Conformity at the project-level is also required. Again the pollutants of concern are: carbon monoxide (CO), nitrous dioxide (NO₂), ozone (O₃) and particulate matter that is 10 microns in diameter or smaller (PM₁₀). If a region is meeting the standard for a given pollutant, then the region is said to be in “attainment” for that pollutant. If the region is not meeting the standard, then it is designated a “non-attainment” area for that pollutant. Areas that were previously designated as non-attainment areas but have recently met the standard are called “maintenance” areas. If a project is located in a non-attainment or maintenance area for a given pollutant, then additional air quality analysis and reduction measures in regard to that pollutant is required. This is most frequently done for CO and PM₁₀.

Affected Environment

This project is located in Butte County, which is situated in the Sacramento Valley Air Basin. Under National Ambient Air Quality Standards, Butte County is classified as in attainment for both CO and PM₁₀ and in non-attainment for Ozone. Under California Ambient Air Quality Standards, Butte County is classified as in attainment for CO and in non-attainment for PM₁₀ and Ozone.

This project is consistent with the Butte County Association of Government's (BCAG) Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP). As such, a satisfactory affirmative regional conformity determination has been made.

Impacts

A local (project-level CO) analysis was performed using the Caltrans Transportation Project-Level Carbon Monoxide Protocol, UCD-ITS-RR-97-21, by the Institute of Transportation Studies, UC Davis.

From Figure 3, Local CO Analysis and Section 4.7.1 of the above mentioned Protocol, this project:

- Does not significantly increase vehicles operating in cold start mode,
- Does not significantly increase traffic volumes,
- Does not worsen traffic flow.

Therefore, the proposed project is not likely to worsen air quality and no local (project-level CO) impacts are anticipated.

Construction Impacts

The proposed project may result in the generation of short-term construction-related air emissions, including fugitive dust and exhaust emissions from construction equipment. Fugitive dust, sometimes referred to as windblown dust or PM₁₀, would be the primary short-term construction impact that may be generated during excavation, grading and hauling activities. However, both fugitive dust and construction equipment exhaust emissions would be temporary and transitory in nature. Caltrans Standard Specifications should effectively reduce and control emission impacts during construction.

It is not expected to encounter naturally occurring asbestos within the project limits; however, asbestos may be encountered in the Biggs Extension Canal Bridge. If asbestos is found, special handling will be implemented.

CEQA Considerations

Less than significant impacts to air quality pursuant to CEQA are anticipated.

Avoidance and Minimization Measures

- Caltrans Standard Specifications contain Section 7-1.01F, "Air Pollution Control," and Section 10, "Dust Control." These specifications require the contractor to comply with all pertinent rules, regulations, ordinances, and statutes of the local air district. These specifications, which are included in all construction contracts, should aid in reducing construction related air quality impacts.
- If asbestos is found, Rule 1000 of the Butte County Air Quality Management District must be adhered to when handling this material.

2.2.6. Noise

Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969 and the California Environmental Quality Act (CEQA) provide the broad basis for analyzing and abating highway traffic noise effects. The intent of these laws is to promote the general welfare and to foster a healthy environment.

Affected Environment

This project is not considered a Type 1 project as defined by 23 CFR 772. A type 1 project is "a proposed Federal or Federal-aid highway project for the construction of a highway on a new location, or the physical alteration of an existing highway which significantly changes either the horizontal or vertical alignment or increases the number of through traffic lanes." Because this is not a Type 1 project, no traffic noise analysis is required.

Construction Impacts

Noise may be generated from the contractor's equipment and vehicles. Caltrans Standard Specifications should reduce the amount of construction noise.

CEQA Considerations

Less than significant impacts to noise pursuant to CEQA are anticipated.

Avoidance and Minimization Measures

- Caltrans Standard Specifications contain Section 7-1.01I, "Sound Control Requirements." These specifications require the contractor to comply with all local sound control and noise level rules, regulations and ordinances that apply to any work performed pursuant to the contract. Each internal combustion engine, used for any purpose on the job or related to the job, shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the project without the muffler. These specifications, which are included in all construction contracts, should aid in reducing construction related noise impacts.

2.3. BIOLOGICAL ENVIRONMENT

2.3.1. Biological Setting

The Biological Study Area encompasses areas within and adjacent to the SR 99 right of way and extends 76 m (250 ft) from construction where vernal pools occur along the highway in order to assess areas of indirect impacts to vernal pool habitat. A list of species and habitats potentially occurring within the project vicinity was developed based on information from federal and state resource agencies. The United States Fish and Wildlife Service (USFWS) provided a list of sensitive species for the project vicinity. The California Department of Fish and Game (CDFG) Natural Diversity Database (CNDDDB) (Rarefind, 2004: Palermo, Oroville, Biggs, and Shippee 7.5-minute USGS quadrangles) was queried for occurrences of listed and other sensitive species. The California Native Plant Society's "Inventory of Rare and Endangered Plants of California" (2003) was also used. Field surveys of the project site were conducted to assess existing natural resources and potential impacts. The project site was reviewed to 1) identify habitat types; 2) identify potential wetlands; 3) identify factors indicating the potential for rare species; 4) identify rare species present; 5) identify potentially sensitive water quality receptors; and 6) identify potential problems for the project.

No natural watercourses currently flow throughout the project area. Hydrological resources in the vicinity of the proposed project consist of vernal pools and swales and emergent marshes, which have been mapped using a Global Positioning System (GPS). Other aquatic resources in the project vicinity include the Thermalito Afterbay, irrigation ditches, and two irrigation canals, the Biggs Extension Canal and the Lateral Canal. The Thermalito Afterbay provides habitat for waterfowl and the irrigation ditches and canals provide habitat for giant garter snakes, egrets and other wading birds, and amphibians.

An area of pristine vernal pools remains west of SR 99 and south of Badger Creek Road. This grassland is known locally as, "Richvale Vernal Pools" and has been the object of botanical studies by researchers from California State University, Chico. The Richvale Vernal Pools are natural pools interconnected by swales. The vernal pools are large and deep enough to provide habitat for listed fairy shrimp. This parcel has not been disked or leveled, nor is it currently grazed.

The main vegetative community within the project area consists of non-native grasses and forbs in the right of way. Dominant non-native plants include wild oats (*Avena sativa*), Italian rye (*Lolium multiflorum*), soft chess (*Bromus hordeaceus*), mediterranean barley (*Hordeum leporinum*), star thistle (*Centaurea solstitialis*), and medusa-head (*Taeniatherum caput-medusae*). This ruderal community is common throughout the valley.

Common animal species that have been observed in the project area include jackrabbits, skunks, mice and bats. These have all been observed as road kill. No animal migration corridors are known to exist in the project area.

The following table lists USFWS sensitive species found in the general vicinity of the project, in Butte County and/or in the USGS 7.5-minute Biggs and Shippee Quadrangles. No further studies were conducted if habitat was absent (A); if habitat was present (P), field surveys were performed.

Table 2: Regional Sensitive Species Table

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present /Absent	Rationale
Birds					
<i>Agelaius tricolor</i>	Tricolored blackbird	FSC/SSC	Marshes with dense vegetation	A	No habitat
<i>Ammodramus savannarum</i>	Grasshopper sparrow	FSC	Grasslands, weedy fields	P	Potential habitat at Richvale vernal pools and near levee
<i>Asio flammeus</i>	Short-eared owl	FSC/SSC	Weedy fields; ground nester	P	Potential habitat at Richvale vernal pools and near levee
<i>Athene cunicularia hypugea</i>	Burrowing owl	FSC/SSC	Inhabits burrows in grassland	P	Habitat at Richvale Vernal Pools; none seen
<i>Buteo regalis</i>	Ferruginous hawk	FSC/SSC	Dry, open country	P	Foraging habitat
<i>Buteo swainsoni</i>	Swainson's hawk	ST	Central valley	P	Active nest at Oroville Wildlife Area 4 miles east of SR 99 at Rio Bonito
<i>Chondestes grammacus</i>	Lark sparrow	FSC	Roadsides, open woodlands, farms	P	Habitat in project area
<i>Circus cyaneus</i>	Northern harrier	SSC	Wetlands, open fields	P	Foraging habitat
<i>Coccyzus americanus occidentalis</i>	Western yellow-billed cuckoo	FC/SE	Dense mixed riparian	A	No habitat
<i>Empidonax trailii brewsteri</i>	Little willow flycatcher	SE	Willow stands	A	No habitat
<i>Haliaeetus leucocephalus</i>	Bald eagle	FT/SE	Coniferous forests or large trees near water	P	Active nest at Oroville Wildlife Area 4 miles east of SR 99 at Rio Bonito; 2 fledglings Mar 2005 (A. Atkinson DFG)
<i>Lanius ludovicianus</i>	Loggerhead shrike	FSC	Riparian edges, grasslands	P	Potential habitat
<i>Melanerpes lewis</i>	Lewis' woodpecker	FSC	Open woodlands	A	No habitat
<i>Plegadis chihi</i>	White-faced ibis	FSC/SSC	Marshes, flooded fields	P	None observed but may use rice fields
<i>Riparia riparia</i>	Bank swallow	ST	Nests in burrows in banks of river	A	No habitat
Reptiles					
<i>Clemmys marmorata marmorata</i>	Northwestern pond turtle	FSC/SSC	Ponds, streams with vegetation	P	Marginal habitat
<i>Phrynosoma coronatum frontale</i>	California horned lizard	FSC	Sparsely vegetated floodplains, sandy areas	A	No habitat

<i>Thamnophis gigas</i>	Giant garter snake	FT/ST	Ponds, marshes, canals with aquatic vegetation	P	Rice field habitat and irrigation ditches, canal
Amphibians					
<i>Ambystoma californiense</i>	California tiger salamander	FT	Vernal pool complexes and isolated ponds	A	Out of range
<i>Rana aurora dratonii</i>	California red-legged frog	FT/SSC	Ponds, creeks with emergent vegetation	A	No habitat
<i>Rana boylei</i>	Foothill yellow-legged frog	FSC/SSC	Ponds, creeks with emergent vegetation	A	No habitat
<i>Scaphiopus hammondi hammondi</i>	Western spadefoot toad	FSC/SSC	Vernal pools in grasslands	P	Potential habitat
Fish					
<i>Lampetra tridentata</i>	Pacific lamprey	FSC	Permanent creeks, rivers	A	No habitat
<i>Oncorhynchus mykiss</i>	Steelhead	FT	Creeks, rivers	A	No migration corridors or spawning habitat
<i>Oncorhynchus tshawytscha</i>	Chinook salmon (winter run)	FE/SE	Creeks, rivers	A	No migration corridors or spawning habitat
<i>Oncorhynchus tshawytscha</i>	Chinook salmon (fall run)	FPT	Creeks, rivers	A	No migration corridors or spawning habitat
<i>Oncorhynchus tshawytscha</i>	Chinook salmon (spring run)	FT/ST	Creeks, rivers	A	No migration corridors or spawning habitat
<i>Pogonichthys macrolepidotus</i>	Sacramento splittail	FT	Estuaries	A	No habitat; range now further south
Crustaceans					
<i>Branchinecta conservatio</i>	Conservancy fairy shrimp	FE	Vernal pools	A	No habitat-pools too shallow
<i>Branchinecta lynchi</i>	Vernal pool fairy shrimp	FT	Vernal pools	P	Potential habitat
<i>Lepidurus packardii</i>	Vernal pool tadpole shrimp	FE	Vernal pools	P	Potential habitat
<i>Linderiella occidentalis</i>	CA linderiella fairy shrimp	FSC/SSC	Vernal pools	P	Potential habitat; species observed
Invertebrates					
<i>Desmocerus californicus dimorphus</i>	Valley elderberry longhorn beetle	FT	Elderberry species <i>Sambucus mexicana</i>	A	No elderberry shrubs in project area
Mammals					
<i>Antrozous pallidus</i>	Pallid bat	FSC/SSC	Variety of habitats	P	Potential habitat
<i>Corynorhinus townsendii pallescens</i>	Pale Townsend's big-eared bat	FSC/SSC	Woodlands	A	No habitat
<i>Eumops perotis californicus</i>	Greater western mastiff-bat	FSC/SSC	Wetlands	P	Potential habitat
<i>Myotis yumanensis</i>	Yuma myotis	FSC/SSC	Buildings, forests, caves, trees	P	Potential habitat
Plants					
<i>Astragalus tener</i> var. <i>ferrisiae</i>	Ferris milk-vetch	FSC/1B	Vernally mesic meadows, subalkaline	P	Potential habitat
<i>Chamaesyce hooveri</i>	Hoover's spurge	FT 1B	Vernal pools	A	Potential habitat; none found in surveys or documented at Richvale

<i>Fritillaria pluriflora</i>	Adobe lily	FSC/1B	Clay, grasslands	A	No habitat; none found in surveys
<i>Juncus leiospermus v. ahartii</i>	Ahart's dwarf rush	FSC/1B	Vernal pools	P	Potential habitat
<i>Juncus leiospermus v. l.</i>	Red Bluff dwarf rush	FSC/1B	Vernally mesic sites	P	Potential habitat
<i>Limnanthes floccosa ssp. californica</i>	Butte County (Shippee) meadowfoam	FE/SE/1B	Vernal swales, pools	P	Potential habitat; none found in surveys
<i>Myosurus minimus ssp. apus</i>	Little mousetail	FSC/List 3	Vernally moist sites	P	Potential habitat
<i>Orcuttia pilosa</i>	Hairy orcutt grass	FE/SE	Vernal pools	P	Potential habitat
<i>Orcuttia tenuis</i>	Slender orcutt grass	FT/SE	Vernal pools	P	Potential habitat
<i>Paronychia ahartii</i>	Ahart's paronychia	FSC/1B	Upland grassland	P	Potential habitat
<i>Sagittaria sanfordii</i>	Valley sagittaria	FSC/CNPS List 4	Slow running or standing water; Central Valley	P	Requires permanent water; no plants found
<i>Tuctoria greenei</i>	Greene's tuctoria	FE/State Rare/1B	Vernal pools	P	Potential habitat; found within ¼ mile

FC: Federal Candidate

FE: Federal Endangered

FP, FPE, FPT: Federal Proposed, Federal Proposed Endangered, Federal Proposed Threatened

FSC: Federal Species of Concern

FT: Federal Threatened

SE: State Endangered

SSC: State Species of Special Concern

ST: State Threatened

CNPS: California Native Plant Society, 1B: Rare, threatened and endangered in California and elsewhere
List 3: Plants about which we need more information/a review list. List 4: Plants of limited distribution/a watch list

2.3.2. Wetlands and Other Waters

Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Clean Water Act (33 U.S.C. 1344) is the primary law regulating wetlands and waters. The Clean Water Act regulates the discharge of dredged or fill material into waters of the United States, including wetlands. Waters of the United States include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the Clean Water Act, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils subject to saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the Clean Water Act.

Section 404 of the Clean Water Act establishes a regulatory program that provides that no discharge of dredged or fill material can be permitted if a practicable alternative exists

that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers (USACE) with oversight by the Environmental Protection Agency (EPA).

The Executive Order for the Protection of Wetlands (E.O. 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this executive order states that a federal agency, such as the Federal Highway Administration, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: 1) that there is no practicable alternative to the construction and 2) the proposed project includes all practicable measures to minimize harm.

At the state level, wetlands and waters are regulated primarily by the Department of Fish and Game (CDFG) and the Regional Water Quality Control Boards (RWQCB). In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission) may also be involved. Sections 1600-1607 of the Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFG before beginning construction. If CDFG determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFG jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFG.

The Regional Water Quality Control Boards were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The RWQCB also issues water quality certifications in compliance with Section 401 of the Clean Water Act. Please see the Water Quality section for additional details.

Affected Environment

Waters of the U.S. in this project area include vernal pools/swales, seasonal (emergent) wetlands, and major canals and ditches (navigable waters).

Vernal pools are defined as shallow depressions or swales underlain by hardpan or claypan soils, which meet the wetland criteria and exhibit hydrologic and floristic characteristics of regional vernal pools. Vernal pool/swale complexes are systems of interconnected drainages and pools with some isolated vernal pools. Although vernal pools are ephemeral habitats (lasting only a short time), many invertebrates, amphibians, and waterfowl depend on vernal pool habitat.

Emergent wetlands in the project area are comprised of marshes and herbaceous seasonal wetlands. Four emergent wetlands occur east of SR 99 in the strip of land adjacent to the Thermalito Afterbay.

At least four culverts associated with wetlands and will be affected during culvert replacement. Disturbance by construction activities will be avoided as much as possible by protecting Environmentally Sensitive Areas (ESAs) with protective orange fencing.

The Lateral Canal and the Biggs Extension Canal are major canals that carry irrigation water for rice and other crops through the project area. Giant garter snakes,

amphibians, and wading birds may use the canals. Replacement of the bridge structure with a new bridge will result in a gain of waters.

Impacts

Impacts to waters of the U.S./wetlands from the proposed project are shown in the following table:

Table 3: Areas of Impacts to Waters of the U.S. in the Project Study Area.

Types of Waters of the U.S.	Area
Biggs Canal and Lateral Canal (Gain of waters)	0.02 ha (0.05 ac)
Vernal pools (USACE permanent (fill))	0.09 ha (0.21 ac)
Vernal pools (USACE temporary (construction easements))	0.02 ha (0.05 ac)
Seasonal (emergent) wetlands permanent	0.07 ha (0.17 ac)
Seasonal (emergent) wetlands temporary	0.29 ha (0.71 ac)
Waters of the U.S. permanent (ditch)	0.02 ha (0.06 ac)
Waters of the U.S. temporary (dewatering canals)	0.02 ha (0.06 ac)

CEQA Considerations

Less than significant impacts to waters of the U.S. pursuant to CEQA are anticipated.

Avoidance and Minimization Measures

Temporary orange fencing (ESA fencing) will be used to protect sensitive areas during construction.

Mitigation

Caltrans will consult with USFWS and USACE to determine appropriate mitigation for the fill of Waters of the U.S.

2.3.3. Plant Species

Regulatory Setting

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) share regulatory responsibility for the protection of special-status plant species. “Special-status” species are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are afforded varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). Please see the Threatened and Endangered Species Section in this document for detailed information regarding these species.

This section of the document discusses all other special-status plant species, including CDFG fully protected species and species of special concern, USFWS candidate species, and non-listed California Native Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for FESA can be found at United States Code 16 (USC), Section 1531, et. seq. See also 50 CFR Part 402. The regulatory requirements for

CESA can be found at California Fish and Game Code, Section 2050, et. seq. Caltrans projects are also subject to the Native Plant Protection Act, found at Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act, Public Resources Code, Sections 2100-21177.

Affected Environment

Prior to actual field surveys, research was done to determine the vegetation communities in the project area and the sensitive plant species associated with each community. Communities that comprise habitats for sensitive species in the project study area include annual grassland, vernal pool/swale, and emergent wetlands.

Some of the plants which were considered, though not formally listed as rare or endangered under the California Endangered Species Act, meet the definitions of Section 1901, Chapter 10 (Native Plant Protection) of the California Fish and Game Code, and are eligible for state listing. These plant species were given equal consideration during the project assessment as if they were listed species.

Ferris' milk-vetch (*Astragalus tener* var. *ferrisiae*) FSC/CNPS 1B

Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*) FSC/ CNPS 1B

Red Bluff dwarf rush (*J. leiospermus* var. *l.*) FSC/ CNPS 1B

Little mousetail (*Myosurus minimus* ssp. *apus*) FSC/ CNPS List 3

Ahart's paronychia (*Paronychia ahartii*) FSC/ CNPS 1B

Valley sagittaria (*Sagittaria sanfordii*) FSC/ CNPS List 4

These species were surveyed for but were not found within the project limits. There will be no adverse effects to Ferris' milk-vetch, Ahart's dwarf rush, Red bluff dwarf rush, Little mousetail, Ahart's paronychia, or Valley sagittaria. No avoidance or minimization measures are necessary.

2.3.4. Animal Species

Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS) and the California Department of Fish and Game (CDFG) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with wildlife not listed or proposed for listing under the state or federal Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in the Threatened and Endangered Species section. All other special-status animal species are discussed here, including CDFG fully protected species and species of special concern, and USFWS or NMFS candidate species.

Federal laws and regulations pertaining to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations pertaining to wildlife include the following:

- California Environmental Quality Act
- Sections 1601 – 1603 of the Fish and Game Code
- Section 4150 and 4152 of the Fish and Game Code

Northwestern pond turtle (*Clemmys marmorata marmorata*) FSC/SSC

No northwestern pond turtles have been found in surveys of the proposed project, and there is no permanent water in the project vicinity. However, turtles could migrate into the area or be transported by canals during irrigation. Because all waters in the project area are intermittent in the construction zones, northwestern pond turtle is not expected to be affected by the highway widening or bridge construction.

Western spadefoot toad (*Scaphiopus hammondi hammondi*) FSC/SSC

Affected Environment

Western spadefoot toad is a rare amphibian that ranges throughout the Central Valley and adjacent foothills, usually in grassland near ponds or winter pools.

Impacts

Habitat for spadefoot toad exists in the vernal pool complexes in and near the project area. Filling of vernal pools will result in the loss of spadefoot toad habitat.

CEQA Considerations

Less than significant impacts to the western spadefoot toad pursuant to CEQA are anticipated.

Avoidance and Minimization Measures

The measures taken to protect vernal pools and the preservation and creation of vernal pool habitat as listed in the Threatened and Endangered Species section will offset the impacts to spadefoot toad habitat.

Pallid bat (*Antrozous pallidus*) FSC/SSC

Greater western mastiff (*Eumops perotus californicus*) FSC/SSC

Yuma myotis (*Myotis yumanensis*) FSC/SSC

No bats roost underneath the bridge that is to be replaced, and no adverse impacts to bats are expected from this project.

Grasshopper sparrow (*Ammodramus savannarum*) FSC

Short-eared owl (*Asio flammeus*) FSC/SSC

Burrowing owl (*Athene cunicularia*) FSC/SSC

Ferruginous hawk (*Buteo regalis*) FSC/SSC

Lark sparrow (*Chondestes grammacus*) FSC

Northern harrier (*Circus cyaneus*) SSC

Loggerhead shrike (*Lanius ludovicianus*) FSC

White-faced ibis (*Plegadis chihî*) FSC/SSC

These species were surveyed for but were not found within the project limits. This project is not expected to adversely affect the Grasshopper sparrow, Short-eared owl, Burrowing owl, Ferruginous hawk, Lark sparrow, Northern harrier, Loggerhead shrike or White-faced ibis.

California linderiella fairy shrimp (*Linderiella occidentalis*) FSC/SSC

Affected Environment

Linderiella has been found by Caltrans' biologists at Richvale Vernal Pools and in roadside ditches east of SR 99. The linderiella at Richvale were seen in what appears to be a stream remnant or deep swale at the south end of the parcel, part of which had been channelized.

Impacts

The California linderiella, may be adversely affected by the proposed project. Direct effects would be 0.30 ha (0.74 ac); indirect effects would be 1.51 ha (3.74 ac). All of these impacts would occur north of Hamilton Road, on the east shoulder of SR 99 by grading, and at Richvale Vernal Pools by widening shoulders.

CEQA Considerations

Less than significant impacts to the California linderiella fairy shrimp pursuant to CEQA are anticipated.

Avoidance and Minimization Measures

Impacts to California linderiella and other fairy shrimp habitat will be avoided as much as possible by eliminating grading of ditches on the shoulder areas adjacent to the Afterbay, unless there is a safety issue. The Temporary Construction Easement (TCE) has been designed around most vernal pools at the Richvale parcel. Ditch digging and fill work will be avoided as much as possible in vernal pools areas, and ESA fencing will be placed around vernal pools/swales to protect them from encroachment by construction activities. The preservation and creation of vernal pool habitat as listed in the Threatened and Endangered Species section will offset the impacts to California linderiella habitat.

2.3.5. Threatened and Endangered Species

Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): United States Code (USC), Section 1531, et seq. See also 50 CFR Part 402. This act and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration, are required to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NOAA Fisheries) to ensure that they are not undertaking, funding, permitting or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 is a Biological Opinion or an incidental take permit. Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code, Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project caused losses of listed species populations and their essential habitats. The California Department of Fish and Game (CDFG) is the agency responsible for implementing CESA. Section 2081 of the Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFG. For projects

requiring a Biological Opinion under Section 7 of the FESA, CDFG may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

Butte County meadowfoam (*Limnanthes floccosa* ssp. *californica*) FE/SE/CNPS 1B

Hairy orcutt grass (*Orcuttia pilosa*) FE/SE

Slender orcutt grass (*Orcuttia tenuis*) FT/SE

Greene's tuctoria (*Tuctoria greenei*) FE/State Rare/CNPS 1B

These species were surveyed for but were not found within the project limits. This project is not expected to adversely affect Butte County meadowfoam, Hairy orcutt grass, Slender orcutt grass or Green's tuctoria.

Bald Eagle (*Haliaeetus leucocephalus*) FT/SE

A pair of bald eagles has an active nest with two fledglings located four miles east of the southern end of the proposed project on the Oroville Wildlife Area property. An active Swainson's hawk nest is within yards of the eagle nest.

The proposed project will have no adverse effect on the nesting bald eagle pair or their fledglings, as the nest is located four miles from construction and is not likely to be disturbed by noise or activities.

Giant Garter Snake (*Thamnophis gigas*) FT/ST

The USFWS listed the giant garter snake (GGS) as a Threatened species October 20, 1993 (58 FR 54053). The GGS is one of the largest garter snakes, reaching a total length of at least 63 inches. It inhabits agricultural wetlands and other waterways such as irrigation and drainage canals, sloughs, ponds, small lakes, low gradient streams, and adjacent uplands in the Central Valley. Because of the direct loss of natural habitat, the GGS relies heavily on rice fields in the Sacramento Valley. A query of the CNDDDB (Biggs Quadrangle, 2004) resulted in an account of a male giant garter snake road kill near the project area on Riceton Road, south of Richvale, in June 1999.

On January 24, 2005, the USFWS issued a "Programmatic Biological Opinion to the FHWA on the Effects of Small Highway Projects on the Threatened Giant Garter Snake within Butte, Colusa, Glenn, Fresno, Merced, Sacramento, San Joaquin, Solano, Stanislaus, Sutter and Yolo Counties, California" (1997). This Biological Opinion (BO) is restricted to projects with permanent impacts less than three acres, however, the guidelines in the BO were used in this study.

Affected Environment

Giant garter snakes (GGS) have been observed at the Oroville Wildlife Area, east of the project. Caltrans' biologists have not observed giant garter snakes in the project area. However, rice fields, sloughs, and canals in the project area provide habitat for the species.

Giant garter snakes may use the Biggs Extension Canal for aquatic habitat. A new bridge will be built over the canal, which will involve work in the channel. A work window may be imposed between February and mid-April, when water is low in the canal. The GGS active period is between May 1 and October 1, which is the usual work window for GGS habitat. Caltrans will have to consult with USFWS to resolve this conflict in acceptable work windows.

Ditches that may provide habitat are located in the highway right of way adjacent to rice fields, along the Biggs Extension Canal, and in the bridge area. These ditches have become clogged with vegetation, and do not drain runoff from the roadside. New ditches will be dug on both sides of the road, except where there is vernal pool habitat.

Upland habitat is located in the highway right of way and adjacent to rice fields and the Biggs Canal. Farm roads occupy most upland habitat.

Permanent aquatic habitat occurs in rice fields in the project area. Berms in rice fields adjacent to SR 99 will be moved back from the road to accommodate widening, removing some aquatic habitat.

Impacts

ArcGIS (a mapping program) was used to digitize GGS habitat from aerial photographs and calculate areas of impact. The following table lists categories of habitat and areas of impact.

Table 4: GGS Habitat Types and Areas of Impact.

Giant Garter Snake Habitat	Upland Area	Aquatic Area
Temporary direct (construction easements)	2.99 ha (7.39 ac)	0.57 ha (1.41 ac)
Temporary direct (rice fields)		4.33 ha (10.70 ac)
Permanent (cut and fill)	7.13 ha (17.63 ac)	4.25 ha (10.52 ac)
Temporary indirect (within 200 feet of project)	5.46 ha (13.49 ac)	35.88 ha (88.67 ac)

CEQA Considerations

With mitigation, less than significant impacts to GGS pursuant to CEQA are anticipated.

Avoidance and Minimization Measures

The following conditions will minimize incidental take of GGS or its habitat:

- Construction activities within garter snake habitat shall be conducted within work windows negotiated with USFWS.
- To minimize harassment or harm to GGS, the contractor will hire an approved, qualified biologist to conduct a pre-construction survey for GGS.
- If a snake is detected, construction will halt and an agent from the U.S. Fish and Wildlife Service (USFWS) will be contacted.
- Construction personnel shall participate in a USFWS-approved worker environmental awareness program, to be informed about the presence of GGS and habitat associated with the species, and that unlawful take of the animal or destruction of its habitat is a violation of the Federal Endangered Species Act. Prior to construction activities, a qualified biologist approved by the USFWS shall instruct all construction personnel about: (1) the life history of the giant garter snake; (2) the importance of irrigation canals, marshes/wetlands, and seasonally flooded areas, such as rice fields, to the giant garter snake; and (3) the terms and conditions of the biological opinion. Proof of the instruction shall be submitted to the Sacramento Fish and Wildlife Office.
- Degradation of GGS habitat shall be minimized and, to the greatest extent practicable, habitat shall be restored to its pre-project condition.
- Within 24 hours prior to commencement of construction activities, a qualified biologist who is approved by the Sacramento USFWS Office shall inspect the site.

The biologist will provide the USFWS with a field report form documenting the monitoring efforts within 24 hours of commencement of construction activities. The monitoring biologist needs to be available thereafter. If a snake is encountered during construction activities, the monitoring biologist shall have the authority to stop construction activities until appropriate corrective measures have been completed or it is determined that the snake will not be harmed. Giant garter snakes encountered during construction activities should be allowed to move away from construction activities on their own. Capture and relocation of trapped or injured individuals can only be attempted by personnel or individuals with current USFWS permits pursuant to section 10(a)1(A) of the Act. The biologist shall be required to report any incidental take to the USFWS immediately by phone and by letter addressed to the Chief, Endangered Species division, within one working day. The project area shall be re-inspected whenever a lapse in construction activity of two weeks or greater has occurred.

- Clearing of wetland vegetation will be confined to the minimal area necessary to excavate toe of bank for riprap or fill placement. Excavation of channel for removal of accumulated sediments will be accomplished by using equipment located on and operated from top of bank, with the least interference practical for emergent vegetation.
- Movement of heavy equipment shall be restricted to established roadways to minimize habitat disturbance.

The following terms and conditions implement reasonable and prudent measures:

- Preserved GGS habitat shall be flagged as an ESA by a qualified biologist and shall be avoided by construction personnel.
- After construction is completed, any temporary fill and debris shall be removed and, wherever feasible, disturbed areas shall be restored to pre-project conditions.
- More than two seasons of temporary and permanent loss of habitat shall be compensated at prescribed ratios.
- All wetland and upland acres created and provided for the GGS shall be protected in perpetuity by a USFWS approved conservation easement or similarly protective covenants in the deed, as per the protocol guidance.
- The USFWS shall be notified immediately if GGS is found on-site, as per reporting requirements outlined in the guidance.

Mitigation

Caltrans is investigating opportunities for purchasing GGS habitat as conservation easements or purchasing credits from a mitigation bank. Caltrans and FHWA will be consulting with the USFWS to determine final compensation for temporary and permanent impacts.

Vernal pool fairy shrimp (*Branchinecta lynchi*) FT

Vernal pool tadpole shrimp (*Lepidurus packardii*) FE

Fairy shrimp are crustaceans that inhabit vernal pools, swales, and other seasonal pools in California. Nearly all fairy shrimp feed on algae, bacteria, protozoa, rotifers and bits of detritus. The females carry the eggs in oval or elongate ventral brood sacs. The eggs are either dropped to the pool bottom or remain in the brood sac until the female dies and sinks. The “resting” or “summer” eggs are known as “cysts,” which can withstand heat, cold, and prolonged desiccation. When the pools refill in the same or subsequent seasons, some of the cysts may hatch. The cyst bank in the soil may be comprised of

cysts from several years of breeding. The cysts hatch when the vernal pools fill with rainwater, and develop rapidly. These populations disappear early in the season long before the vernal pools dry up.

Vernal pool fairy shrimp (*Branchinecta lynchi*) inhabit vernal pools, small swales, earth slum, and basalt-flow depression basins of unplowed grasslands in and near the Central Valley. This species is found in clear to tea-colored water, most commonly in grass or mud-bottomed swales. There are 32 known populations of the vernal pool fairy shrimp, extending from Shasta County through most of the length of the Central Valley.

The vernal pool tadpole shrimp (*Lepidurus packardii*) is known from 18 populations in the Central Valley, ranging from west of Redding south to the San Louis National Wildlife refuge in Merced County, and from a single vernal pool complex located on the San Francisco Bay National Wildlife Refuge in Alameda County. Tadpole shrimp inhabit pools containing clear to highly turbid water, ranging in size from 54 square feet in the former Mather Air Force Base area of Sacramento County, to the 89-acre Olcott Lake at Jepson Prairie.

In the Federal Register dated 9/24/02, the USFWS issued a proposed rule to designate critical habitat for four vernal pool crustacean species and 11 vernal pool plants. The Service proposed to designate about 1.66 million acres as critical habitat, mostly in Central and Northern California. Four vernal pool crustaceans were named in the proposal, including vernal pool fairy shrimp (*Branchinecta lynchi*), and vernal pool tadpole shrimp (*Lepidurus packardii*). Eleven vernal pool plants also were named in the proposal, including Hoover's spurge (*Chamaesyce hooveri*), slender orcutt grass (*Orcuttia tenuis*), hairy orcutt grass (*O. pilosa*), and Greene's tuctoria (*Tuctoria greenei*). However, in the final ruling of August 2003, the Service excluded Butte County from the designation for economic reasons. Therefore, in Butte County, vernal pool habitat does not have critical habitat protection but listed species still have Endangered Species Act protection. The final ruling is being reviewed to reinstate critical habitat in Butte County for vernal pool species.

Affected Environment

Listed fairy shrimp species have been documented locally in Oroville Wildlife Area (OWA) (Andy Atkinson, March 28, 2005) and at the intersection of SR 99 and 162 East. Because fairy shrimp have been found in the vicinity of the project, Caltrans has inferred presence of vernal pool fairy shrimp and vernal pool tadpole shrimp in the proposed project area. California linderiella (*Linderiella occidentalis*), a Federal Species of Concern, has been found in roadside ditches, vernal pools and irrigation ditches in the project area by Caltrans' biologists.

Impacts

Fairy shrimp habitat occurs to the east of SR 99, north of Hamilton Road to SR 162 East and west of SR 99 at Richvale Vernal Pools. The following table shows the impacts to fairy shrimp habitat (vernal pools). Roadside and irrigation ditches that provide habitat were included in fairy shrimp habitat computations.

Table 5: Project Impacts to Fairy Shrimp Habitat.

Fairy Shrimp Habitat (vernal pools/swales)	Area
Total vernal pool acreage within 250 ft.	2.60 ha (6.42 ac)
Total direct effects (USFWS)	0.30 ha (0.74 ac)
Total indirect effects (USFWS)	1.51 ha (3.74 ac)

CEQA Considerations

With mitigation, less than significant impacts to vernal pool fairy shrimp and tadpole shrimp pursuant to CEQA are anticipated.

Avoidance and Minimization Measures

The roadside ditches will be designed as per hydraulic analysis and requirements of the Highway Design Manual (HDM) to meet or exceed current conditions. In order to minimize the impacts to vernal pools, efforts will be made to avoid these to the maximum extent possible as permitted by hydraulic design and HDM requirements.

Mitigation

Vernal pools are a unique and important resource due to their limited distribution, endemic flora and fauna, and as habitat for many of California’s special status species. Because of these values, the USFWS has determined that these wetlands should be placed in Resource Category 2, which designates habitat that is of high quality and is relatively scarce or becoming scarce nationally or in the eco-region. Impacts to vernal pool resources would be mitigated through preservation and creation at ratios to ensure “no net loss” of habitat.

On February 28, 1996, the USFWS directed a programmatic consultation to the U.S. Army Corps of Engineers, entitled, “Programmatic Formal Endangered Species Act consultation on Issuance of 404 Permits for Projects with Relatively Small Effects on Listed Vernal Pool Crustaceans within the Jurisdiction of the Sacramento Field Office.” The Programmatic refers to projects with less than one acre of direct and indirect impacts, but the mitigation ratios outlined in the Programmatic sometimes are used for projects with impacts greater than one acre.

Programmatic guidelines require preservation and creation components as follows:

- The preservation component requires that for every acre of habitat directly or indirectly affected, at least two vernal pool credits will be dedicated within an USFWS-approved preservation bank, or three acres of habitat may be preserved on the project site or on another non-bank site approved by USFWS.
- The creation component requires that for every acre of habitat directly affected, at least one vernal pool creation credit will be dedicated within a USFWS-approved habitat mitigation bank, or two acres of vernal pool habitat will be created and monitored on the project site or on another non-bank site as approved by the USFWS.

Mitigation ratios may be adjusted depending on the conservation value of the USFWS-approved mitigation banks or for acres of habitat outside of mitigation banks. The following table summarizes the ratios expected to be used for mitigation.

Table 6: Mitigation Ratios for Fairy Shrimp Habitat

Type of Mitigation Credit	Acres of credit: Acres of impact	
	Bank	Non-Bank
Preservation	2:1	3:1
Creation	1:1	2:1

To satisfy the preservation component, proposed mitigation may be accomplished by:

- Preservation of existing habitat by purchase of a private parcel,
- Purchasing a conservation easement to preserve an existing population, or
- Purchasing credits at a mitigation bank.

The satisfy the creation component, proposed mitigation may be accomplished by:

- Submitting a Request for Proposal (RFP) to create vernal pool habitat at an approved location,
- Purchasing credits at a mitigation bank, or
- Adding creation compensation to another project.

Swainson's hawk (*Buteo swainsoni*) ST

Affected Environment

Swainson's hawk was listed in 1983 as a California Threatened species, pursuant to the California Endangered Species Act (CESA), Title 14, California Code of Regulations, Section 670.5(b)(5)(A). This raptor forages in open grassland habitats and has adjusted to foraging in certain types of agricultural lands, such as pastures and fallow fields, typically within a 10-mile radius of nest sites. According to Andy Atkinson (March 28, 2005), CDFG biologist at the Oroville Wildlife Area, the Swainson's hawk nest found in February 2003, is still active. This nest is four miles east of the south end of the project area.

Impacts

The proposed project will not adversely affect nesting Swainson's hawks in the Oroville Wildlife Area; however, foraging hawks may be impacted permanently and temporarily by construction activity. Shoulder widening will remove foraging area from the Richvale Vernal Pools and from the strip of grassland along the Thermalito Afterbay levee. Total Swainson's hawk foraging area in the project area is 47.60 ha (117.63 ac). Permanent impacts to foraging area would be 2.79 ha (6.89 ac). Temporary impacts to foraging area from construction activities will be 5.70 ha (14.08 ac).

CEQA Considerations

With mitigation, less than significant impacts to Swainson's hawks pursuant to CEQA are anticipated.

Avoidance and Minimization Measures

Impacts to Swainson's hawk foraging area will be avoided as much as possible by limiting equipment usage to the shoulder.

Mitigation

Caltrans will consult with CDFG to determine appropriate compensation for impacts to Swainson's hawk foraging habitat.

2.3.6. Invasive Species

Regulatory Setting

On February 3, 1999, President Clinton signed Executive Order 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as “any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health.”

Affected Environment

Invasive non-native grasses and forbs dominate the SR 99 right of way. Invasive plants observed in the project area include Johnsongrass (*Sorghum xalepense*), medusae-head (*Taeniatherum caput-medusae*), oats (*Avena* sp.), yellow star thistle (*Centaurea solstitialis*), and Himalayan blackberry (*Rubus discolor*). The following measures will be implemented to avoid and minimize any impacts due to invasive species.

Avoidance and Minimization Measures

As directed in Executive Order 13112, Caltrans will implement standard weed control specifications for the construction period. The project biologist will work with Caltrans' landscape architects to develop and implement a revegetation plan that will include intensive replanting of native vegetation on disturbed soil following construction.

2.4. CUMULATIVE IMPACTS

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of this project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor, but collectively substantial impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive types of agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

CEQA Guidelines, Section 15130 describes when a cumulative impact analysis is warranted and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts, under CEQA, can be found in Section 15355 of the CEQA Guidelines.

Past, Present, and Known Future Projects

Caltrans' listing of projects recently completed or planned for this corridor indicates a recent roadway rehabilitation project between post miles 13.2 and 20.6, just north of the proposed project that consisted of an asphalt concrete overlay. This project did not result in any negative impacts to sensitive species. Another project, the Richvale Roadway Improvements Project, would install a traffic signal at the SR99 / SR162 East intersection.

The Richvale Irrigation District and the Biggs-West Gridley Water District are currently in the process of performing feasibility studies for improving the capacity of the Biggs Extension Canal.

Regional transportation projects include SR 70/149/99, the proposed project (BUT 99 Rehabilitation), SR 70 and Ophir Road Interchange, Algodon Road, and Sutter/Yuba 70 Highway Upgrade. The SR 70/149/99 Upgrade project in central Butte County connects Route 70 to Route 99. This 7.4 km (4.6 mi) corridor linking Oroville to Chico would expand the facility from two lanes to a four-lane freeway with interchanges at Route 70 /149 and Route 99/149 junctions.

Impacts-GGS

Continuing growth of population and development has removed GGS habitat and directly impacted the species. The proposed project would contribute to losses of GGS habitat. However, the mitigation and conservation measures identified would contribute to offsetting these effects.

Impacts-Vernal Pools

Rapid urbanization of the Central Valley currently poses the most severe threat to the continued existence of the vernal pool crustaceans. The distribution of vernal pools is concentrated in Butte County with more fragmented and isolated pools located further south in Yuba County. Roads and highways have fragmented habitat, while development and agriculture have altered hydrology in the vernal pool and swale complexes. Listed crustaceans and their cysts may be directly and indirectly affected by road construction, housing developments, and water diversion in the area. Individuals and their cysts may be injured or killed directly by filling of the pools in which they exist. Indirect effects may also lead to the death of individuals or cysts.

The following table illustrates the vernal pool and swale impacts from regional projects:

Table 7. Direct Impacts to Fairy Shrimp Habitat From Area Highway Projects.

Project	Estimated Vernal Pool/Swale Impact
BUT 70/149/99 Upgrade	11.87 ha (29.33 ac)
BUT 99 Rehabilitation	0.30 ha (0.74 ac)
SR 70/Ophir Road IC	1.14 ha (2.82 ac)
Algodon Road	0.13 ha (0.31 ac)
Sutter/Yuba 70 Freeway Upgrade	1.99 ha (4.92 ac)

Most of the impacts to vernal pool habitat from the proposed project would be at Richvale Vernal Pools, eighty acres of vernal pool/swale and upland habitat that is relatively undisturbed.

Although future regional growth will be concentrated in established community centers and along upgrades of state transportation facilities, potential cumulative losses to sensitive biological resources are likely. The proposed project would contribute to losses of vernal pools that support federally listed and other sensitive species. Long-term effects of the proposed project on California linderiella are similar to listed fairy shrimp. Linderiella is presumably more common than the listed species but loss of wetland habitat could bring the species to the point of being eligible for listing. However, the mitigation and conservation measures identified in planning documents and required for Caltrans/FHWA transportation projects by resource agencies would contribute to offsetting these effects.

Impacts-Swainson's hawk

Permanent impacts to Swainson's hawk foraging habitat are approximately 2.79 ha (6.89 ac), marginal habitat located along the roadside. Caltrans has determined that this project would not contribute measurably to Swainson's hawk foraging habitat losses.

CEQA Considerations

Less than significant cumulative impacts pursuant to CEQA are anticipated.

CHAPTER 3. LIST OF PREPARERS AND TECHNICAL STUDIES

The following people assisted in preparing and evaluating this Initial Study and coordinating documents:

Rajive Chadha	Environmental Engineer, Hazardous Waste
Jennifer Clark	Associate Environmental Planner
Hamid Hakim	Transportation Engineer, Water Quality
Jeremy Ketchum	Senior Environmental Planner, S1 Branch Chief
Aaron McKeon	Associate Environmental Planner, Community Resources
Lesley Phillips	Landscape Associate
Sharon Tang	Transportation Engineer, Air and Noise
Caroline Warren	Associate Environmental Planner, Biology
Scott Williams	Associate Environmental Planner, Archaeology

The following technical reports were prepared in order to analyze the potential affects this project may have on the environment and to assist in preparing this Initial Study. These documents are available for review Caltrans North Region Office of Environmental Management, 2389 Gateway Oaks Drive, Sacramento, CA 95833.

- Floodplain Analysis
- Historic Property Survey Report
- Initial Site Assessment for Hazardous Waste
- Natural Environment Study
- Air Quality, Noise and Energy Evaluation
- Water Quality Assessment
- Visual Impact Assessment
- Community Impact Assessment

CHAPTER 4. DISTRIBUTION LIST

This Initial Study will be sent to the following parties for review and comments:

State Clearinghouse (to be distributed to various state agencies)
Ivan Garcia, Programming Manager-Butte County Association of Governments
Barbara Vlamis, Executive Director-Butte Environmental Council
Biggs West Gridley Water District
Department of Conservation
Butte County Agricultural Department
Department of Water Resources
Fish Hatchery
Affected Property Owners and Businesses
Butte County Clerk Recorder
Butte County Board of Supervisors
Butte County Library-Biggs and Chico Branch (to make available for public review)
Butte County Public Works Director

APPENDIX A. CEQA CHECKLIST

The following checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. The CEQA impact levels include potentially significant impact, less the significant impact with mitigation incorporation, less than significant impact, and no impact. Please refer to the following for detailed discussions regarding impacts:

CEQA:

- Guidance: Title 14, Chapter 3, California Code of Regulation, Sections 15000 et seq. (http://www.ceres.ca.gov/topic/env_law/ceqa/guidelines/)
- Statutes: Division 13, California Public Resource Code, Sections 21000-21178.1 (http://www.ceres.ca.gov/topic/env_law/ceqa/stat/)

CEQA			
Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporation	Less Than Significant Impact	No Impact

AESTHETICS - Would the project:

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

AGRICULTURE 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. 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

CEQA			
Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporation	Less Than Significant Impact	No Impact

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Expose sensitive receptors to substantial pollutant concentrations? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Create objectionable odors affecting a substantial number of people? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

BIOLOGICAL RESOURCES - Would the project:

- | | | | | |
|--|--------------------------|-------------------------------------|--------------------------|-------------------------------------|
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

CEQA			
Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporation	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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Disturb any human remains, including those interred outside of formal cemeteries? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| ii. Strong seismic ground shaking? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iii. Seismic-related ground failure, including liquefaction? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iv. Landslides? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Result in substantial soil erosion or the loss of topsoil? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

CEQA			
Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporation	Less Than Significant Impact	No Impact

- 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?

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 release of hazardous materials into the environment?
- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
- d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?
- f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?
- g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
- h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

CEQA			
Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporation	Less Than Significant Impact	No Impact

HYDROLOGY AND WATER QUALITY – Would the project:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Violate any water quality standards or waste discharge requirements? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Otherwise substantially degrade water quality? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| j) Inundation by seiche, tsunami, or mudflow? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

CEQA			
Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporation	Less Than Significant Impact	No Impact

LAND USE AND PLANNING - Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Physically divide an established community? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

CEQA			
Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporation	Less Than Significant Impact	No Impact

- 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?

POPULATION AND HOUSING - Would the project:

- a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?
- b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?
- c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

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) Other public facilities?

RECREATION -

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

CEQA			
Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporation	Less Than Significant Impact	No Impact

- b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?
- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

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)?
- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
- b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?
- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
- 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?
- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
- d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
- e) Result in inadequate emergency access?
- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
| | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|
- f) Result in inadequate parking capacity?
- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
- g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?
- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

UTILITIES AND SERVICE SYSTEMS - Would the project:

- a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?
- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
- 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?
- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
- 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?
- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

CEQA			
Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporation	Less Than Significant Impact	No Impact

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

MANDATORY FINDINGS OF SIGNIFICANCE -

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

APPENDIX B. FORM AD-1006

U.S. Department of Agriculture					
FARMLAND CONVERSION IMPACT RATING					
PART I (To be completed by Federal Agency)			Date Of Land Evaluation Request 6/29/04		
Name Of Project Rio Bonito Shoulder Widening			Federal Agency Involved FHWA		
Proposed Land Use Roadway			County And State Butte County, CA		
PART II (To be completed by NRCS)			Date Request Received By NRCS		
Does the site contain prime, unique, statewide or local important farmland? (If no, the FPPA does not apply -- do not complete additional parts of this form).			Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Acres Irrigated 168,000
					Average Farm Size 233 ac
Major Crop(s) orchard and rice	Farmable Land In Govt. Jurisdiction Acres: 235,199 21.9%		Amount Of Farmland As Defined in FPPA Acres: data not available		
Name Of Land Evaluation System Used CA storie Index	Name Of Local Site Assessment System none		Date Land Evaluation Returned By NRCS 10-6-04		
PART III (To be completed by Federal Agency)			Alternative Site Rating		
			Site A	Site B	Site C
			Site D		
A. Total Acres To Be Converted Directly	12.6				
B. Total Acres To Be Converted Indirectly	0.0				
C. Total Acres In Site	12.6		0.0	0.0	0.0
PART IV (To be completed by NRCS) Land Evaluation Information					
A. Total Acres Prime And Unique Farmland	4.2				
B. Total Acres Statewide And Local Important Farmland	8.4				
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	0.000536				
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	data not available				
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value Of Farmland To Be Converted (Scale of 0 to 100 Points)			0	47	0
PART VI (To be completed by Federal Agency) Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b))			Maximum Points		
1. Area In Nonurban Use					
2. Perimeter In Nonurban Use					
3. Percent Of Site Being Farmed					
4. Protection Provided By State And Local Government					
5. Distance From Urban Builtup Area					
6. Distance To Urban Support Services					
7. Size Of Present Farm Unit Compared To Average					
8. Creation Of Nonfarmable Farmland					
9. Availability Of Farm Support Services					
10. On-Farm Investments					
11. Effects Of Conversion On Farm Support Services					
12. Compatibility With Existing Agricultural Use					
TOTAL SITE ASSESSMENT POINTS			160	0	0
PART VII (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)			100	0	0
Total Site Assessment (From Part VI above or a local site assessment)			160	0	0
TOTAL POINTS (Total of above 2 lines)			260	0	0
Site Selected:			Date Of Selection	Was A Local Site Assessment Used? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Reason For Selection:					
NRCS <i>Sharon K. Hooper</i>			10/25/04		

(See Instructions on reverse side)

This form was electronically produced by National Production Services Staff

Form AD-1006 (10-83)

APPENDIX C. DEPARTMENT OF CONSERVATION CORRESPONDANCE



DEPARTMENT OF CONSERVATION STATE OF CALIFORNIA

November 17, 2004

DIVISION OF LAND RESOURCE PROTECTION

■ ■ ■
801 K STREET
SACRAMENTO
CALIFORNIA
95814

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consrv.ca.gov

■ ■ ■
ARNOLD
SCHWARZENEGGER
GOVERNOR

Mr. Jeremy Ketchum, Branch Chief
California Department of Transportation
Office of Environmental Management, S1
2389 Gateway Oaks Drive
Sacramento, CA 95833

Subject: Public Agency Acquisition of Land Enrolled in Williamson Act Contract, Widening State Route 99 (Contract #86-5675, APN 029-220-040; #81-5332, APN 022-070-012), Department of Transportation, Butte County

Dear Mr. Ketchum:

Thank you for your letter dated October 28, 2004, notifying the Department of Conservation (Conservation) of the Department of Transportation's (Caltrans) proposal to acquire 1.51 acres of prime agricultural land enforceably restricted by Williamson Act contract. Nearby land consists of mostly irrigated farmland, chiefly rice fields. The purpose of the acquisition is to widen State Route (SR) 99 in Butte County just north of the town of Biggs. The proposal is to widen the shoulders, add left turn channelization at Hamilton Road, replace the Biggs Extension Canal Bridge, and rehabilitate the roadway.

The Williamson Act (Government Code §51292) requires that public agencies must not locate public improvements in agricultural preserves unless the following specific findings can be made.

- *"The location is not based primarily on a consideration of the lower cost of acquiring land in an agricultural preserve (§51292(a))."*
- *"If the land is agricultural land covered under a contract pursuant to this chapter for any public improvement, that there is no other land within or outside the preserve on which it is reasonably feasible to locate the public improvement (§51292(b))."*

The widening of the route north of Hamilton Road must be done along the west side of the route to avoid the Thermalito Afterbay, underground pumps and gas lines, a fish hatchery and vernal pools on the east side. This will impact a portion of APN 029-220-040. Widening south of Hamilton Road must be done on the east side of the route to avoid the Biggs Extension Canal. As the widening changes from the west side to the east side, it will impact a portion of APN 002-070-012. Although the letter does not

Mr. Jeremy Ketchum
November 17, 2004
Page 2 of 2

reference the findings in providing this explanation and supporting maps, based on this information, it appears that the required findings could be made.

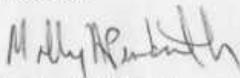
A Williamson Act contract is an enforceable restriction pursuant to Article XIII, section 8 of the California Constitution and Government Code section 51252. Assuming other necessary requirements are met, acquisition of Williamson Act land must meet requirements of eminent domain law for acquisition by eminent domain or in lieu of eminent domain (e.g., Code of Civil Procedure section 1230.010 et seq. and Government Code section 7260 et seq.) in order to void the contract pursuant to Government Code section 51295. If the acquisition does not void the contract, Caltrans' uses of contracted property will be affected and limited by the terms of the contract and provisions of the Act.

At least one Caltrans district has informed the Department that its acquisition process follows the policies and procedures described in Chapter 8 of the Caltrans Right of Way Manual, including Exhibit 8-EX-1, Article 6. Acquisition Policies. In the subject acquisition, if Caltrans were to follow these policies and procedures, it would appear that it could meet the intent of Government Code section 51295. Please understand, however, that the Department does not provide counsel regarding eminent domain law but encourages the County to obtain legal counsel for this purpose. To assist our review, we request that Caltrans describe its process for acquiring the subject property.

The letter states that Caltrans and the Federal Highway Administration are preparing an Initial Study to evaluate environmental impacts of the project. The Department requests to receive a copy of any resulting CEQA document for its review.

Please be advised that pursuant to Government Code §51291(d), the Department must be notified of any proposed, significant changes to the project. The Department must also be notified within 10 days when the property is actually acquired (Government Code §51291(c)). If Caltrans determines not to locate the proposed public improvement on the subject property, before returning the land to private ownership, it must notify the Department, and the land must be reenrolled in a new contract or encumbered by an enforceable restriction at least as restrictive as that provided by the Williamson Act (Government Code §51295). If you have any questions, please contact Bob Blanford, Research Analyst, at (916) 327-2145.

Sincerely,



Dennis J. O'Bryant
Acting Assistant Director

cc: The Honorable Kenneth O. Reimers
Butte County Assessor
25 County Center Drive
Oroville, CA 95965-3382

Board of Supervisors
Butte County
25 County Center Drive
Oroville, CA 95965-3382

APPENDIX D. TITLE VI POLICY STATEMENT

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
1120 N STREET
P. O. BOX 942873
SACRAMENTO, CA 94273-0001
PHONE (916) 654-5266
FAX (916) 654-6608
TTY (916) 653-4086



*Flex your power!
Be energy efficient!*

January 14, 2005

TITLE VI POLICY STATEMENT

The California Department of Transportation under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, and age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

A handwritten signature in black ink that reads "Will Kempton".

WILL KEMPTON
Director

"Caltrans improves mobility across California"

APPENDIX E. AVOIDANCE, MINIMIZATION AND MITIGATION SUMMARY

UTILITIES/EMERGENCY SERVICES

TRAFFIC AND TRANSPORTATION/PEDESTRIAN AND BICYCLE FACILITIES

- A detailed Traffic Management Plan will be included as part of the Contractor's specification package in order to manage temporary construction delays.

VISUAL/AESTHETICS

- Preserve and protect all oak tree canopies shadowing over the Caltrans right of way by placing a temporary fence around the drip line of oak trees.
- It is recommended to protect trees on the margin of the clear recovery zone with MBGR where possible.
- Where oak trees need to be removed they should be replaced at a ratio of 1 acorn per one inch of caliper tree removed.
- A certified Arborist shall do any pruning.
- All areas disturbed during construction shall receive permanent erosion control measures. All finished slopes shall be hydroseeded with a permanent seed mix composed of native plant species indigenous to the areas. A Landscape Architect shall prepare the erosion control plans and specifications. Where drainage structures are widened or replaced, all exposed soil needs to be replanted with native grass plugs or hydroseeded for storm water requirements.
- In order to further Caltrans' goal to reduce the usage of chemical herbicides within the right of way by 80% by the year 2012, and reduce fires from starting, the following measure is being considered for use within the project limits:
 1. Use polymer for a natural soil pavement to prevent weed growth under (MBGR) around signposts, power line poles and a 4-foot swath parallel to the edge of roadway to keep fires from starting.

CULTURAL RESOURCES

- In the remote event that archaeological materials (e.g. artifacts including, arrowheads, bottles, foundations etc.) are discovered during construction, it is Caltrans' policy that work temporarily cease in the area of the find until the Caltrans District Archeologist can evaluate the nature and significance of the materials and consult with the State Historic Preservation Office about the disposition of the materials (Environmental Handbook, Vol. 2, Chapter 1). In the event that human remains are discovered or recognized during construction, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the appropriate county coroner has determined that the remains are not subject to provisions of Section 27491 of the Government Code. If the coroner determines the remains to be Native American, he shall contact the Native American Heritage Commission (NAHC) within 24 hours. The NAHC will appoint a Most Likely Descendent for disposition of the remains (Health and Safety Code Sect. 7050.5, Public Resources Code Sect. 5097.24).

WATER QUALITY AND STORM WATER RUNOFF

- The project will adhere to the conditions of the Caltrans Statewide NPDES Permit, Order # 99-06-DWQ # CAS000003, issued by the State Water Resources Control Board. Adherence to the compliance requirements of the NPDES General Permit, Order # 99-08-DWQ # CAS000002, for construction activities is also required since the construction activity related to this project will disturb more than one acre of soil.
- The contractor will be required to prepare a Storm Water Pollution Prevention Plan (SWPPP) containing effective erosion and sediment control measures. These measures must address soil stabilization practices, sediment control practices, tracking control practices, and wind erosion control practices. In addition, the project plan must include non-storm water controls, waste management and material pollution controls. It is generally accepted that practices that perform well by themselves can be complemented by other practices to raise the collective level of erosion control effectiveness and sediment retention.
- Standard Special Provision (SSP) 07-345 is a set of specifications used for projects that disturb more than one acre of soil. SSP 07-345 will be included in the construction specifications for this project and will clearly outline the contractor's responsibilities with respect to preparation and implementation of the SWPPP.

HAZARDOUS WASTE

- Asbestos is present in the expansion joint material of the Biggs Extension Canal Bridge (Bridge # 12-004).
- The yellow traffic stripe in the existing portion of the roadway may contain heavy metals such as lead and chromium which may exceed hazardous waste thresholds established by the California Code of Regulations (CCR) and may produce toxic fumes when heated.

AIR QUALITY

- Caltrans Standard Specifications contain Section 7-1.01F, "Air Pollution Control," and Section 10, "Dust Control." These specifications require the contractor to comply with all pertinent rules, regulations, ordinances, and statutes of the local air district. These specifications, which are included in all construction contracts, should aid in reducing construction related air quality impacts.
- If asbestos is found, Rule 1000 of the Butte County Air Quality Management District must be adhered to when handling this material.

NOISE

- Caltrans Standard Specifications contain Section 7-1.01I, "Sound Control Requirements." These specifications require the contractor to comply with all local sound control and noise level rules, regulations and ordinances that apply to any work performed pursuant to the contract. Each internal combustion engine, used for any purpose on the job or related to the job, shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated on the project without the muffler. These specifications, which are included in all construction contracts, should aid in reducing construction related noise impacts.

BIOLOGICAL RESOURCES

Waters of the U.S.

- Temporary orange fencing (ESA fencing) will be used to protect sensitive areas during construction.
- Caltrans will consult with USFWS and USACE to determine appropriate mitigation for the fill of Waters of the U.S.

Giant Garter Snake (GGS)

- Construction activities within garter snake habitat shall be conducted between May 1 and October 1, the active period for GGS.
- To minimize harassment or harm to GGS, the contractor will hire an approved, qualified biologist to conduct a pre-construction survey for GGS.
- If a snake is detected, construction will halt and an agent from the U.S. Fish and Wildlife Service (USFWS) will be contacted.
- Construction personnel shall participate in a USFWS-approved worker environmental awareness program, to be informed about the presence of GGS and habitat associated with the species, and that unlawful take of the animal or destruction of its habitat is a violation of the Federal Endangered Species Act. Prior to construction activities, a qualified biologist approved by the USFWS shall instruct all construction personnel about: (1) the life history of the giant garter snake; (2) the importance of irrigation canals, marshes/wetlands, and seasonally flooded areas, such as rice fields, to the giant garter snake; and (3) the terms and conditions of the biological opinion. Proof of the instruction shall be submitted to the Sacramento Fish and Wildlife Office.
- Degradation of GGS habitat shall be minimized and, to the greatest extent practicable, habitat shall be restored to its pre-project condition.
- Within 24 hours prior to commencement of construction activities, a qualified biologist who is approved by the Sacramento USFWS Office shall inspect the site. The biologist will provide the USFWS with a field report form documenting the monitoring efforts within 24 hours of commencement of construction activities. The monitoring biologist needs to be available thereafter. If a snake is encountered during construction activities, the monitoring biologist shall have the authority to stop construction activities until appropriate corrective measures have been completed or it is determined that the snake will not be harmed. Giant garter snakes encountered during construction activities should be allowed to move away from construction activities on their own. Capture and relocation of trapped or injured individuals can only be attempted by personnel or individuals with current USFWS permits pursuant to section 10(a)1(A) of the Act. The biologist shall be required to report any incidental take to the USFWS immediately by phone and by letter addressed to the Chief, Endangered Species division, within one working day. The project area shall be re-inspected whenever a lapse in construction activity of two weeks or greater has occurred.
- Clearing of wetland vegetation will be confined to the minimal area necessary to excavate toe of bank for riprap or fill placement. Excavation of channel for removal of accumulated sediments will be accomplished by using equipment located on and operated from top of bank, with the least interference practical for emergent vegetation.
- Movement of heavy equipment shall be restricted to established roadways to minimize habitat disturbance.

- Preserved GGS habitat shall be flagged as an ESA by a qualified biologist and shall be avoided by construction personnel.
- After construction is completed, any temporary fill and debris shall be removed and, wherever feasible, disturbed areas shall be restored to pre-project conditions.
- More than two seasons of temporary and permanent loss of habitat shall be compensated at prescribed ratios.
- All wetland and upland acres created and provided for the GGS shall be protected in perpetuity by a USFWS approved conservation easement or similarly protective covenants in the deed, as per the protocol guidance.
- The USFWS shall be notified immediately if GGS is found on-site, as per reporting requirements outlined in the guidance.
- Caltrans is investigating opportunities for purchasing GGS habitat as conservation easements or purchasing credits from a mitigation bank. Caltrans and FHWA will be consulting with the USFWS to determine final compensation for temporary and permanent impacts.

Vernal pool fairy shrimp (*Branchinecta lynchi*) FT

Vernal pool tadpole shrimp (*Lepidurus packardii*) FE

- For preservation: for every acre of habitat directly or indirectly affected, at least two vernal pool credits will be dedicated within an USFWS-approved preservation bank, or three acres of habitat may be preserved on the project site or on another non-bank site approved by USFWS (ratios may be adjusted).
- For creation: for every acre of habitat directly affected, at least one vernal pool creation credit will be dedicated within a USFWS-approved habitat mitigation bank, or two acres of vernal pool habitat will be created and monitored on the project site or on another non-bank site as approved by the USFWS (ratios may be adjusted).

Swainson's hawk (*Buteo swainsoni*) ST

- Impacts to Swainson's hawk foraging area will be avoided as much as possible by limiting equipment usage to the shoulder.
- Caltrans will consult with CDFG to determine appropriate compensation for impacts to Swainson's hawk foraging habitat.

Invasive Species

- As directed in Executive Order 13112, Caltrans will implement standard weed control specifications for the construction period. The project biologist will work with Caltrans' landscape architects to develop and implement a revegetation plan that will include intensive replanting of native vegetation on disturbed soil following construction.

APPENDIX F. ENVIRONMENTAL STUDY LIMIT MAPPING

The mapping on the following pages represents preliminary mapping used for studying the environmental resources within and next to the project limits.