

Passing Lane Project

State Route 70 in Butte County, from 0.7-mile South of the East Gridley Road
to 0.4-mile North of Cox Lane

03-But-70-PM 3.3/5.8

EA 0E9300

Initial Study with Proposed Negative Declaration



Prepared by the

State of California Department of Transportation

November 2007



General Information About This Document

What's in this document?

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

What should you do?

- Please read this Initial Study. Additional copies of this document as well as the technical studies are available for review at Caltrans District 3 Office, 703 B Street, Marysville, CA 95901. This document is also available at the Butte County Library, Oroville Branch, 1820 Mitchell Avenue, Oroville, CA 95966.
- We welcome your comments. If you have any concerns regarding the proposed project, please send your written comments to Caltrans by the deadline. Submit comments via U.S. mail to Caltrans at the following address:

Susan D. Bauer, Chief
Environmental Branch M1
California Department of Transportation
P.O. Box 911
Marysville, CA 95901

Submit comments via email to: Sue_Bauer@dot.ca.gov

- The document is also available on-line at the following website:
<http://www.dot.ca.gov/dist3/departments/envinternet/envdoc.htm>
- Submit comments by the deadline: **December 20, 2007**

What happens next?

After comments are received from the public and reviewing agencies, Caltrans may 1) give environmental approval to the proposed project, 2) do 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 computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Susan D. Bauer, Environmental Branch M1, P.O. Box 911, Marysville, CA 95901; 530-741-7113 Voice, or use the California Relay Service TTY number, 530-741-4509.

SCH# _____
03-But-70-PM3.3/5.8
EA 0E9300

Passing Lane on State Route 70 in Butte County, from postmile (PM) 3.3 to 5.8

INITIAL STUDY WITH PROPOSED NEGATIVE DECLARATION

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

THE STATE OF CALIFORNIA
Department of Transportation

10/30/07
Date of Approval

for Susan D. Baur
John D. Webb, Chief
Office of Environmental Services
North Region Environmental Division
California Department of Transportation

Proposed Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans), in cooperation with the Butte County Association of Governments, proposes to extend the northbound and southbound passing lanes, add turning lanes at the intersection with East Gridley Road, and install a two-way turning lane on State Route 70 in Butte County.

Determination

This proposed Negative Declaration is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt a Negative Declaration for this project. This does not mean that Caltrans' decision regarding the project is final. This Proposed Negative Declaration 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 public 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 proposed project would have no effect on: aesthetics, community resources, geology and soils, mineral resources, population and housing, public services, recreation, or transportation/traffic.

The proposed project would have no significant effect on: floodplains, cultural resources, water quality, hazardous waste, air quality, noise, agricultural resources, land use, utility and public services.

In addition, the proposed project would have no significantly adverse effect on vernal pool crustaceans and vernal pool wetlands because the following mitigation measures would reduce potential effects to insignificance:

- In order to mitigate for the impacts to vernal pool wetlands, Caltrans would purchase approximately 6.60-acres of vernal pool habitat credits at a USFWS approved mitigation bank. If a mitigation bank was not available, approximately 10.38-acres would need to be purchased. Compensatory mitigation for vernal pool endangered species impacts would be covered under the mitigation for the vernal pool wetland impacts. A final determination of compensatory mitigation would be made during consultation with the responsible regulatory agencies.

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

Date

Table of Contents

Proposed Negative Declaration	iv
Table of Contents	v
List of Figures.....	vi
List of Tables.....	vi
List of Abbreviated Terms.....	vii
Chapter 1 Proposed Project	1
1.1 Introduction.....	1
1.2 Purpose and Need	2
1.2.1 Purpose	3
1.2.2 Need.....	3
1.3 Alternatives.....	4
1.3.1 Build Alternative	4
1.3.2 No-Build Alternative	6
1.4 Permits and Approvals Needed.....	6
Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures	9
2.1 Human Environment.....	10
2.1.1 Land Use.....	10
2.1.1.1 Existing and Future Land Use.....	10
2.1.1.2 Consistency with State, Regional, and Local Plans	12
2.1.2 Farmlands/Agricultural Lands.....	13
2.1.3 Utilities/Emergency Services	16
2.1.4 Cultural Resources.....	16
2.2 Physical Environment	19
2.2.1 Hydrology and Floodplain.....	19
2.2.2 Hazardous Waste or Materials.....	22
2.2.3 Air Quality	24
2.2.4 Noise and Vibration.....	28
2.3 Biological Environment	35
2.3.1 Wetlands and Other Waters.....	36
2.3.2 Plant Species and Oak Trees	40
2.3.3 Threatened and Endangered Species	43
2.3.4 Invasive Species	49
2.4 Climate Change under the California Environmental Quality Act.....	50
Chapter 3 Comments and Coordination	53
Chapter 4 List of Preparers.....	54
Appendix A California Environmental Quality Act Checklist.....	55
Appendix B Title VI Policy Statement.....	65
Appendix C Minimization and/or Mitigation Summary	66
Appendix D Preliminary Design Mapping	71
Appendix E Map of Biological Study Area	72
Appendix F Map of Vernal Pool Impacts	73
Appendix G Map of Wetland and Vernal Pool.....	74
List of Technical Studies that are Bound Separately.....	75

List of Figures

Figure 1-1 Project Vicinity Map.....	7
Figure 1-2 Project Location Map.....	8
Figure 2-1 Farmland Classification Map.....	15

List of Tables

Table 2.0 Concentrations of Carbon Monoxide (CO) for the No Build Condition	27
Table 2.1 Concentrations of Carbon Monoxide (CO) for the Build Condition.....	27
Table 2.2 Activity Categories and Noise Abatement Criteria	29
Table 2.3 Typical Noise Levels	30
Table 2.4 Summary of Field Measurement Data.....	32
Table 2.5 Summary of Traffic Noise Modeling Results for the Build Alternative	33
Table 2.6: Plant Species Potentially Occurring in the Biological Study Area.....	41
Table 2.7 Sensitive Animal Species Potentially Occuring in the Biological Study Area	44
Table 2.8 Compensary Mitigation Using USFWS-Approved Mitigation Bank.....	47
Table 2.9 Typical Ratios for Preservation and Creation.....	48

List of Abbreviated Terms

ADI	Area of Indirect
ADL	Aerially Deposited Lead
APE	Area of Potential Effects
BCAG	Butte County Associate of Governments
BSA	Biological Study Area
Caltrans	California Department of Transportation
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CNDDDB	California Natural Diversity Database
EDR	Environmental Data Resources
ESA	Environmentally Sensitive Area
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FPPA	Farmland Protection Policy Act
ITSP	Interregional Road System Plan
LOS	Level of Service
NEPA	National Environmental Policy Act
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
PM	post mile
ppm	parts per million
RTP	Regional Transportation Plan
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
STIP	State Transportation Improvement Plan
TASA	Traffic Accident Surveillance and Analysis System
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
VPFS	vernal pool fairy shrimp
VPTS	vernal pool tadpole shrimp

Chapter 1 Proposed Project

1.1 Introduction

State Route 70 began its history as a California state highway in the 1920s to connect the cities of Marysville, Oroville, and Quincy. As a major commute route within urbanized and rural areas in Yuba County and Butte County, the highway is one of the primary farm-to-market routes for most of the agricultural products grown in the Central Valley.

As the use by commuters, farmers, truckers, and recreational travelers increased, the operating deficiencies of the highway became apparent. In 1972, a 0.6-mile long southbound passing lane south of East Gridley Road and a 0.6-mile long northbound passing lane just north of Cox Lane were constructed to amend some of these operating deficiencies. However, over the last thirty years the population has continued to increase in northern California. This increase in population growth causes pressure for development within Yuba County, Butte County, and other surrounding counties. State Route 70 now experiences operating deficiencies due to the continuous increase in traffic volume. The high traffic volume of slow-moving commercial trucks and large recreational vehicles adds to the problem. As traffic volumes increase, there is less opportunity to safely pass slower moving traffic. The inability to pass restricts speed and maneuverability, which in turn may lead to frustration and inconvenience for motorists.

This proposed project is in the rural residential and agricultural portion of Butte County on State Route 70, north of the town of Marysville near East Gridley Road. The project covers a distance of 2.4-miles between postmiles (PM) 3.3 – 5.8. This project would extend the existing northbound and southbound passing lanes through the intersection at East Gridley Road to improve operational efficiency and safety for both local traffic and out-of-town travelers. Because of the residential and agricultural development along this portion of the highway, this route also serves as a primary access to numerous driveways, agricultural fields, and local street connections. To enable through-traffic, commuters, and truck traffic to maintain a steady flow, this project also proposes to add a two-way turn pocket lane. The new turn pocket lane will facilitate safer turning movements for local traffic and farm equipment to access their private driveways and agricultural fields that connect into the highway while allowing through traffic to maintain a steady flow.

Caltrans has initiated this project with the support of the Butte County Association of Governments. Both agencies' long-range vision is to address the existing safety and operational concerns on State Route 70. Identified as a Non-Capacity Increasing Highway Operational Improvements Project, this proposed project is a candidate for funding under the State Transportation Improvement Program (STIP) with an estimated cost of \$20 million. The STIP is a five-year program of projects that have a purpose of collision reduction, roadway preservation, or mobility enhancement. The 2004 Butte County Regional Transportation Plan (RTP) was amended in April 2007 to include the proposed project.

1.2 Purpose and Need

The majority of State Route 70 is a two-lane roadway with interspersed passing lanes. The increase in traffic volume and multiple access points impede the operational characteristics of the highway causing a decrease in traffic performance. The traditional answer to these problems, provision of a four-lane highway, appears to be out of reach for many years due to fiscal constraints. As an alternative solution, installing passing lanes allow motorists to safely pass slower vehicles, thereby, improving traffic flow at a much lower cost than expanding the highway to a continuous four lane facility.

The flow of traffic is described using the term Level of Service (LOS). LOS is designated A through F, from best to worst, to measure how freely or constrained traffic travels along a road segment or through an intersection. Level A indicates free-flowing traffic. Level F indicates substantial congestion with traffic demand exceeding capacity.

In November 2005 Caltrans conducted a traffic study using a computer-simulated model. The Office of Travel Forecasting and Modeling determined that under current conditions, this segment of highway is operating at a LOS E. Level E represents unstable traffic flow with speeds that change quickly and maneuverability is low. Based on growth statistics within the area, traffic volumes were projected for the year 2030. A computer model was then used to determine how the segment of highway would operate under the projected traffic volumes in 2030. The results indicated that the level of service is expected to deteriorate to level F by 2030 if no improvements are made. Construction of the proposed project would improve this segment of State Route 70 to the desired LOS C and LOS D conditions.

1.2.1 Purpose

The purpose of the project is to reduce travel delay, enhance safety, and incrementally address the Regional and System Planning goals for State Route 70 between postmile (PM) 2.9 to PM 7.5.

1.2.2 Need

At times, the existing roadway carries more traffic than it is designed to carry and, therefore, operates at a reduced level of service. This is especially evident during weekends and holidays when traffic volumes are extremely heavy. A traffic light signal controls the movement of traffic through the intersection of East Gridley Road. Traffic starts to back up near the intersection with East Gridley Road. Drivers of passenger cars tend to travel at a higher speed, but trucks and recreational vehicles cannot always keep up with those drivers. When traffic is heavy it starts to “queue” (line up) behind the larger, slower-moving vehicles traveling in the same direction. The faster cars want to pass, but the existing northbound and southbound passing lanes are not long enough to allow enough vehicles to pass. A factor contributing to this situation is the volume of trucks using this route. Slow-moving trail of vehicles seemingly increase the travel time. The combination of a long travel time and congestion can result in frustrated drivers attempting unsafe passing maneuvers.

The California Vehicle Code and federal regulations require the State of California to maintain an accident data collection system to identify the number and severity of accidents on California highways. Accordingly, Caltrans has developed the Traffic Accident Surveillance and Analysis System (TASAS), which is an electronic database to analyze the amount of traffic, the number of accidents, and other types of statistical highway data. Upon analysis, the data can reveal actual and average accident rates, total accidents, number of vehicles involved, whether or not any fatalities or injuries occurred, road conditions, and time of day when the accident occurred. Typically, when Caltrans is considering allocating funds for a future project, the three-year traffic accident history data is used to support the need for the project.

Within the project limits, the TASAS data indicates that 22 accidents occurred during the three-year period (from January 1, 2004 to December 31, 2006). In this three-year period, there was one fatal accident and seven injuries. Even though the collision rates are below the statewide average when compared to facilities of similar characteristics, the public has expressed concerns that the existing passing lanes are

not long enough to allow “pent-up” vehicles to pass. The proposed project would address this concern by: (1) reducing the passing demand with the addition of lanes at the East Gridley intersection and (2) extending the existing northbound passing lane length from 0.6 to 2.6 miles.

1.3 Alternatives

Increasing traffic volumes and multiple access points impede the operational characteristics on this portion of State Route 70. The through traffic and truck traffic conflict with local traffic and farm machinery. Even with existing traffic volumes, which average 12,900 vehicles per day, operating characteristics are poor, especially near the intersection with East Gridley Road. The forecasted traffic volume for the year 2030 is estimated at 32,300 vehicles per day. As the traffic volume increases, the operating conditions (related to congestion and traffic queuing) will deteriorate to LOS F. Level F represents considerable delays due to heavily congested traffic. Consequently, these conditions could result in a greater number of collisions in the corridor, including a greater potential for fatal accidents.

The proposed project would ease peak traffic congestion, alleviate the queue of vehicles, and enable safer passing and turning movements. The build alternative was developed based on information compiled from engineering feasibility, design standards, geographical constraints, and input from the Butte County Association of Governments (BCAG). The design considerations retained for detailed study were those most likely to fulfill the purpose and need for the project.

1.3.1 Build Alternative

In an effort to reduce travel delay, the existing northbound and southbound passing lanes would be extended through the intersection of East Gridley Road and State Route 70. The selection of an appropriate passing lane length is critical to the effect of the passing lane on traffic operations. If the passing lane is too short, the spacing between the gaps in traffic is not effectively dispersed. Utilizing a traffic software model, a hypothetical two-way rural highway with passing lanes was simulated under a variety of traffic volumes and varying percentage of trucks versus vehicles in the traffic stream. Based on the simulations, the following design recommendations were developed for the build alternative:

- Extend the existing southbound passing lane to the north. Construction would begin just south of the intersection with East Gridley Road and end 0.4-mile north of Cox Lane. Once built, the entire southbound passing lane would be 2.5-miles long.
- Extend the existing northbound passing lane to the south. Construction would begin approximately 0.4-mile north of Cox Lane and end 0.4-mile south of the intersection with East Gridley Road. Once built, the entire northbound passing lane would be 2.6-miles long.
- Add a second left-turn lane from East Gridley Road to northbound State Route 70 and add a second left-turn lane from Stimpson Road to southbound State Route 70 at the intersection with East Gridley Road.
- Install a 12-foot wide two-way turn pocket lane from 0.3-mile south of the East Gridley Road intersection to 0.4-mile north of Cox Lane.

A two-way turn pocket lane removes turning traffic from through lanes thereby maintaining highway speeds by allowing cross traffic movement. Current conditions require a vehicle to stop to make turns into private driveways. This causes the through lane to be blocked, resulting in the flow of traffic to slow down and backup. A turn pocket lane will provide storage for vehicles waiting to turn while allowing through traffic to keep moving.

Beginning near PM 5.0, the alignment of the highway would be modified. Currently, the radii of the curves form a slight “S” shape in the alignment with a 60mph design speed. The proposal is to slightly straighten this alignment by modifying the horizontal curve radius to correspond to a 70mph design speed.

In order to accommodate the wider road prism, several private driveways would be tapered to conform to the roadway. Utility poles carrying overhead power lines and guy wires would be relocated. Existing drainage systems would be relocated using a combination of pipes, concrete-lined ditches, or earthen ditches. The traffic signal light at the intersection with East Gridley Road would also be relocated.

Approximately 17-acres of additional right-of-way would be required because the existing right-of-way is generally insufficient in width to accommodate a wider road prism for the passing lanes. The amount of additional right-of-way and the number of

parcels affected is not definitive until the project transitions from preliminary design to final design.

1.3.2 No-Build Alternative

A No build Alternative is included to provide a baseline, when compared to the Build Alternative, to evaluate the magnitude of the proposed changes and to measure the environmental effects of those changes. With a No Build Alternative, no action would be taken to improve the operational conditions for this segment of the highway.

1.4 Permits and Approvals Needed

The following permits, reviews, and approvals would be required for the project to be constructed:

Agency	Permit/Approval
United States Army Corps of Engineers	Section 404 Permit for filling or dredging waters of the United States
Central Valley Regional Water Quality Control Board	Section 401 Water Discharge Permit
United States Fish and Wildlife Service	Section 7 Formal Consultation for Threatened and Endangered Species

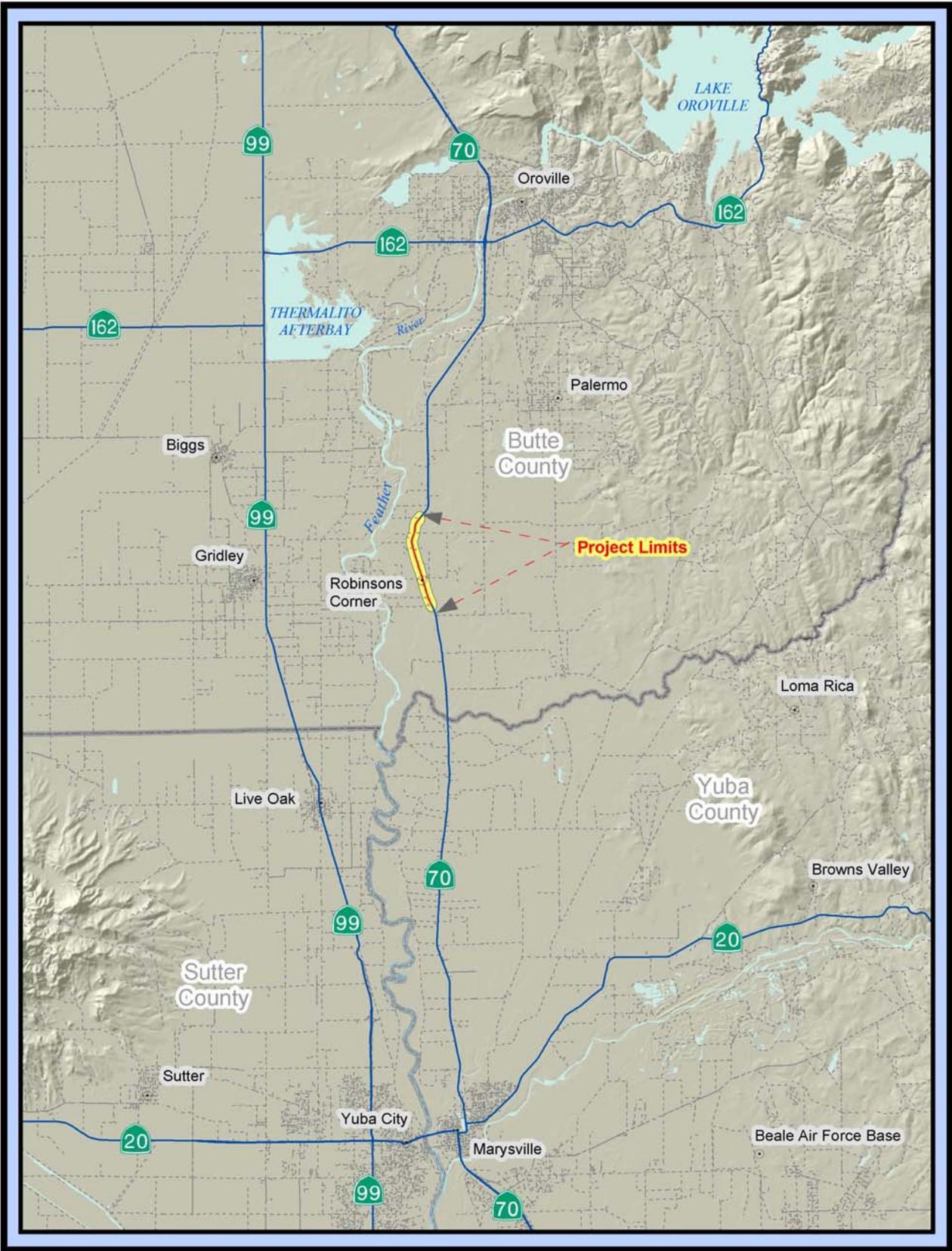


Figure 1-1 Project Vicinity Map



Figure 1-2 Project Location Map

Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

This chapter explains the impacts that the project would have on the human, physical, and biological environments in the project area. It describes the existing environment that could be affected by the project, potential impacts from the build alternative, and proposed avoidance, minimization, and/or mitigation measures.

As part of the scoping and environmental analysis conducted for the project, the following environmental issues were considered, but no adverse impacts were identified. Consequently, there is no further discussion regarding these issues in this document.

- Growth—The purpose of the project is to alleviate the traffic operating deficiencies due to the existing volume of traffic, not to increase the capacity of the highway for future traffic volumes. The project would not foster, either directly or indirectly, economic or population growth, or construction of additional housing.
- Cumulative Impacts — The proposed project impacts to vernal pools and vernal pool crustaceans would be less than cumulatively considerable because the impacts would be fully mitigated. Appropriate mitigation would be determined in consultation with the appropriate resource agencies.
- Community Impacts—Even though additional right-of-way is required, the acquired land would not bisect an established community. During construction, local property owners would maintain access to their homes.
- Traffic and Transportation/Pedestrian and Bicycle Facilities—Construction and temporary lane closures would not restrict pedestrians or cyclists. Commuters may experience a delay in traffic but advance notices would be displayed on portable, changeable message signs to forewarn travelers.
- Geology/Soils/Seismic/Topography—Studies under this specialty are not applicable to the project.
- Paleontology—Studies are not applicable to this project.

- Natural Communities—The Natural Environmental Study (October 2007) does not identify sensitive biological communities such as wildlife corridors, fish habitat, habitat fragmentation, or critical habitat within the project area.
- Animal Species—According to the Natural Environmental Study (October 2007), there is no potential to affect any wildlife that are considered as a species of special concern or a candidate species on the CDFG list or the USFWS list.

2.1 Human Environment

This chapter describes the existing environmental setting within the project area.

2.1.1 Land Use

In California, the power to regulate land use is delegated to local governments. It is the county or city general plan that provides a guide to decisions for local land use. The land use plans consist of goals and policies to direct the physical development of the communities, depending upon the zoning.

Efforts are currently underway to complete the first comprehensive update to the Butte County General Plan in more than 25 years. The BCAG County Planning Department is preparing the *Butte County General Plan 2030* that will be completed in the year 2008. The *Butte County General Plan* was adopted in 1970 with sections updated throughout the years. The General Plan provides a comprehensive, long-term framework for development in Butte County and outlines policies, standards, and programs to guide future decisions concerning growth, development, and conservation. One chapter within the General Plan is dedicated to the subject of land use. This section describes the regulatory and policy framework that guides land use in Butte County. The *General Plan 2030 Briefing Book* was published to function as a quick reference guide during the interim until the *Butte County General Plan 2030* is finalized.

2.1.1.1 Existing and Future Land Use

According to the General Plan, agriculture, timber, and grazing lands account for most of the undeveloped areas in Butte County. Undeveloped areas make up approximately 71% of the total land within the boundaries of the county with 4% of the land devoted to urban uses. The Butte County Comprehensive Zoning Ordinance sets forth zoning regulations for unincorporated areas of the county. The Zoning

Ordinance regulates land uses, building heights, setbacks, provision of open space, and other factors related to development on individual properties.

Affected Environment

The project area portion of State Route 70 traverses an area designated as agricultural uses and single-family dwelling at rural densities. Within the project limits, the majority of land use is agricultural with sporadic residential and light industrial businesses. There are sixteen residential homes and two commercial businesses that have property lines abutting the Caltrans right-of-way. The estimates summarized in the Right-of-Way Data Sheet show fifteen parcels affected by the need to acquire additional right-of-way. Approximately 17-acres of additional land would be needed to construct this project. The anticipated right-of-way “takes” (land needed to be acquired) consist of strips of privately owned land from parcels on both sides of the highway. In addition, temporary construction easements and permanent utility easements would be required.

Environmental Consequences

The proposed right-of-way acquisition would change the designated land use of the acquired area from agricultural to highway. At this stage of project development, the approximate width of additional right-of-way is a strip of land that varies between 30 – 150 feet wide from the parcels where the proposed cut/fill line extends beyond the existing right-of-way fence (see Appendix D for Preliminary Design Mapping).

Avoidance, Minimization, and/or Mitigation Measures

Caltrans can only acquire property reasonably needed for the uses of the planned transportation facility, as determined by the engineers for the roadway widening and utility relocations. Property owners whose land is acquired would be paid fair market value. Value and damages would be determined through the appraisal and compensation process. Private fences that are a pre-existing feature of a landowner’s property and need to be relocated would be reimbursed as a component of the appraisal. Throughout the process, Caltrans will consider ways to minimize right-of-way needs. It is important to note that Caltrans is still in the early planning stages and has not yet identified a final design. Right-of-way acquisition cannot begin until the environmental process has been completed. Caltrans strives to balance the concerns of local communities and property owners while upholding the responsibility to provide for the present and future transportation needs of the state.

2.1.1.2 Consistency with State, Regional, and Local Plans

Affected Environment

State Route 70 is functionally classified as a “high emphasis focus route” as part of the Interregional Road System Plan (ITSP). The ITSP is not a detailed transportation plan, but a plan that encapsulates Caltrans’s long-range vision for the interregional system to improve mobility. Caltrans works with regional agencies, such as BCAG, to consult and seek consensus on the priority of highway improvements, and then proposes a course of actions and considerations for the twenty-year planning period. The twenty-year period corresponds to the Regional Transportation Plan cycle for regional agencies. The ITSP conceptualizes this segment of State Route 70 to full freeway standards.

The Caltrans Transportation Concept Report for State Route 70, which is a planning document that describes conceptual improvements for a specific route, envisioned a four-lane expressway on a new alignment in conjunction with the Marysville Bypass. However, the updated Transportation Concept Report, which is currently being revised by Caltrans, has indefinitely postponed the proposed Marysville Bypass.

In addition to the General Plans, the Regional Transportation Plan (2004, updated every three years) was developed by BCAG to establish a long-range vision that addresses regional transportation issues within the county. Federal and California (State) programs administered through Caltrans require projects to be identified in a current Regional Transportation Plan.

Environmental Consequences

The 2004 Regional Transportation Plan was amended in April 2007 to include this proposed project, identified as the “SR 70 Passing Lane Project”. The proposed project is also in conformance with the Butte County General Plan. The General Plan calls for a minimum LOS D for urban roadways within county boundaries. Based on the forecasted number of vehicles per day for the year 2030, the operating conditions will decrease to a LOS F due to the increase in traffic volume. The need to improve the flow of traffic is based on projected increases in traffic volume. Based on the various transportation planning documents produced by Caltrans and BCAG, the project is not in conflict with any applicable land use plans, policies, or regulations. In summary, this proposed project is consistent with State, regional, and local plans.

2.1.2 Farmlands/Agricultural Lands

Regulatory Setting

The National Environmental Policy Act (NEPA) and the Farmland Protection Policy Act (FPPA) require federal agencies to coordinate with the Natural Resources Conservation Service (NRCS) if their activities may 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 California Environmental Quality Act (CEQA) 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

Orchards, grazing lands, field crops and single-family dwellings at rural densities are present throughout the project area. The fields are most commonly planted with fruit trees, wheat, or rice. The NRCS classifies agricultural lands into four categories: prime farmland, farmland of statewide importance, unique farmland, and farmland of local importance. Based on the soil conditions, the NRCS categorized the agricultural area as farmland of statewide importance within the project limits. (see Figure 2.0 Farmland Classification Map)

Projects that convert farmland (defined by the FPPA) to nonagricultural uses are required to coordinate with the NRCS. Provisions in the FPPA guide the process when assessing farmland impacts through the use of the Farmland Conversion Impact Rating Form AD 1006. The form provides a rating basis for assessing the extent of farmland impacts.

Environmental Consequences

It is anticipated that Caltrans would acquire a portion of land from 13 parcels classified as farmland of statewide importance. Collectively, these 13 parcels cover a total of 1,163.7-acres of land. The project would require approximately 15-acres of agricultural land to be permanently converted to a transportation use. In an effort to identify potential farmland impacts, Caltrans completed the Farmland Conversion Impact Rating Form AD 1006 and is coordinating with the NRCS to examine the

effects of farmland conversion. According to the FPPA, project sites receiving a total score of less than 160 points are given minimal level of consideration for protection. If a project site receives a total score of 160 points or greater, then the FPPA suggests the proponents of the project consider alternatives, as appropriate, that could reduce adverse impacts.

Avoidance, Minimization, and/or Mitigation Measures

In accordance with the FPPA, Caltrans initiated coordination with the NRCS and submitted the site assessment criteria of the Farmland Conversion Impact Rating Form. It is anticipated that the NRCS will determine that the total score will be less than 160 points. Impacts to the overall production of farmlands with statewide importance are not anticipated because the 15-acres of land converted to transportation use would not jeopardize the function of the remaining acres of farmland.

2.1.3 Utilities/Emergency Services

Affected Environment

Utility poles that support overhead telephone and electrical wires line both sides of the highway. The poles are within Caltrans right-of-way and the guy wires stationing the poles are embedded in the ground just outside of the right-of-way fence. Where the utility poles are positioned, the ground is relatively flat. Caltrans maintenance crews control the height of weeds and grasses by regularly mowing this unpaved portion of the right-of-way.

Environmental Consequences

In order to accommodate the widening of the highway, it is expected that all the power poles, control boxes, and any other conflicting utilities would need to be relocated. The newly proposed right-of-way would be wide enough to accommodate the need to relocate utilities. Tree removal or trimming of branches may be necessary to accommodate the repositioned utility lines.

Avoidance, Minimization, and/or Mitigation Measures

In most cases, utilities are relocated prior to the start of construction for a project. Caltrans would coordinate with the appropriate utility companies to ensure the replacement utilities function equivalent to the existing facilities with minimal interruption in services during the relocation efforts.

2.1.4 Cultural Resources

This section provides information on cultural resources that occur, or could occur, within the proposed project area. This section details the results of the field investigations and discloses the potential impacts to cultural resources and historic resources.

Regulatory Setting

“Cultural resources” as used in this document refers to historic and archaeological resources, regardless of significance. The primary federal laws dealing with cultural resources include the following:

The National Historic Preservation Act, as amended, sets forth national policy and procedures regarding historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for the National Register of Historic

Places. Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on such properties and to allow the Advisory Council on Historic Preservation the opportunity to comment on those undertakings, following regulations issued by the Advisory Council on Historic Preservation (36 Code of Federal Regulations 800). On January 1, 2004, a Section 106 Programmatic Agreement among the Advisory Council, the Federal Highway Administration, the State Historic Preservation Officer, and Caltrans went into effect for Caltrans projects, both state and local, with Federal Highway Administration involvement. The Programmatic Agreement implements the Advisory Council's regulations, 36 Code of Federal Regulations 800, streamlining the Section 106 process and delegating certain responsibilities to Caltrans.

Historical resources are considered under the California Environmental Quality Act, as well as California Public Resources Code Section 5024.1, which established the California Register of Historical Resources. Section 5024 of the Public Resources Code requires state agencies to identify and protect state-owned resources that meet National Register of Historic Places listing criteria. It further specifically requires Caltrans to inventory state-owned structures in its rights-of-way.

Affected Environment

In September 2007, a Caltrans archaeologist and an architectural historian completed a Historic Property Survey Report that contains detailed information on the various identification efforts and archival research conducted to identify any known archaeological, historic, or cultural heritage sites within the project area. An Area of Potential Effects (APE) was established to encompass the maximum limits of potential ground disturbing activities that are reasonably expected to occur due to construction of the proposed project.

Surveys were not conducted on three parcels due the landowners' reluctance to authorize permission to enter their property. Areas surrounding these parcels have been surveyed several times for past Caltrans projects, including this current project. The parcels that were not surveyed have been extremely modified due to ranching and agricultural activities. Caltrans archaeologists do not consider these three parcels to be culturally sensitive based on the lack of natural water sources (such as a creek or a pond), geoarchaeological studies of the project area, and the absence of identified cultural resources within the vicinity.

Efforts to locate cultural resources within the APE consisted of a literature search, systematic field surveys, Native American consultation, and the solicitation of comments from the Butte County Historical Society. The cultural resource inventory resulted in the identification of one possible archaeological site (BUT-70-01) to the west of the APE.

In addition to considering the effects of the project to archaeological resources, Caltrans must comply with laws that afford protection to historic structures. The results of a survey for historical resources identified four man-made structures that were not exempt from an architectural evaluation. Three of the four properties had been previously evaluated for listing on the National Register of Historic Places (NRHP) and the California Register of Historical Resources. One property, Robinson's Corner, was previously determined eligible for listing on the NRHP.

Robinson's Corner

Robinson's Corner was built in 1925. On June 22, 1925, shortly after it was constructed, the Robinson pavilion burned to the ground in a fire that was termed "suspicious". Undaunted, Roy Robinson elected to build a permanent dance hall, along with a gasoline station near the Gridley Highway and Oroville Highway. While the gasoline station remained in operation long after the dance hall closed, it was the dance hall that earned fame for the establishment that extended beyond Butte County. In May of 1999, the long history of Robinson's Corner came to an end as fire destroyed the building. The site of the dance hall is now sparsely scattered with debris, but the foundation of the building and an island of concrete where the gas pump once stood are still clearly evident.

Environmental Consequences

Extended Phase I excavations were conducted to determine whether subsurface archaeological deposits relating to BUT-70-01 may extended into the Area of Direct Impacts (ADI). The excavations found no evidence of intact cultural materials or archaeological deposits in the ADI. Based on the lack of archeological information, the area does not represent an archaeological site or a cultural deposit.

Since there were four parcels with man-made structures that were over 50-years of age, a Historical Resources Evaluation Report dated September 2007 was prepared to record the results of a survey for historical resources within the APE limits. Of the four resources, two resources (a residence and a farm) were previously determined

ineligible for listing on the NRHP. The third resource, Robinson's Corner, was previously determined eligible under Criterion A at the local level of significance as a "pioneering venue for live musical entertainment from 1925 to 1941." The building and outbuildings burned down in 1999. Currently, all that is visible is the concrete perimeter foundation, charred wood frame, a concrete pump island and assorted building debris. For the purposes of this proposed project, Caltrans staff reevaluated Robinson's Corner and determined that it is no longer eligible under Criterion A due to the substantial loss of integrity resulting from the catastrophic fire; however, the area might possess enough remnants should it ever be found eligible under Criterion D for its ability to contribute to our understanding of important historic research issues. The fourth resource, a residential house built in the early 1950s, was determined ineligible as a result of the current study.

Avoidance, Minimization, and/or Mitigation Measures

Caltrans determined that the portions of Robinson's Corner that fall within the Area of Direct Impact (ADI) are non-contributing elements of the larger property, should it ever be found eligible for listing in the NRHP under Criterion D. The elements that fall within the ADI include a portion of the concrete building foundation and an island of concrete where the gas pump once stood. To avoid potential damage to the remnants of Robinson's Corner that are outside the ADI, an Environmentally Sensitive Area (ESA) would be established. Delineating an ESA on the final design layouts may be used to achieve a Finding of No Adverse Effect with Standard Conditions.

2.2 Physical Environment

2.2.1 Hydrology and Floodplain

Floodplains are a natural part of the Butte County environment. Protecting the beneficial functions of a floodplain helps reduce the damages caused by floods. Poorly planned development in floodplains can lead to loss of property, stream bank erosion, and degradation of water quality. Since this project encroaches upon a 100-year floodplain, a Floodplain Risk Assessment report was completed to determine whether or not the proposed modifications to the highway would have potential impacts to the floodplain.

Regulatory Setting

Executive Order 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. The Federal Highway Administration requirements for compliance are outlined in 23 Code of Federal Regulations 650 Subpart A.

To comply, the following must be analyzed:

- The practicability of alternatives to any longitudinal encroachments
- Risks of the action
- Impacts on natural and beneficial floodplain values
- Support of incompatible floodplain development
- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values affected by the project.

The floodplain is defined as “the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year.” An encroachment is defined as “an action within the limits of the floodplain.”

Affected Environment

The study area is within the Feather River basin. The topography is relatively flat. Generally, the area slopes east to west, from an elevation of 95-feet above mean sea level at the south end of the project to 110-feet above means sea level at the north end.

The Federal Emergency Management Agency (FEMA) delineates areas subject to flood hazard onto Flood Insurance Rate Map (FIRM) panels to illustrate flood risk locations. An area designated as a 100-year floodplain (Zone A) means that in any given year, that area has a 1% probability of flooding. Zone A is considered to be at high risk of flooding under the National Flood Insurance Program and flood insurance is required for properties that have federally-backed mortgages. Unshaded Zone X is an area that is above the 0.2% flood elevation, meaning there is a 0.2% probability of flooding in any given year. Unshaded Zone X is considered to be at low risk of flooding and is commonly known as the 500-year floodplain.

The FIRM panels for the project area designate the majority of the area within the project limits to be within the 500-year floodplain (Zone X); however, there are two small segments of highway located within the 100-year floodplain (Zone A). The first segment is north of the East Gridley Road intersection (PM 4.17). At this

location, approximately 650-feet of highway is identified as a transverse encroachment into the 100-year floodplain. The second segment is 0.4-mile north of Cox Lane (PM 5.75). At the second location, approximately 115-feet of highway is also identified as a transverse encroachment.

State records and interviews with personnel representing state, federal, and local agencies indicated that there have been minor instances of flooding within Caltrans right-of-way. One particular area is north of Cox Lane (PM 5.3 – 5.8). Nuisance flooding and shallow pooling of water on the highway was noted within this location resulting in several brief highway closures prior to the year 2000. This reoccurring flooding problem was attributed to extensive grading of farmland adjacent to the highway and farther to the west, near the Feather River. Much of these lands have been graded to drain toward the highway, thereby increasing the runoff to the highway drainage system. The drainage system was determined inadequate to support the increased flows.

In the year 2000, a culvert replacement project was constructed to remedy this problem. Within the proposed project limits, six cross culverts were replaced and upgraded. Upgrades included increasing the size and capacity of the existing pipes that had become damaged and deteriorated with age. A double, reinforced concrete box culvert replaced the existing single, undersized culvert at PM 5.8 to increase the drainage capacity at this location. At certain sections, the highway profile was raised to eliminate non-standard vertical curves within the floodplain. There have been two significant storm events in the past two years (January 2005, December 2005/January 2006). Since the installation of the concrete box culvert and the raising of the highway profile, highway flooding has not been reported at this location.

Environmental Consequences

According to the Floodplain Risk Assessment report, widening of the highway to accommodate additional passing lanes is not considered as an incompatible development within the floodplain. The proposed project, along with the proposed drainage modifications, would not cause an increase in backwater flows and does not constitute as a significant floodplain encroachment.

Avoidance, Minimization, and/or Mitigation Measures

Understanding hydraulics and the hydrology of the area are necessities for designing drainage facilities, such as culverts, that control the flow of water near a highway. The size and shape of the pipe determines the effectiveness of the culvert, especially

during extreme weather events such as major floods and washouts. With the use of a computerized program model that analyzes target water flows and the best design practices, the optimum hydraulic design would be developed for this drainage system. Because the existing culverts need to be extended and drainage and irrigation ditches relocated to accommodate the wider highway, hydraulic modeling would be performed to show pre-project and post-project conditions for water surface elevation to ensure that the drainage changes do not cause upstream or downstream flooding. This project does not require any special mitigation measures to preserve the natural basin of the floodplain.

2.2.2 Hazardous Waste or Materials

Information in this section is based upon the Preliminary Site Investigation titled “Hazardous Waste Environmental Site Assessment” prepared by LSA, Incorporated (September 2005). The assessment was conducted to identify and evaluate the potential for encountering hazardous materials or hazardous waste within the limits of the project study area.

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.

The primary federal laws regulating hazardous wastes/materials are the Resource Conservation and Recovery Act of 1976 and the Comprehensive Environmental Response, Compensation and Liability Act of 1980. The purpose of the Comprehensive Environmental Response, Compensation and Liability Act, often referred to as Superfund, is to clean up contaminated sites so that public health and welfare are not compromised. The Resource Conservation and Recovery Act provides for “cradle to grave” regulation of hazardous wastes. Other federal laws include the following:

- Community Environmental Response Facilitation Act of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety & Health Act
- Atomic Energy Act

- Toxic Substances Control Act
- Federal Insecticide, Fungicide, and Rodenticide Act

In addition to the acts listed above, Executive Order 12088, Federal Compliance with Pollution Control, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

Hazardous waste in California is regulated primarily under the authority of the federal Resource Conservation and Recovery Act of 1976 and the California Health and Safety Code. Other California laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

Worker health and safety and public safety are key issues when dealing with hazardous materials that may affect human health and the environment. Proper disposal of hazardous material is vital if it is disturbed during project construction.

Affected Environment

A Preliminary Hazardous Waste Evaluation and Initial Site Assessment were two reports prepared to assess the potential of encountering hazardous waste during construction. In addition, a field review and a record search that used the information services of the Environmental Data Resources (EDR) were conducted. The EDR is a database of collective records on the storage and accidental release of hazardous waste materials. Based on the information contained in the EDR report, no hazardous waste storage sites or releases were previously recorded within the project limits. However, near the corner of the East Gridley Road intersection there are the remnants of a demolished gas station. Historical reviews of aerially photographs and a site visit further substantiate this find.

Aerial photos taken over the last several decades also indicated that the corridor has supported vehicular activity since the 1930's. Since lead was used as an additive to gasoline prior to 1986, the surface soils adjacent to State Route 70 have the potential to be contaminated with Aerially Deposited Lead (ADL) from the exhaust of cars burning leaded gasoline. In areas where soil has not been disturbed, the ADL is generally limited to the upper two-feet of soil within unpaved shoulders.

Environmental Consequences

Since widening the highway to add the passing lanes and turn-pocket lanes requires extensive soil disturbance and the acquisition of additional right-of-way, soil

sampling and analysis is required. The sampling of soils at various locations, including the area where the gas station once stood, would determine whether or not there is a potential for encountering contaminated soils. Prior to the project transitioning into final design, soil samples would be collected and analyzed to determine the extent, if any, of contamination.

Avoidance, Minimization, and/or Mitigation Measures

Based on the results of the soil samples, provisions may need to be added to the construction contract requiring the contractor to implement a Health and Safety Lead Compliance Plan to prevent or minimize workers exposure to lead. Compliance with this plan would reduce any potential exposure to lead to a less than significant level.

Historically, a gas station operated at the corner of the East Gridley Road intersection. Once the project transitions into the design phase, soil sampling would be conducted since there is a potential to encounter soil and/or groundwater contamination due to the past operation of a gas station. If laboratory analyses determine that soil and/or groundwater contamination is present, contingencies would be implemented prior to construction to address any identified issues.

2.2.3 Air Quality

Environmental laws require the Department to analyze the impact of proposed transportation projects on the air environment. The usual procedure is to perform project-level impact analysis to predict future pollutant levels for considered project alternatives including the “No Build”, and make a comparison with the ambient air quality standards. This section summarizes the findings of the Caltrans Technical Air Quality Analysis (October 2007) prepared for this project.

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 concentration of pollutants that can be in the air. At the federal level, these standards are called National Ambient Air Quality Standards. Standards have been established for six criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM), lead (Pb), and sulfur dioxide (SO₂).

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 State Implementation Plan for achieving the goals of 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 carbon monoxide, nitrogen dioxide, ozone, and particulate matter. California is in attainment for the other criteria pollutants. At the regional level, Regional Transportation Plans are developed that include all of the transportation projects planned for a region over a period of years, usually at least 20. Based on the projects included in the Regional Transportation Plan, an air quality model is run to determine whether or not the implementation of those projects would conform to emission budgets or other tests showing that attainment requirements of the Clean Air Act are met. If the conformity analysis is successful, the regional planning organization, such as the Butte County Association of Government and the appropriate federal agencies, such as the Federal Highway Administration, make the determination that the Regional Transportation Plan is in conformity with the State Implementation Plan for achieving the goals of the Clean Air Act. Otherwise, the projects in the Regional Transportation Plan must be modified until conformity is attained. If the design and scope of the proposed transportation project are the same as described in the Regional Transportation Plan, then the proposed project is deemed to meet regional conformity requirements for purposes of the project-level analysis.

Conformity at the project-level also requires “hot spot” analysis if an area is in “nonattainment” or “maintenance” for carbon monoxide (CO) and/or particulate matter. A region is a “nonattainment” area if one or more monitoring stations in the region fail to attain the relevant standard. Areas that were previously designated as non-attainment areas but have recently met the standard are called “maintenance” areas. “Hot spot” analysis is essentially the same, for technical purposes, as carbon monoxide or particulate matter analysis performed for National Environmental Policy Act and California Environmental Quality Act purposes. Conformity does include some specific standards for projects that require a hot spot analysis. In general, projects must not cause the carbon monoxide standard to be violated, and in “nonattainment” areas, the project must not cause any increase in the number and severity of violations. If a known carbon monoxide or particulate matter violation is

located in the project vicinity, the project must include measures to reduce or eliminate the existing violation(s) as well.

Affected Environment

This project is exempt from regional (40 Code Federal Regulations 93.127-128) conformity requirements and was included in the BCAG's Regional Transportation Plan (RTP). BCAG has determined that the package of projects included in the RTP conform to the State Implementation Plan (SIP). Therefore, the proposed project is considered to be in conformance with the SIP.

Under the National Ambient Air Quality Standards, Butte County is currently designated as being in "attainment-maintenance" for carbon monoxide (CO), "attainment" for PM₁₀ and PM_{2.5} and "transitional" for ozone. Under the California Ambient Air Quality Standards, Butte County is currently designated as being in "attainment" for CO and non-attainment for ozone, PM₁₀, and PM_{2.5}.

The prediction model used, CALINE4, is a line source air quality model developed by Caltrans. The analysis mathematically predicts the project contribution to CO concentrations from vehicular emissions by using three major components: (1) an estimate of the number of vehicles (peak hour traffic volumes), (2) emission factor (how much CO is emitted by the average vehicle as it passes by), (3) dispersion patterns (how rapidly CO from highway traffic disperses).

Environmental Consequences

Seven receptors (R1 through R7) located along SR 70 between post mile (PM) 2.5 and PM 7.5 were analyzed. The concentrations in parts per million (ppm) for CO are summarized in the Table below:

Table 2.0 Concentrations of Carbon Monoxide (CO) for the No Build Condition

Receptors	Existing		2010		2020		2030	
	1-hr	8-hr	1-hr	8-hr	1-hr	8-hr	1-hr	8-hr
R1	4.6	3.2	4.3	3.0	3.9	2.7	3.8	2.7
R2	5.2	3.6	4.8	3.4	4.0	2.8	3.9	2.7
R3	4.8	3.4	4.5	3.2	3.9	2.7	3.8	2.7
R4	4.9	3.4	4.6	3.2	3.9	2.7	3.8	2.7
R5	4.7	3.3	4.4	3.1	3.9	2.7	3.8	2.7
R6	4.8	3.4	4.5	3.2	3.9	2.7	3.8	2.7
R7	4.1	2.9	4.0	2.8	3.7	2.6	3.7	2.6

Table 2.1 Concentrations of Carbon Monoxide (CO) for the Build Condition

Receptors	Existing		2010		2020		2030	
	1-hr	8-hr	1-hr	8-hr	1-hr	8-hr	1-hr	8-hr
R1	4.6	3.2	4.4	3.1	4.0	2.8	3.9	2.7
R2	5.2	3.6	4.8	3.4	4.1	2.9	4.1	2.9
R3	4.8	3.4	4.8	3.4	4.1	2.9	4.1	2.9
R4	4.9	3.4	4.7	3.3	4.1	2.9	4.1	2.9
R5	4.7	3.3	4.6	3.2	4.0	2.8	3.9	2.7
R6	4.8	3.4	4.4	3.1	3.9	2.7	3.9	2.7
R7	4.1	2.9	4.0	2.8	3.8	2.7	3.7	2.6

All of the above calculations demonstrate that the 1-hour and 8-hour CO concentrations are below the established state and federal thresholds. The project level air quality analyses shows that there are no current violations of the CO standard in the project area and no violations are expected as a result of the project being built. Therefore, this project is found to be in conformance with the State Implementation Plan, in accordance with the final conformity requirements of the Clean Air Act. This project would not result in any meaningful changes in vehicle mix, or any other factor that would cause an increase in emissions relative to the no-build alternative. As such, this project would generate minimal air quality impacts for Clean Air Act criteria pollutants and has not been linked with any special mobile source air toxics.

Avoidance, Minimization, and/or Mitigation Measures

Caltrans Standard Specifications pertaining to dust control and dust palliative requirements are a required part of all construction contracts and should effectively reduce and control emission impacts during construction. The provisions of Caltrans Standard Specifications, Section 7-1.01F “Air Pollution Control” and Section 10 “Dust Control” require the contractor to comply with the Butte County Air Quality Management District’s rules, ordinances, and regulations for air pollution.

2.2.4 Noise and Vibration

A traffic noise analysis is required for any state or federal highway project if it is built on a new alignment, or the existing highway alignment significantly changes, or the number of traffic lanes increase. These projects are called Type I projects and generally have the potential to increase traffic noise. This proposed Passing Lane Project meets the definition of a Type I project. Therefore, Caltrans noise specialists prepared a Noise Study Report (September 2007) to assess the highway traffic noise impacts since the project would add passing lanes and realign the highway to improve a curve radius near PM 5.0.

Regulatory Setting

The requirements for noise analysis and consideration of noise abatement and mitigation differ between the National Environmental Policy Act and the California Environmental Quality Act.

California Environmental Quality Act

The California Environmental Quality Act requires a strictly no-build versus build analysis to assess whether a proposed project would have a noise impact. If a proposed project is determined to have a significant noise impact under the California Environmental Quality Act, then the act dictates that mitigation measures must be incorporated into the project unless such measures are not feasible.

National Environmental Policy Act and 23 Code of Federal Regulations 772

For highway transportation projects with Federal Highway Administration involvement, the Federal-Aid Highway Act of 1970 and the associated implementing regulations (23 Code of Federal Regulations 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations contain noise abatement criteria that are used to determine

when a noise impact would occur. The noise abatement criteria differ depending on the type of land use under analysis. For example, the criterion for residences (67 decibels) is lower than the criterion for commercial areas (72 decibels). The following table lists the noise abatement criteria for use in the National Environmental Policy Act and 23 Code of Federal Regulations 772 analysis and Table 2.2 shows the noise levels of typical activities.

Table 2.2 Activity Categories and Noise Abatement Criteria

Activity Category	Noise Abatement Criteria, A-weighted Noise Level, Leq(h)	Description of Activities
A	57 Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose
B	67 Exterior	Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals
C	72 Exterior	Developed lands, properties, or activities not included in Categories A or B above
D	--	Undeveloped lands
E	52 Interior	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums

Source: Caltrans Traffic Noise Analysis Manual, 1998

A-weighted decibels are adjusted to approximate the way humans perceive sound. Leq(h) is the steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual time-varying levels over one hour.

Table 2.3 Typical Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Jet Fly-over at 300m (1000 ft)	110	Rock Band
Gas Lawn Mower at 1 m (3 ft)	100	
Diesel Truck at 15 m (50 ft), at 80 km (50 mph)	90	Food Blender at 1 m (3 ft)
Noisy Urban Area, Daytime	80	Garbage Disposal at 1 m (3 ft)
Gas Lawn Mower, 30 m (100 ft)	70	Vacuum Cleaner at 3 m (10 ft)
Commercial Area		Normal Speech at 1 m (3 ft)
Heavy Traffic at 90 m (300 ft)	60	Large Business Office
Quiet Urban Daytime	50	Dishwasher Next Room
Quiet Urban Nighttime	40	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime		Library
Quiet Rural Nighttime	30	Bedroom at Night, Concert Hall (Background)
	20	Broadcast/Recording Studio
	10	
Lowest Threshold of Human Hearing	0	Lowest Threshold of Human Hearing

In accordance with Caltrans' *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, October 1998*, a noise impact occurs when the future noise level with the project results in a substantial increase in noise level (defined as a 12-decibel or more increase) or when the future noise level with the project approaches or exceeds the noise abatement criteria. Approaching the noise abatement criteria is defined as coming within 1 decibel of the criteria.

If it is determined that the project would have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into the project

plans and specifications. This document discusses noise abatement measures that would likely be incorporated into the project.

Caltrans' *Traffic Noise Analysis Protocol* sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. A minimum 5-decibel reduction in the future noise level must be achieved for an abatement measure to be considered feasible. Other considerations include topography, access requirements, other noise sources, and safety considerations. The reasonableness determination is basically a cost-benefit analysis. Factors used in determining whether a proposed noise abatement measure is reasonable include residents' acceptance, the absolute noise level, build versus existing noise, environmental impacts of abatement, public and local agencies' input, newly constructed development versus development pre-dating 1978, and the cost per benefited residence.

Affected Environment

The first step in the noise analysis is to identify locations in the project area that could be considered "noise-sensitive receptors" before determining if implementation of the proposed project would result in highway traffic noise impact. The next step is to measure the existing noise levels at select receptor locations.

Since there are sporadic residential homes and an elementary school along this section of highway, measurements of existing sound levels were taken to characterize the level of existing noise. Measurements were taken at six locations for a duration of 15 minutes at each location. At the elementary school (Feather River Adventist School), Receptor (R1), R2, R3, and R4 represent locations where noise measurements were recorded near the playground equipment area and grassy field that is possibly used as a recreational area for sport activities. Receptor (R5) and R6 represent the samples taken near two residential homes where the curve correction would bring the highway alignment closer in proximity to the residences. Table 2.4 summarizes the sound levels collected from the elementary school and two residences near the highway.

Table 2.4 Summary of Field Measurement Data

Receiver	Measurement	Date	Start Time	Duration (minutes)	Measured Sound Level (dB-Leq)	Traffic Volumes (Scaled to 1 Hour)							
						Northbound				Southbound			
						Autos	Med Trucks	Heavy Trucks	Speed (mph)	Autos	Med Trucks	Heavy Trucks	Speed (mph)
R1	1	6/6/07	11:25 a.m.	15:00	61.9	332	12	32	60	380	20	24	60
R2	1	6/6/07	11:57 a.m.	15:00	63.9	256	16	8	55	288	20	40	55
R3	1	6/6/07	12:17 p.m.	15:00	57.6	372	20	32	60	368	8	24	55
R4	1	6/6/07	12:53 p.m.	15:00	61.2	316	36	16	60	292	24	40	60
R5	1	6/28/07	11:22 a.m.	15:00	67.8	484	32	56	55	348	28	88	55
R6	1	6/28/07	11:48 a.m.	15:00	67.8	376	48	44	60	344	36	80	55

The traffic noise model was calibrated using the measured sound level data and actual traffic counts. The noise model was also calibrated to consider the generally flat terrain of the project area since geometric land features, such as hills and dense woods, can substantially reduce the noise levels. Using “worst-noise-hour” traffic volumes under design-year conditions, the Federal Highway Administration’s Traffic Noise Model (version 2.5, February 2004) was used to determine whether traffic noise impacts would occur as a result of the project.

Environmental Consequences

Traffic noise impacts are identified by determining whether there is a substantial increase (substantial increase meaning a noise increase of 12dBA), or whether the traffic noise under design-year conditions approaches or exceeds the noise abatement criteria. Table 2.5 summarizes the impact results of the noise analysis.

Table 2.5 Summary of Traffic Noise Modeling Results for the Build Alternative

Receiver ID	Location	Type of Development	Noise Abatement Category Leq(h)	Existing worst Noise Hour Noise Level dBA Leq(h)	Predicted*Worst Noise Hour Noise Level dBA Leq(h)	Noise Increase (+) or Decrease (-)	Impact Type
R1**	Feather River Adventist School	School	B (67 dB)	61.9 (modeled)	65.1 (modeled)	+3.2	NA
R2**	Feather River Adventist School	School	B (67 dB)	65.9 (modeled)	68.1 (modeled)	+2.2	NA
R3	Feather River Adventist School	School	B (67 dB)	56.9 (modeled)	60.8 (modeled)	+3.9	None
R4	Feather River Adventist School	School	B (67 dB)	55.7 (modeled)	59.2 (modeled)	+3.5	None
R5	1707 Highway 70	Residential	B (67 dB)	66.6 (modeled)	75.4 (modeled)	+8.8	A/E
R6	2277 Highway 70	Residential	B (67 dB)	67.2 (modeled)	75.4 (modeled)	+8.2	A/E

Note(s)

* Predicted for design year 2030

** For comparison and informational purposes only

Impact Types: None - no impacts identified
A/E - noise abatement criteria approached or exceeded
S - existing noise level substantially increased

Glossary: Leq (h) = 1-hour A-weighted equivalent sound level
dB = decibels

Receptor (R3) and Receptor (R4) represent the measurements taken at the Feather River Adventist School. The measurements taken at R3 and R4 indicate that the existing noise level at these locations is 56 decibels and 55 decibels respectively. The future noise level at R3 is predicted to be 60 decibels, if the project is built. When comparing the difference between the existing noise level at the school and the predicted noise level once the project is built, there is a predicted increase in noise (ranging from 2.2 dBA to 3.9 dBA) at the elementary school. This increase in noise level is attributed to the additional passing lanes. However, this increase is minor mainly because the new curve correction alignment places the traffic farther away from the school compared to the existing alignment (see Appendix D layout page 9 for the proposed realignment).

The measurements taken at R5 and R6, which represent two residential homes adjacent to the highway, indicate that the existing noise level is 66 decibels and 67 decibels. This demonstrates that the current noise level is already close to the noise abatement criteria of 67 decibels. If the project were built, the predicted noise level would increase to 75 decibels for those residences. However, the reading of 75 decibels was taken in front of the residences at the chain-link fence that approximately demarcates Caltrans right-of-way from private property because access to the property was not available. Sound attenuates (or drops off) over a distance. Had the reading been taken at the immediate exterior of the homes the noise reading would have been lower than 75 decibels.

The increase in noise level is due to the proximity of traffic volumes and the new alignment that places the highway closer to the residential properties. (see Appendix D layout pages 9-10).

Avoidance, Minimization, and/or Noise Abatement under the California Environmental Quality Act and the National Environmental Policy Act

The average healthy ear can barely perceive noise level changes of 3 dBA. A change of 5 dBA is readily perceptible and a change of 10 dBA is perceived as being twice or half as loud. A doubling of sound energy results in a 3 dBA increase in sound. This means that a doubling of sound energy (i.e. doubling the volume of traffic on a highway) would result in a barely perceptible change in sound level.

Under NEPA regulations, when analyzing noise impacts to residential areas, a traffic noise impact occurs when the predicted noise levels approach or exceed the noise abatement criteria (67 dBA). As indicated in Table 2.5, traffic noise at the two residences (receptors R5, R6) is predicted to reach a noise level of 75 dBA, which exceeds the noise abatement criteria (67 dBA). However, since the reading was taken near the highway instead of the reading taken at the façade of the homes, the predicted noise level at the residences would actually be lower than 75dBA. Under CEQA provisions, the impact is not considered as a substantial impact because the noise level did not increase by 12 decibels. Overall, the difference between the existing noise level and the predicted noise level at the residential homes is 8 decibels.

Under NEPA regulations, the predicted future noise level (60 decibels) at the Feather River Adventist School did not approach or exceed the noise abatement criteria. Therefore, under NEPA regulations there would be no traffic noise impact to the school. When analyzing whether or not traffic noise impacts occur under CEQA, the difference between the existing noise level and the predicted noise at the school is 3 dBA. Since the noise level would not increase by 12 decibels, there would be no significant impact under CEQA. In conclusion, a traffic noise impact is not predicted to occur at the Feather River Adventist School.

Under NEPA (i.e. federal regulations) for Type I projects, noise abatement for residents must be considered if the project is predicted to result in a traffic noise impact. In accordance to the Caltrans *Traffic Noise Analysis Protocol*, noise abatement measures were examined. It was determined that sound walls would not be an effective noise abatement measure. In order for a sound wall to attenuate the noise

level, the wall would need to be a solid barrier without breaks. This is not a feasible option because property owners would need breaks in the sound wall in order to access their driveways. Given the noise modeling results and the nature of the project, construction of sound barriers is not practicable because the breaks in the walls would render the sound wall barrier ineffective in reducing the noise level.

Installing acoustical noise insulation in the private residences may be provided only when severe traffic noise impacts are anticipated and normal abatement measures are physically not feasible or economically reasonable. Acoustical insulation is only considered when residential dwelling units would have an exterior noise level of 75 dBA after a project is built. If the noise readings were taken at the immediate exterior of the residences, instead of at the right-of-way fence, the predicted future noise levels at locations R5 and R6 (i.e. the residents) would be below 75 decibels. A severe traffic noise impact is not predicted to occur after the project is constructed. Therefore, abatement measures have not been included to attenuate the level of noise.

With regard to noise generated by construction equipment, there are policies to protect residents from excessive construction equipment noise. For instance, contractors are required to restrict construction activities to the hours between 7:00 a.m. – 7:00 p.m. on weekdays, except for actions taken to prevent or resolve an emergency. Furthermore, construction noise would be minimized because the contractor is required to conform to the provisions of the Caltrans standard specifications titled “Sound Control Requirements”. This specification requires the contractor to comply with all local sound control and noise level rules, regulations and ordinances. Finally, combustion engines used on the job must be equipped with a muffler recommended by the manufacturer to minimize the noise generated from the operation of heavy construction equipment. Under CEQA provisions, elevated noise levels caused by construction are not considered a significant impact unless the level exceeds a local ordinance. The measures mentioned above would help minimize the temporary construction noise.

2.3 Biological Environment

This section provides a summary of the information provided in the Natural Environmental Study prepared by a Caltrans biologist in October 2007. The Biological Study Area (BSA) is identified on a map appended in Appendix E. The BSA was surveyed for natural resources as described in the following sections. The BSA includes the areas proposed for ground-disturbing activities, such as

construction activities, staging areas, and access points for construction equipment. The study area also includes an area beyond the construction zone to address potential indirect effects to wetlands and associated vernal pool fairy shrimp and vernal pool tadpole shrimp habitat.

2.3.1 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 United States Code 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. 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 with oversight by the Environmental Protection Agency.

The Executive Order for the Protection of Wetlands (Executive Order 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 would 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 DFG determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement would 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 ACOE 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

Major drainages in the vicinity of the project area include the Feather River and Wyman Ravine. However, these watercourses do not cross underneath the highway and are outside of the BSA limits. Therefore, there is no further discussion of these watercourses since there is no potential to affect these resources.

Approximately 2.82-acres of vernal pools occur in the study area. Collectively, the vernal pools consist of a large complex north of Cox Lane and a single vernal pool, approximately 0.75 miles south of Cox Lane. This single vernal pool is adjacent to a wetland.

Vernal pools are a unique type of wetland that form on soil with a shallow hardpan or claypan layer that prevents percolation and allows water to pond on the surface. Vernal pools are a subset, or type of wetland; therefore, vernal pools within the study area would be considered jurisdictional by the USACE because they are dominated by facultative wetland plant species, support hydric soils, and exhibit wetland hydrology. Vernal pools are considered sensitive natural communities because they provide important seasonal habitat for migratory species and year-around habitat for federally listed species. Vernal pools are an uncommon community type that is declining statewide.

During the winter months, a high flow of water drains from the Wyman Ravine to the west through a vernal pool complex and continues to travel to the east side of the highway. The water remains on the roadside for a few weeks, and then disperses

through two culverts that run underneath the highway, eventually disseminating into an orchard. These pools exist on a privately owned, undeveloped parcel of land that is covered by non-native grasses. Cows graze heavily on this unplowed, open, grassy field. Each year, a bulldozer provides a firebreak by scraping the portion of the pasture that abuts the highway. A 10-foot swath of surface soil is ripped to provide the firebreak.

Approximately 0.01-acre of wetland occurs in the BSA. This wetland (not identified as a vernal pool) is flooded when the pasture directly to the north is irrigated through a pump-water system. Due to the agricultural activities within the area, this area remains wet throughout the year. Eventually, water from this area drains to the Caltrans right-of-way through a man-made earthen ditch. This wetland is dominated by Bermuda grass (*Cynodon dactylon*), cattails (*Typha latifolia*), toad rush (*Juncus bufonius* var. *occidentalis*) and primrose (*Ludwigia peploides*) and could potentially be considered as jurisdictional by the USACE.

The vernal pool, swale complex, and wetland boundaries were determined from pools inundated with water, ordinary high-water marks, and changes in plant communities. A Caltrans biologist mapped the boundaries of the vernal pool, swale complex, and wetland when the areas were inundated with water and vegetation was present. (see Appendices E & F for mapping)

Environmental Consequences

Widening the highway north of Cox Lane would directly impact approximately 0.96-acre of vernal pools. The other wetland area would not be directly impacted because it is outside of the construction limits.

Direct loss (filling or degradation) of vernal pools and potential soil erosion generated by construction activities around suitable habitat could result in the loss of habitat for the vernal pool fairy shrimp and vernal pool tadpole shrimp (species federally listed as endangered and threatened with extinction). Section 2.3.4 discusses the potential project effects to threatened and endangered species.

Avoidance, Minimization, and/or Mitigation Measures

To the extent practicable, the discharge of dredged or fill material into “waters of the U.S.,” including wetlands, would be avoided. However, complete avoidance is not feasible due to the need to widen the highway to accommodate the passing lanes and turn pocket lanes. Thus, to avoid or minimize the potential for project-related

impacts to “waters of the U.S.”, including wetlands, the contractor and Caltrans must adhere to the following measures:

- Construction activities that would impact “waters of the U.S.” must be conducted during the dry season to minimize erosion.
- Appropriate sediment control measures to protect “waters of the U.S.” must be in place prior to the onset of construction. These protective measures would be monitored and would remain in place until all construction activities have been completed near the resource.
- Additional impacts to wetlands would be avoided by designating these features outside of the construction area as “Environmentally Sensitive Areas” (ESA) on the project design plans. ESA provisions may include the use of temporary orange fencing to delineate the areas where work would be limited or excluded to prevent inadvertent construction impacts.

When a project requires fill or other modifications to wetlands, the USACE is consulted to eventually obtain a Section 404 permit. Linear transportation projects filling more than one-half acre of vernal pools (i.e. wetlands) require an individual permit. If the preliminary project design cannot be modified to lessen vernal pool impacts, it is anticipated that Caltrans would need to obtain a Section 404 individual permit once the wetland delineation has been verified by the USACE. Caltrans anticipates submitting the wetland delineation to the USACE in January 2008.

In order to mitigate the vernal pool wetland impacts, Caltrans proposes to purchase approximately 6.60-acres of vernal pool habitat credits at a USFWS approved mitigation bank. This amount is based on criteria set forth in the *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, California (1996)*. This acreage covers mitigation for vernal pool listed species as well. A detailed analysis of vernal pool impacts and mitigation is discussed in Section 2.3.3 Threatened and Endangered Species. A final determination of compensatory mitigation would be made during consultation with the responsible regulatory agencies.

2.3.2 Plant Species and Oak Trees

Botanical surveys used the guidelines of the floristic survey protocol recommended by the California Department of Fish and Game (1984) and Nelson (1987) to locate and identify sensitive place species growing within the study area. Survey schedules were based on the known blooming periods of the target plant species. During the floristic inventory, Caltrans biologists conducted field surveys by walking wandering transects within the environmental study limits. Surveys were conducted in March, May, and July. The purpose of the field surveys was to characterize the plant communities and determine whether sensitive plants occur in the study area.

Regulatory Setting

The U.S. Fish and Wildlife Service and California Department of Fish and Game 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 and/or the California Endangered Species Act. Please see the Threatened and Endangered Species, Section 2.3.5, in this document for more information regarding these species.

This section of the document discusses all the other special-status plant species, including California Department of Fish and Game fully-protected species and species of special concern, U.S. Fish and Wildlife Service candidate species, and non-listed California Native Plant Society rare and endangered plants.

The regulatory requirements for the Federal Endangered Species Act can be found at United States Code 16, Section 1531, et. seq. See also 50 Code of Federal Regulations Part 402. The regulatory requirements for the California Endangered Species Act 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

Overall, the study area has a relatively low potential to support sensitive plant species based on the level of disturbance from previous and ongoing agricultural activities. Nevertheless, the California Natural Diversity Database (CNDDDB) indicated that four sensitive plant species have been recorded within five-miles of the study area.

Table 2.6: Plant Species Potentially Occurring in the Biological Study Area

Common Name	Scientific Name	Status (CNPS List)	General Habitat Description	Rationale for presence or absence
Fox sedge	<i>Carex vulpinoidea</i>	2.2	Marshes and Swamps (freshwater), Riparian woodland	Suitable habitat not present.
Ahart's dwarf rush	<i>Juncus leiospermus</i> var. <i>ahartii</i>	1B.2	Vernal pools	Surveys determined absence.
Ahart's paronychia	<i>Paronychia ahartii</i>	1B.1	Vernal swales and margins of vernal pools, in clay soils	Surveys determined absence.
Slender Orcutt Grass	<i>Orcuttia tenuis</i>	1B.1	Vernal Pools and Swales	Surveys determined absence.

Status CNPS: *LIST 1B: Rare, threatened, or endangered in California and elsewhere. 0.1: Seriously endangered in California; LIST 1B: Rare, threatened, or endangered in California and elsewhere. 0.2: Fairly endangered in California; LIST 2: Rare, threatened, or endangered in California, but more common elsewhere. 0.2: Fairly endangered in California*

Agriculture has converted most of the project area from valley grassland habitat into orchards, pasture, hayfields and rice fields. However, there are sparse areas, mainly within the Caltrans right-of-way, where there are nonnative annual grasslands and ornamental oak trees. These trees are all that remain of a once widespread distribution of valley oaks and blue oaks. Mixed blue oak and valley oak provide a canopy coverage and provide a high value to wildlife in the form of nesting sites, protective cover, and foraging areas of food for birds and animals. Besides being important as wildlife habitat, the oak trees are a distinct component of the visual aesthetics.

Environmental Consequences

With regards to sensitive plant species, based on the absence of previously recorded occurrences and the results of botanical field surveys, the discovery of sensitive plant species is not expected. No sensitive or rare plants were identified during the botanical surveys.

Oak trees, ranging from 3-inches to 43-inches in diameter at breast height, are growing within existing right-of-way. Based on the mapping prepared at preliminary design it appears 16 blue oaks and 8 valley oaks for a total of 24 oaks trees would be removed. Considering the project stage is at preliminary design, these numbers might change when the project transitions into final design.

Avoidance, Minimization, and/or Mitigation Measures

Senate Concurrent Resolution No. 17 request all state agencies must asses and determine the effect of their land use decisions or actions within any oak woodlands. The Resolution directs those state agencies to include measures to preserve and protect native oak woodlands to the maximum extent, or provide replacement plantings where designated oak species are removed. For the proposed project, the removal of oak trees would be minimized to the greatest extent possible.

Compensation for oak trees removed could include a combination of plausible options. One option is oak replacement planting, which is accomplished by planting one tree for every inch of tree diameter removed (measured at breast height, or dbh). For the proposed project, the total dbh for the potentially impacted trees is estimated at 432-inches. To compensate for the loss, 432 oaks would be planted either onsite or offsite, or combination of both.

Another option is oak woodland preservation, either through an easement or acquired land, to preserve land that already supports oak woodlands. Oak woodland preservation would occur at a 3:1 ratio. The 3:1 ratio means three oak trees would be preserved for every one oak tree removed. Under this scenario, if 24 oaks were removed, then 72 oaks would be preserved.

As project design elements are further refined, a more accurate number of impacted oak trees would be counted. Compensation would be based on the actual loss of oak trees. At this point in the project design, it is anticipated that 24 oak trees would be removed. Any of the previously mentioned compensatory measures or a combination of the three may be used to mitigate for the loss of oak trees.

2.3.3 Threatened and Endangered Species

This section identifies the wildlife species that could potentially occur in the study area. The identification of these species was based on a review of existing information, including a search of the California Natural Diversity Data Base (CNDDB 2007), and a review of the USFWS threatened and endangered species list, and several biological field surveys.

Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act: 16 United States Code, Section 1531, et seq. See also 50 Code of Federal Regulations Part 402. This act and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems on which they depend. Under Section 7 of this act, Caltrans is required to consult with the U.S. Fish and Wildlife Service 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 statement.

California has enacted a similar law at the state level, the California Endangered Species Act, California Fish and Game Code, Section 2050, et seq. The California Endangered Species Act 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 is the agency responsible for implementing the California Endangered Species Act. 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.” The California Endangered Species Act allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by the California Department of Fish and Game. For projects requiring a Biological Opinion under Section 7 of the Federal Endangered Species Act, the California Department of Fish and Game may also authorize impacts to the California Endangered Species Act species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

Affected Environment

Based on the existing information, five sensitive wildlife species were identified as having the potential to occur within the vicinity of the project. Table 2.7 outlines the five wildlife species that are listed as threatened or endangered under the Federal or California Endangered Species Act, characterizes the species preferred habitat, and identifies their potential to occur within the study area.

Table 2.7 Sensitive Animal Species Potentially Occuring in the Biological Study Area

Common Name	Scientific Name	Status	General Habitat Description	Rationale for Presence or Absence
Vernal Pool Fairy Shrimp	<i>Branchinecta lynchi</i>	FT	Vernal Pools and Swales.	Previous surveys revealed presence
Vernal Pool Tadpole Shrimp	<i>Lepidurus Packardii</i>	FE	Vernal Pools and Swales.	Previous surveys revealed presence
California Red-legged Frog	<i>Rana aurora draytonii</i>	FT	Permanent deep pools and slow moving streams.	Suitable habitat not present.
Giant Garter Snake	<i>Thamnophis gigas</i>	FT	Aquatic Habitats with muddy bottoms, and aquatic vegetation.	Suitable habitat not present.
Bank Swallow	<i>Riparia riparia</i>	ST	Nests in bluffs or banks, usually adjacent to water, where the soil consists of sand or sandy loam	Suitable habitat not present.
Swainson's Hawk	<i>Buteo Swainsoni</i>	ST	Nests in oaks or cottonwoods in or near riparian habitats; forages in grasslands, irrigated pastures, and grain fields	Surveys determined absence.

Status: Federal Endangered (FE); Federal Threatened (FT); State Endangered (SE); State Threatened (ST)

The determination that vernal pool crustaceans occur within the project area was based on a Natural Environmental Study written by a Caltrans biologist in 1995. The author of that report conducted the vernal pool surveys over a three-year period. Under the authority of the USFWS Fairy Shrimp Take Permit (No. PRT-796288), the biologist conducted shrimp surveys and species identification to determine if vernal pool crustaceans are present. Three vernal pool crustaceans were identified in the

vernal pools north of Cox Lane as follows: vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardii*) and California linderiella (*Linderiella occidentalis*). The California linderiella is a non-listed species and is the most numerous of the species found in the pools. The cumulative number of vernal pool tadpole shrimps from the surveyed pools was occasionally more than 50, but the number of vernal pool fairy shrimp was typically less than 10 individuals total.

According to the 2006, *Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants; Final Rule*, four units of critical habitat for vernal pool fairy shrimp (VPFS) and vernal pool tadpole shrimp (VPTS) have been designated in northern Butte County (USFWS 2006). The project area does not fall within these areas.

According to the 2005 *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon* the project area falls within the boundaries of the Northeastern Sacramento Valley vernal pool region. Approximately four-miles to the east of the project area is the Honcut core area. Approximately 3.5-miles to the north of the project area is the Palermo core area.

Although habitat protection of remaining vernal pools and vernal pool complexes in the vernal pool regions is a long-term goal, core areas are identified as the specific sites that are necessary to recover these endangered or threatened vernal pool species and their habitats. Higher recovery priorities are assigned to: (1) species with low numbers of populations or limited geographical distributions, (2) the largest blocks of habitat, (3) the largest populations of each taxon, and (4) those populations or species representing unique ecological conditions and genotypes. Core areas are ranked as Zone 1, 2, or 3 in order of their overall priority for recovery (USFWS 2005). None of the core areas are ranked as priorities for conservation for VPFS and VPTS.

Under the California Endangered Species Act, Swainson's hawk (*Buteo Swainsoni*) was identified as having the potential to occur in the study area. Nesting surveys were conducted using the methods described in *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley*. Both day and evening surveys were conducted during the appropriate survey times. The survey area for Swainson's hawks was a half-mile radius from the project area, which far exceeds the BSA limits for the rest of the project.

Environmental Consequences

Vernal Pool Crustaceans

Potential projects impacts to vernal pool crustaceans were analyzed using the criteria identified in the 1996 *Programmatic Agreement for Effects on Vernal Pool Crustaceans* between the USACE and the USFWS. It is anticipated that the proposed project would result in direct effects to vernal pool fairy shrimp and vernal pool tadpole shrimp. Widening the highway north of Cox Lane would directly impact approximately 0.96-acre of vernal pools (see Appendix F for Map of Vernal Pools).

Only portions of some pools would be directly impacted by the proposed project. By filling part of a pool the crucial components of the remaining portion, such as size, temperature, and hydrology, would be altered such that the residual portion no longer provides the functions that the intact pool provided. Because of this loss of function to the remaining portion of the pool it is considered directly affected, and included in the acreages for direct impacts (USFWS 1996).

During the winter months water flows across the vernal pool complex from the Wyman Ravine and continues to travel to the east towards the highway. Impacting the vernal pools close to the highway would not affect the hydrology of the rest of the vernal pool complex. The indirect impacts of the work to the surrounding pools and swales cannot be determined, so all habitat within 250-feet of the proposed right-of-way would be considered indirectly impacted (USFWS 1996).

Approximately 0.75-mile south of Cox Lane there is a single vernal pool to the east of the proposed right-of-way. This pool would not be directly impacted by construction, but the acreage of the pool is included in the total acreage for indirect impacts to vernal pools. When considering the preliminary cut and fill limits of the proposed design, construction of the proposed project would indirectly affect approximately 1.86-acres of vernal pools located within 250-feet of the construction corridor.

Swainson's hawk

Based on the field surveys and focused nest search, neither Swainson's hawk nor their nests were identified.

Avoidance, Minimization, and/or Mitigation Measures

Vernal Pool Crustaceans

The findings and conclusions of the Natural Environment Study as they relate to vernal pool crustaceans are based primarily on criteria described in a programmatic agreement between the USFWS and the USACE. The subject of the agreement is documented in the *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, California; document number 1-1-96-F-1*.

Compensatory mitigation for vernal pool endangered species impacts would be covered under the mitigation for the vernal pool wetland impacts. As mentioned earlier, in order to mitigate the vernal pool impacts, Caltrans would purchase approximately 6.60-acres of vernal pool habitat credits at a USFWS approved mitigation bank. If a USFWS-approved mitigation bank is not available, approximately 10.38-acres would need to be purchased. A final determination of compensatory mitigation would be made during consultation with the responsible regulatory agencies.

Table 2.8 Compensary Mitigation Using USFWS-Approved Mitigation Bank

	Direct Impacts	Indirect Impacts	Total Acres
Impacts	0.96	1.86	
Preservation (2:1)	1.92	3.72	5.64
Creation (1:1)	0.96	--	0.96
			6.60

Preservation component. For every acre of habitat directly or indirectly impacted, at least two vernal pool credits would be dedicated within a USFWS-approved ecosystem preservation bank, or, based on USFWS evaluation of site-specific conservation values, three acres of vernal pool habitat may be preserved at the project site or at another non-bank site as approved by the USFWS (Table 2.9) [USFWS 1996].

Creation component. For every acre of habitat directly impacted, at least one vernal pool creation credit would be dedicated within a USFWS-approved habitat mitigation bank, or, based on USFWS evaluation of site-specific conservation values, two acres of vernal pool habitat would be created and monitored on the project site or on another non-bank site as approved by the USFWS (Table 2.9) (USFWS 1996).

The mitigation ratio is adjusted if there are no available credits from a USFWS-approved mitigation banks. The following table outlines the different mitigation ratios for non-bank mitigation verses USFWS-approved mitigation banks.

Table 2.9 Typical Ratios for Preservation and Creation

	Bank	Non-bank
Preservation	2:1	3:1
Creation	1:1	2:1

In addition to the compensatory mitigation, the following avoidance and minimization measures would be implemented during construction:

- This action could result in mortality to all crustaceans living in the pools or portions of the pools to be filled, if the work is conducted when the pools contain water, therefore work would have to be done in the dry season.
- During project construction, entrance by construction personnel would not be allowed onto the vernal pool/swale complex outside the designated work area.
- All vernal pools sites would be designated as an Environmentally Sensitive Area (ESA) for the duration of the project. ESA type fencing would be installed to prevent accidental trespass.
- Prior to the start of work, the contractor and construction personnel would be instructed as to the reason for the designation and the possible consequences if the habitat or any listed species are disturbed.
- A Caltrans biologist would inspect any construction-related activities at the proposed project site to ensure that no necessary take of listed species or destruction of their habitat occurs in the avoided areas.
- A Caltrans biologist would work in conjunction with the Caltrans resident engineer to stop any activities that may result in such take or destruction until appropriate corrective measures have been completed.
- The biologist would report immediately any unauthorized impacts to the USFWS and the DFG.

- To prevent impacts to the vernal pool/swale complex from sediment and other water quality impacts resulting from construction the contractor would need to submit a Water Pollution Control Plan that meets the standards and objectives to minimize water pollution and sedimentation set forth in section 7-1.01G of Caltrans' Standard Specifications, and identified in the Central Valley Water Quality Control Board's Basin Plan. The Water Pollution Control Plan would identify Best Management Practices (BMP) for performing and maintaining water diversion, and implementing temporary erosion and sediment control measures for all ground disturbing activities and would address maintaining weed free construction equipment, staging areas and erosion control materials. Construction-related water pollution from vegetation removal, petroleum products associated with heavy equipment, and other sources would be minimized by complying with the standards and objectives set forth in section 7-1.01G of the Caltrans Construction site BMP Manual (November 2000). All sediment control measures will be in place prior to the start of construction.

Migratory Birds

In order to avoid potential impacts to migratory birds, tree and vegetation removal would be scheduled outside the anticipated nesting dates (February 15 to August 31).

2.3.4 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." Federal Highway Administration guidance issued August 10, 1999 directs the use of the state's noxious weed list to define the invasive plants that must be considered as part of the National Environmental Policy Act analysis for a proposed project.

Affected Environment

Most of the project area has been altered by past highway and agricultural development. Throughout the area, non-native, or otherwise known as invasive

weeds are predominate. Even though invasive species exists, preventive measures should be taken to reduce the spread of noxious weeds.

Avoidance, Minimization, and/or Mitigation Measures

In compliance with the Executive Order on Invasive Species, Executive Order 13112, and subsequent guidance from the Federal Highway Administration, the landscaping and erosion control included in the project would not use species listed as noxious weeds. Measures to control invasive plants would be implemented by following the recommendations provided by Caltrans landscape architects. None of the species on the California list of noxious weeds is currently used by Caltrans for erosion control.

2.4 Climate Change under the California Environmental Quality Act

Regulatory Setting

While climate change has been a concern since at least 1988 as evidenced by the establishment of the United Nations and World Meteorological Organization's Intergovernmental Panel on Climate Change, the efforts devoted to greenhouse gas emissions reduction and climate change research and policy have increased dramatically in recent years. In 2002, with the passage of Assembly Bill 1493, California launched an innovative and proactive approach to dealing with greenhouse gas emissions and climate change at the state level. Assembly Bill 1493 requires the Air Resources Board to develop and implement regulations to reduce automobile and light truck greenhouse gas emissions; these regulations would apply to automobiles and light trucks beginning with the 2009-model year. Greenhouse gases related to human activity include carbon dioxide, methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (1,1,1,2-tetrafluoroethane), and HFC-152a (difluoroethane).

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this executive order is to reduce California's greenhouse gas emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the 2020, and 3) 80 percent below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32, the Global Warming Solutions Act of 2006. Assembly Bill 32 sets the same overall greenhouse gas emissions reduction goals while further mandating that the Air Resources Board create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06, signed on October 17,

2006, further directs state agencies to begin implementing Assembly Bill 32, including the recommendations made by the state's Climate Action Team.

Climate change and greenhouse gas reduction is also a concern at the federal level; however, at this time, no legislation or regulations have been enacted specifically addressing greenhouse gas emissions reductions and climate change.

Affected Environment

According to *Recommendations by the Association of Environmental Professionals on How to Analyze Greenhouse Gas Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), an individual project does not generate enough greenhouse gas emissions to significantly influence global climate change. Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of greenhouse gases.

Caltrans and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing greenhouse gas emissions reduction and climate change. Recognizing that 98 percent of California's greenhouse gas emissions are from the burning of fossil fuels and 40 percent of all human-made greenhouse gas emissions are from transportation, Caltrans has created and is implementing the Climate Action Program at Caltrans (December 2006).

One of the main strategies in Caltrans' Climate Action Program to reduce greenhouse gas emissions is to make California's transportation system more efficient. The highest levels of carbon dioxide from mobile sources, such as automobiles, occur at stop-and-go speeds (0-25 miles per hour) and speeds over 55 miles per hour. Relieving congestion by enhancing operations and improving travel times in high congestion travel corridors would lead to an overall reduction in greenhouse gas emissions.

Environmental Consequences

This project under analysis is designed to reduce vehicle time delays. According to the traffic models, which compare base year 2005 and future year 2030 peak hour traffic conditions, the build alternative would decrease the total average delay in the corridor by 62%. This project has been identified in BCAG's 2004 Regional Transportation Improvement Program (RTIP). The RTIP is either accepted or rejected in its entirety. Projects contained in the RTIP have been evaluated and

demonstrated air quality conformity. The reduction in vehicle hours traveled and improved traffic flow would reduce the carbon dioxide emissions.

Caltrans recognizes the concern that carbon dioxide emissions raise for climate change. However, modeling and gauging the impacts associated with an increase in greenhouse gas emission levels, including carbon dioxide, at the project level is not currently possible. No federal, state, or regional regulatory agency has provided methodology or criteria for greenhouse gas emissions and climate change impact analysis. Therefore, Caltrans is unable to provide a scientific- or regulatory-based conclusion regarding whether the project's contribution to climate change is cumulatively considerable.

Avoidance, Minimization, and/or Mitigation Measures

Caltrans continues to be actively involved on the Governor's Climate Action Team as the Air Resources Board works to implement Assembly Bills 1493 and 32. As part of the Climate Action Program at Caltrans (December 2006), Caltrans is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, transit-oriented communities, and high-density housing along transit corridors. Caltrans is working closely with local jurisdictions on planning activities; however, Caltrans does not have local land use planning authority. Caltrans is also supporting efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars and light and heavy-duty trucks. However, it is important to note that control of fuel economy standards is held by the United States Environmental Protection Agency and the Air Resources Board. Lastly, the use of alternative fuels is also being considered; Caltrans is participating in funding for alternative fuel research at the University of California Davis.

Chapter 3 Comments and Coordination

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process to determine the scope of environmental documentation, the level of analysis, potential impacts and mitigation measures, and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods. This chapter summarizes the results of Caltrans' efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

Tribal Coordination

Native American organizations and individuals who may have knowledge of cultural resources within the project area were contacted in advance of the cultural resource inventory. Initial consultation letters were sent on August 15, 2006 describing the project and seeking input from the local Native American community. The sent letters were followed-up by a series of phone calls. A letter was sent to the Native American Heritage Commission on June 5, 2006 requesting for information. A request for information was sent to the Butte County Historical Society on June 8, 2006. Corresponding letters are included in the Archaeological Survey Report.

Public Participation

This Initial Study would be available for public and agency review and comments for 30 days. Comments received during this period would be considered prior to approval of the project.

Resource Agency Coordination

Caltrans will initiate formal consultation with the USFWS for potential impacts to VPFS and VPTS pursuant to Section 7 of the Endangered Species Act.

A wetland delineation report will be submitted to USACE for verification of waters of the U.S.

Caltrans initiated consultation (October 2007) with the SHPO for concurrence with the eligibility determinations that Robinson's Corner is no longer eligible and a residence is not eligible for listing in the National Register of Historic Places.

Chapter 4 List of Preparers

The following Caltrans District 3, North Region staff were involved in the preparation of this document:

Laura Walsh, Associate Environmental Planner. Contribution: document writer.

Susan Bauer, Senior Environmental Planner. Contribution: environmental branch chief.

Erin Dwyer, Associate Environmental Planner (Archaeology). Contribution: Historic Property Survey Report (HPSR).

Mark Melani, Associate Environmental Planner. Contribution: Preliminary Site Investigation for Hazardous Waste.

Stefan Sutton, Environmental Planner (Biology). Contribution: Natural Environmental Study, Biological Assessment.

Gail St. John, Associate Environmental Planner (Architectural Historian). Contribution: Historical Resources Evaluation Report (HRER).

Lesley Phillips, Landscape Architect. Contribution: Visual Site Assessment.

Sharon Tang, Transportation Engineer Technician. Contribution: Air Quality Study.

Ben Tam, Transportation Engineer Civil. Contribution: Noise Study Report.

Michael DeWall, Transportation Engineer Civil, P.E. Contribution: Floodplain Risk Assessment.

Anand Maganti, Transportation Engineer Civil. Contribution: Water Quality Study

Consultants

Pacific Legacy, Inc. – Extended Phase I Archaeological Investigation, Will Shapiro, Lead Archeologist

LSA, Inc. – Site Investigation Report Hazardous Waste.

Appendix A California Environmental Quality Act Checklist

The following checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. The California Environmental Quality Act impact levels include “potentially significant impact,” “less than significant impact with mitigation,” “less than significant impact,” and “no impact.”

Supporting documentation of all California Environmental Quality Act checklist determinations is provided in Chapter 2 of this Initial Study/Environmental Assessment. Documentation of “No Impact” determinations is provided at the beginning of Chapter 2. Discussion of all impacts, avoidance, minimization, and/or mitigation measures is under the appropriate topic headings in Chapter 2.

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

AESTHETICS - Would the project:

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

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?
- b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?
- c) Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

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?

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

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"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

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 that 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 concentration?

<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, and regulations or by the California Department of Fish and Game or U.S. 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"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

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

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

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 checked="" type="checkbox"/>	<input 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 type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------

Archaeological resources are considered “historical resources” and are covered under (a). [Do not check any box for this question.]

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 type="checkbox"/>	<input checked="" 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 offsite landslide, lateral

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

spreading, subsidence, liquefaction or collapse?

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

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

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?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

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?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

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?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

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

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

d) Be located on a site that 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?

<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 result in a safety hazard for people residing or working in the project area?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

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?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

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

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

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?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

HYDROLOGY AND WATER QUALITY - Would the project:

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

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 that 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 that would result in substantial erosion or siltation on or offsite?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 that would result in flooding on or offsite?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
--------------------------	--------------------------	--------------------------	-------------------------------------

e) Create or contribute runoff water that 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 type="checkbox"/>	<input checked="" 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 that would impede or redirect flood flows?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?

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

LAND USE AND PLANNING - Would the project:

a) Physically divide an established community?

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

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

MINERAL RESOURCES - Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

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

NOISE - Would the project result in:

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

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

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

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

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

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

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

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 -

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

Fire protection?

Police protection?

Schools?

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

Parks?

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?

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

TRANSPORTATION/TRAFFIC - Would the project:

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

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

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

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

e) Result in inadequate emergency access?

f) Result in inadequate parking capacity?

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

UTILITY AND SERVICE SYSTEMS - Would the project:

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

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
--------------------------------	--	------------------------------	-----------

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 checked="" type="checkbox"/>	<input type="checkbox"/>
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 determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects that 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 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 C Minimization and/or Mitigation Summary

Summary of Avoidance and Minimization Measures

Land Use

Caltrans can only acquire property reasonably needed for the uses of the planned transportation facility, as determined by the engineers for the roadway widening and utility relocations. Property owners whose land is acquired would be paid fair market value. Value and damages would be determined through the appraisal and compensation process. Private fences that are a pre-existing feature of a landowner's property and need to be relocated would be reimbursed as a component of the appraisal. Throughout the process, Caltrans would consider ways to minimize right-of-way needs. It is important to note that Caltrans is still in the early planning stages and has not yet identified a final design. Right-of-way acquisition cannot begin until the environmental process has been completed. Caltrans strives to balance the concerns of local communities and property owners while upholding the responsibility to provide for the present and future transportation needs of the state.

Farmlands

In accordance with the FPPA, Caltrans initiated coordination with the NRCS and submitted the site assessment criteria of the Farmland Conversion Impact Rating Form. It is anticipated that the NRCS will determine that the total score will be less than 160 points. Impacts to the overall production of farmlands with statewide importance are not anticipated because the 15-acres of land converted to transportation use would not jeopardize the function of the remaining acres of farmland.

Utilities

In most cases, utilities are relocated prior to the start of construction for a project. Caltrans would coordinate with the appropriate utility companies to ensure the replacement utilities function equivalent to the existing facilities with minimal interruption in services during the relocation efforts.

Cultural Resources

Caltrans determined that the portions of Robinson's Corner that fall within the Area of Direct Impact (ADI) are non-contributing elements of the larger property, should it ever be found eligible for listing in the NRHP under Criterion D. The elements that fall within the ADI include a portion of the concrete building foundation and an island of concrete where the gas pump once stood. To avoid potential damage to the remnants of Robinson's Corner that are outside the ADI, an Environmentally Sensitive Area (ESA) would be established. Delineating an ESA on the final design layouts may be used to achieve a Finding of No Adverse Effect with Standard Conditions.

Hydrology and Floodplain

Understanding hydraulics and the hydrology of the area are necessities for designing drainage facilities, such as culverts, that control the flow of water near a highway. The size and shape of the pipe determines the effectiveness of the culvert, especially during extreme weather events such as major floods and washouts. With the use of a computerized program model that analyzes target water flows and the best design practices, the optimum hydraulic design would be developed for this drainage system. Because the existing culverts need to be extended and drainage and irrigation ditches relocated to accommodate the wider highway, hydraulic modeling would be performed to show pre-project and post-project conditions for water surface elevation to ensure that the drainage changes do not cause upstream or downstream flooding. This project does not require any special mitigation measures to preserve the natural basin of the floodplain.

Hazardous Waste

Based on the results of the soil samples, provisions may need to be added to the construction contract requiring the contractor to implement a Health and Safety Lead Compliance Plan to prevent or minimize workers exposure to lead. Compliance with this plan would reduce any potential exposure to lead to a less than significant level.

Historically, a gas station operated at the corner of the East Gridley Road intersection. Once the project transitions into the design phase, soil sampling would be conducted since there is a potential to encounter soil and/or groundwater contamination due to the past operation of a gas station. If laboratory analyses determine that soil and/or

groundwater contamination is present, contingencies would be implemented prior to construction to address any identified issues.

Air Quality

Caltrans Standard Specifications pertaining to dust control and dust palliative requirements are a required part of all construction contracts and should effectively reduce and control emission impacts during construction. The provisions of Caltrans Standard Specifications, Section 7-1.01F “Air Pollution Control” and Section 10 “Dust Control” require the contractor to comply with the Butte County Air Quality Management District’s rules, ordinances, and regulations for air pollution.

Noise

Special provisions in the construction contract would regulate noise generated by construction equipment. Contractors are required to restrict construction activities to the hours between 7:00 a.m. – 7:00 p.m. on weekdays, except for actions taken to prevent or resolve an emergency. Furthermore, construction noise would be minimized because the contractor is required to conform to the provisions of the Caltrans standard specifications titled “Sound Control Requirements”. This specification requires the contractor to comply with all local sound control and noise level rules, regulations and ordinances. Finally, combustion engines used on the job must be equipped with a muffler recommended by the manufacturer to minimize the noise generated from the operation of heavy construction equipment. Under CEQA provisions, elevated noise levels caused by construction are not considered a significant impact unless the level exceeds a local ordinance. The measures mentioned above would help minimize the temporary construction noise.

Vernal Pool Wetlands/Threaten and Endangered Species

In addition to the compensatory mitigation, the following avoidance and minimization measures would be implemented during construction:

- This action could result in mortality to all crustaceans living in the pools or portions of the pools to be filled, if the work is conducted when the pools contain water, therefore work would have to be done in the dry season.
- During project construction, entrance by construction personnel would not be allowed onto the vernal pool/swale complex outside the designated work area.

- All vernal pools sites would be designated as an Environmentally Sensitive Area (ESA) for the duration of the project. ESA type fencing would be installed to prevent accidental trespass.
- Prior to the start of work, the contractor and construction personnel would be instructed as to the reason for the designation and the possible consequences if the habitat or any listed species are disturbed.
- A Caltrans biologist would inspect any construction-related activities at the proposed project site to ensure that no necessary take of listed species or destruction of their habitat occurs in the avoided areas.
- A Caltrans biologist would work in conjunction with the Caltrans resident engineer to stop any activities that may result in such take or destruction until appropriate corrective measures have been completed.
- The biologist would report immediately any unauthorized impacts to the USFWS and the DFG.
- To prevent impacts to the vernal pool/swale complex from sediment and other water quality impacts resulting from construction the contractor would need to submit a Water Pollution Control Plan that meets the standards and objectives to minimize water pollution and sedimentation set forth in section 7-1.01G of Caltrans' Standard Specifications, and identified in the Central Valley Water Quality Control Board's Basin Plan. The Water Pollution Control Plan would identify Best Management Practices (BMP) for performing and maintaining water diversion, and implementing temporary erosion and sediment control measures for all ground disturbing activities and would address maintaining weed free construction equipment, staging areas and erosion control materials. Construction-related water pollution from vegetation removal, petroleum products associated with heavy equipment, and other sources would be minimized by complying with the standards and objectives set forth in section 7-1.01G of the Caltrans Construction site BMP Manual (November 2000). All sediment control measures will be in place prior to the start of construction.

Migratory Birds

In order to avoid potential impacts to migratory birds, tree and vegetation removal would be scheduled outside the anticipated nesting dates (February 15 to August 31).

Oak Trees

For the proposed project, the removal of oak trees would be minimized to the greatest extent possible. Compensation for oak trees removed could include a combination of plausible options. One option is oak replacement planting, which is accomplished by planting one tree for every inch of tree diameter removed (measured at breast height, or dbh). For the proposed project, the total dbh for the potentially impacted trees is estimated at 432-inches. To compensate for the loss, 432 oaks would be planted either onsite or offsite, or combination of both.

Another option is oak woodland preservation, either through an easement or acquired land, to preserve land that already supports oak woodlands. Oak woodland preservation would occur at a 3:1 ratio. The 3:1 ratio means three oak trees would be preserved for every one oak tree removed. Under this scenario, if 24 oaks were removed, then 72 oaks would be preserved.

As project design elements are further refined, a more accurate number of impacted oak trees would be counted. Compensation would be based on the actual loss of oak trees. At this point in the project design, it is anticipated that 24 oak trees would be removed. Any of the previously mentioned compensatory measures or a combination of the three may be used to compensate for the loss of oak trees.

Summary of Mitigation Measures

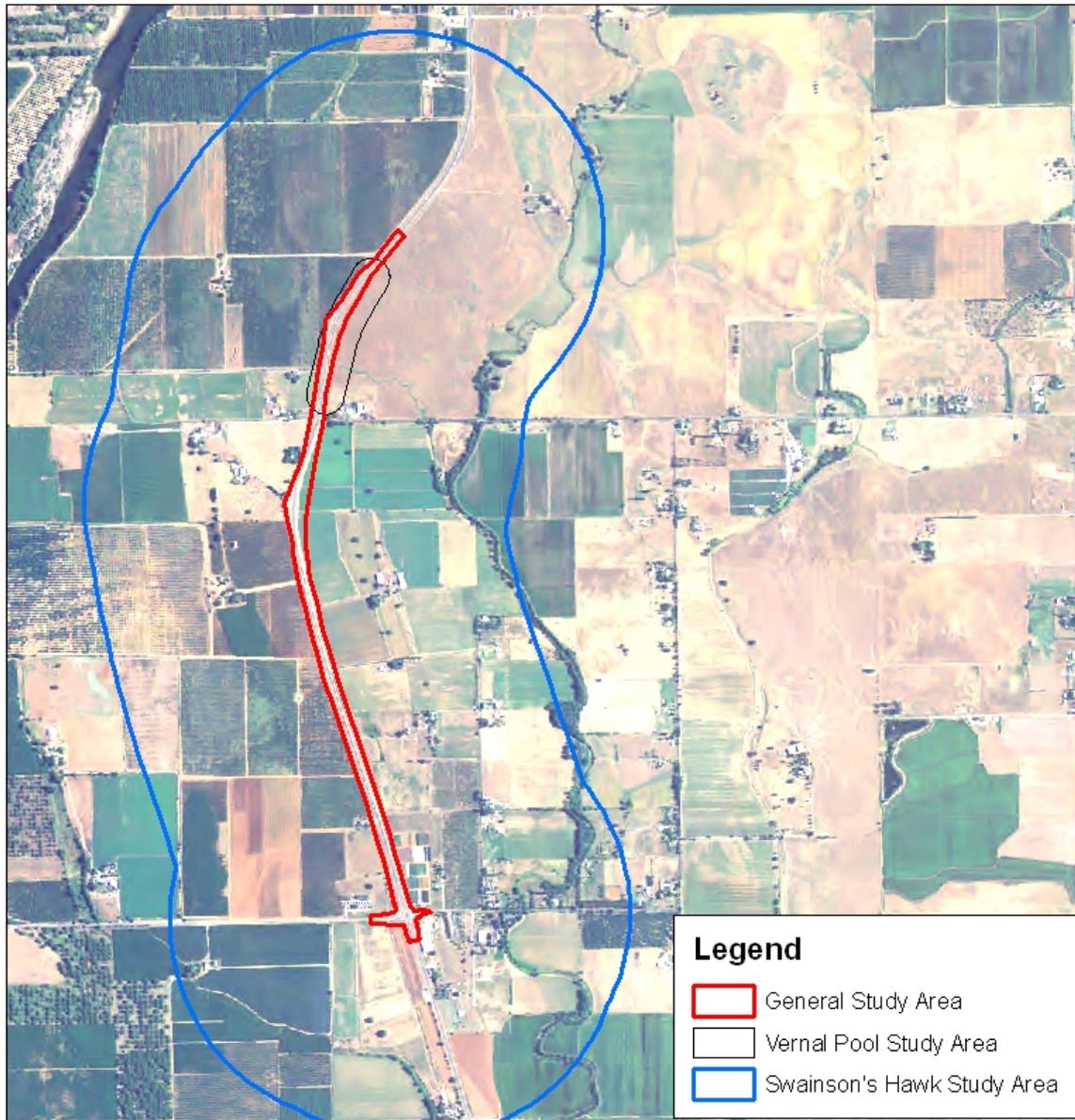
Vernal Pool Wetlands/Threatened and Endangered Species

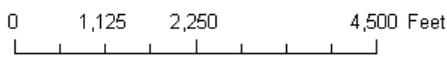
Compensatory mitigation for vernal pool endangered species impacts would be covered under the mitigation for the vernal pool wetlands impacts. In order to mitigate for the vernal pool impacts, Caltrans would purchase approximately 6.60-acres of vernal pool habitat credits at a USFWS approved mitigation bank. If a USFWS approved mitigation bank is not available, approximately 10.38-acres would need to be purchased. A final determination of compensatory mitigation would be made during consultation with the responsible regulatory agencies.

Appendix D Preliminary Design Mapping

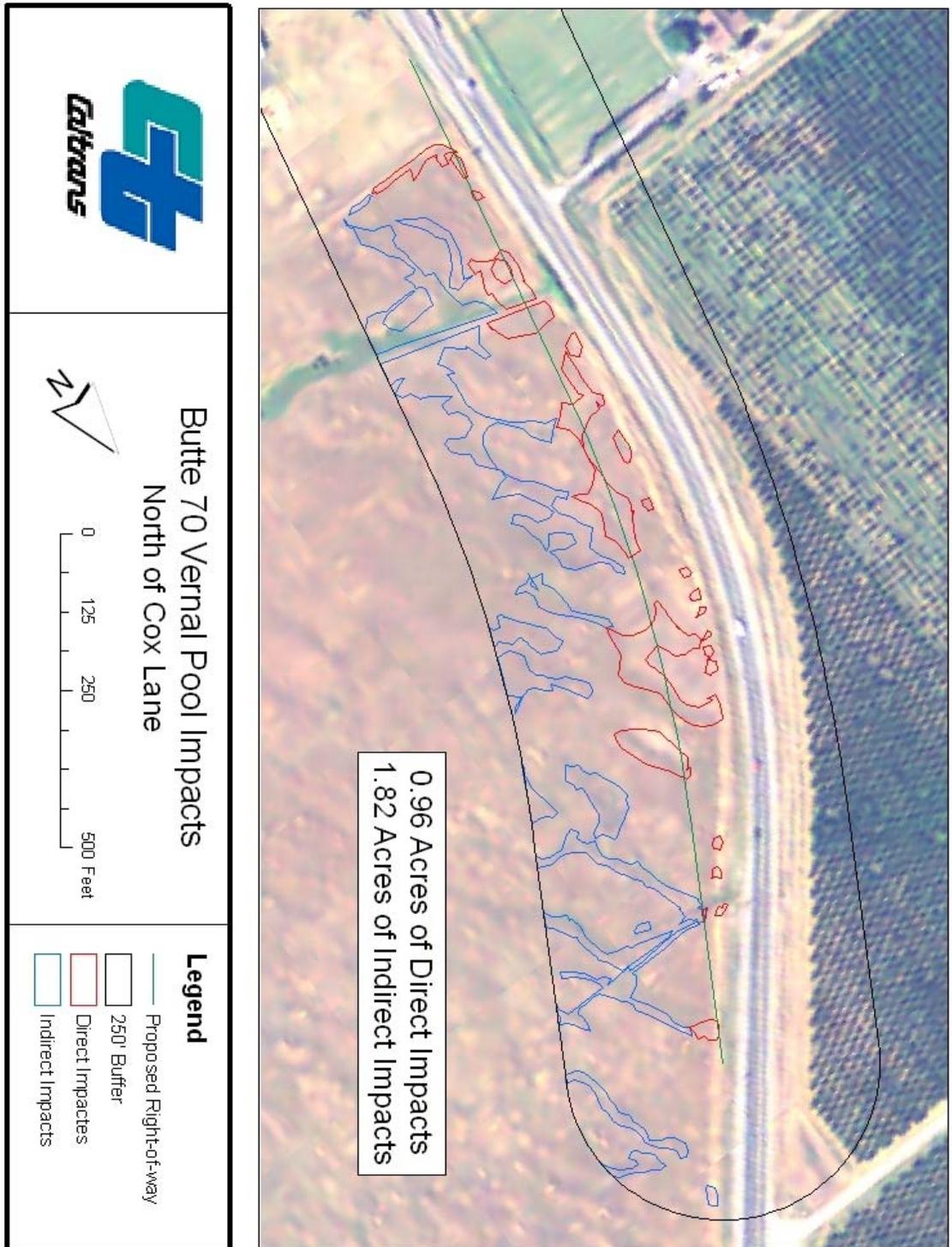
The preliminary design was overlaid aerial photographs for the entire project limits. The 11 layouts label the existing Caltrans right-of-way (represented by the orange line) and proposed new right-of-way (blue line). The dashed lines on the map represent areas of cut and fill. The dashed line labeled “F” represents where dirt used as fill would be placed in low-lying areas. The dashed line labeled “C” represents cut slopes. The white lines represent preliminary designs of the SR 70 with the new passing lanes and continuous turn pocket lane. The label “ES” represent the outer edge of the paved shoulder.

Appendix E Map of Biological Study Area

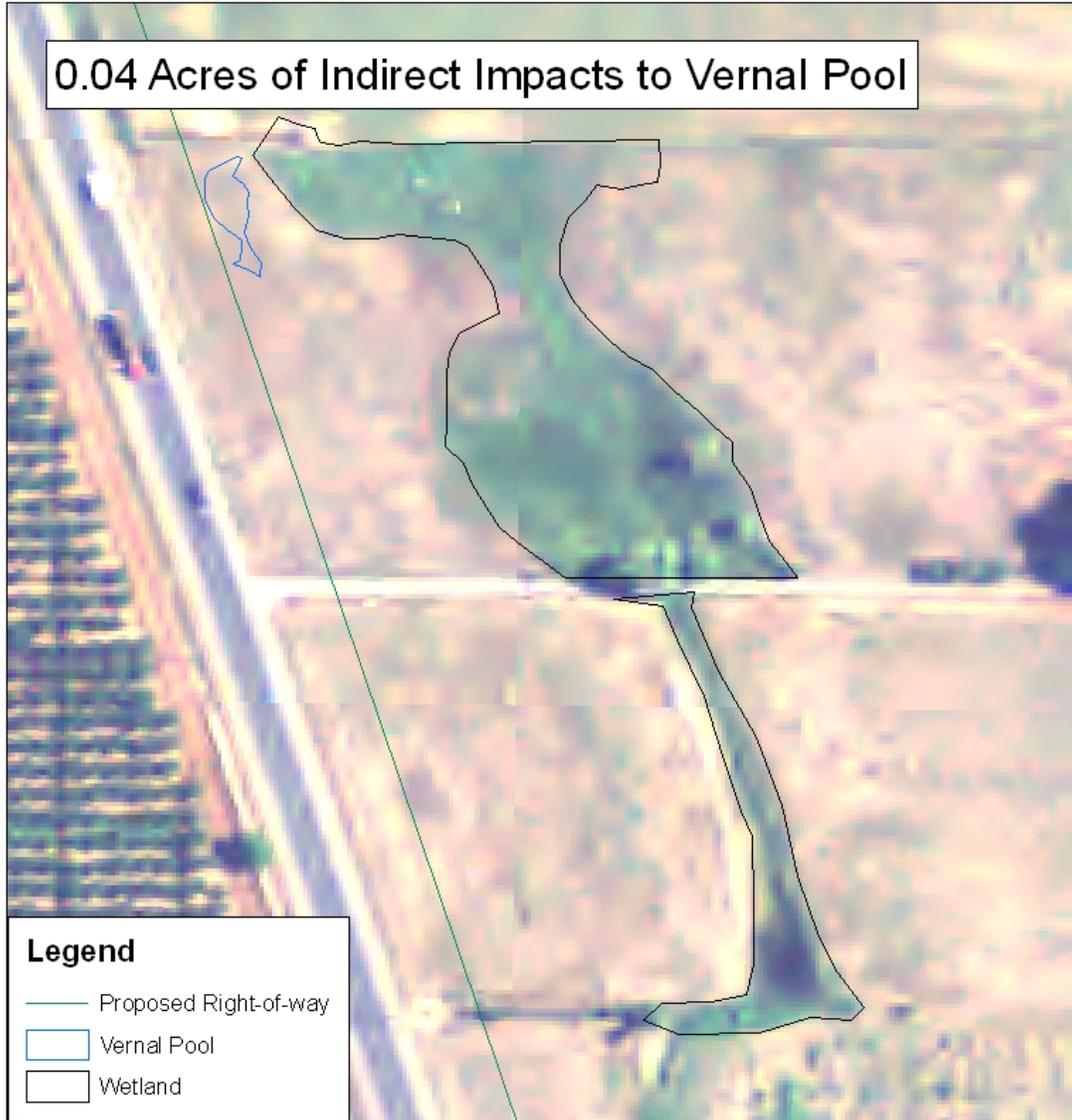


	<h3>Butte 70 Biological Study Areas</h3>
	

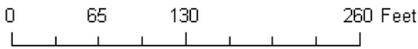
Appendix F Map of Vernal Pool Impacts



Appendix G Map of Wetland and Vernal Pool



Butte 70 Vernal Pool and Wetland
0.75 Miles South of Cox Lane



List of Technical Studies that are Bound Separately

Air Quality Report

Noise Study Report

Water Quality Report

Natural Environment Study

Floodplain Study

Historical Property Survey Report

- Historic Resource Evaluation Report
- Archaeological Survey Report
- Extended Phase I Investigation at BUT-70-01 for the Passing Lane Project (Confidential)

Hazardous Waste Reports:

- Initial Site Assessment
- Preliminary Site Investigation (Geophysical Survey)

Scenic Resource Evaluation/Visual Assessment

Copies of these reports, except for confidential cultural resource reports, are available for review at the Caltrans District 3 North Region, Office of Environmental Services, 703 B Street, Marysville, CA 95901.