WILLITS BYPASS

MENDOCINO COUNTY

KP R69.4/KP 84.2 (PM R43.1/52.3) [EA26200]

FINAL ENVIRONMENTAL IMPACT STATEMENT / ENVIRONMENTAL IMPACT REPORT

October 2006

VOLUME 1 OF 4

United States Department of Transportation
Federal Highway Administration

California Department of Transportation

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.

WILL KEMPTON
Director

Report Number: FHWA-CA-EIS-02-02-F

SCH Number: 1990030006
01-Men-101, KP R69.4/84.2 (PM R43.1/52.3)
EA 01-262000

Construction and Operation of a Freeway Bypass
on US 101 around the City of Willits in Mendocino County, California
from KP R69.4 to KP 84.2 (PM R43.1/52.3)

FINAL

ENVIRONMENTAL IMPACT STATEMENT/ ENVIROMENTAL IMPACT REPORT

Submitted Pursuant to:
National Environmental Policy Act, 42 U.S.C 4332 (2)(c) and the
California Environmental Quality Act, Div. 13, Public Resources Code
by the
U.S. DEPARTMENT OF TRANSPORTATION, Federal Highway Administration
and
STATE OF CALIFORNIA, Department of Transportation

Responsible Agency: California Transportation Commission

Cooperating Agencies: U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, National Marine Fisheries Service

Trustee Agency: California Department of Fish and Game

Charles C. Fielder, District 1 Director
California Department of Transportation

10-20-2006
Date of Approval

for **Gene Fong**
Division Administrator
Federal Highway Administration

10/25/06
Date of Approval

The following persons may be contacted for additional information concerning this document:

Jeremy Ketchum, Chief
Office of Environmental Management S-1
California Department of Transportation
2389 Gateway Oaks Drive
Sacramento, CA 95833
(916) 274-0621

Maiser Khaled, Director
Project Development & Environmental
Federal Highway Administration
650 Capitol Mall, Suite 4-100
Sacramento, CA 95814
(916) 498-5020

ABSTRACT: Caltrans proposes to construct a new segment of U.S. 101 that would bypass the City of Willits in Mendocino County. Four build alternatives and a no-build alternative were considered in the Draft EIS/EIR. Alternatives C1T, J1T, LT would construct a new freeway segment east of Willits; and Alternative E3 would construct a new freeway segment west of Willits. The alternatives vary in length from 9.0 kilometers (5.6 miles) to 14.8 kilometers (9.2 miles). Since public circulation of the Draft EIS/EIR, revisions to one of the build alternatives were made; this Modified Alternative J1T has been selected as the preferred alternative because it would have the least overall impact to the environment. Anticipated environmental impacts are described. Proper mitigation implemented by Caltrans through ongoing consultation with appropriate agencies would reduce the magnitude of project impacts.

Table of Contents

Volume 1 Final EIS/EIR

Volume 1 - Chapters

1. Executive Summary
- 1.1. Introduction
- 1.2. Project Description, Funding, and Estimated Schedule
- 1.3. Least Environmentally Damaging Practicable Alternative (LEDPA) And Environmentally Superior Alternative (CEQA)
- 1.4. Preferred Alternative
- 1.5. Wetlands Only Practicable Alternative Finding
- 1.6. Potential Impacts and Mitigation
- 1.7. Irreversible Commitment of Natural Resources
- 1.8. Adverse Environmental Effects that Cannot be Avoided if the Project is Built
- 1.9. Compliance with Environmental Laws and Status of Permits Required for the Project
- 1.10. Resolution of Controversial Issues
  - 1.10.1. A Two-Lane Facility
  - 1.10.2. Impacts to Wetlands and Other Waters of the U.S.
  - 1.10.3. Impacts to Special-Status Plants
  - 1.10.4. Impacts to Wildlife
  - 1.10.5. Impacts to Special-Status Fish
  - 1.10.6. Impacts to Farmland
  - 1.10.7. Impacts to Community Resources
- 1.11. Additional Issues Raised since Public Circulation
  - 1.11.1. Support for a hybrid Alternative L/C with Truck Scales Interchange
  - 1.11.2. Support for Center Valley Interchange
  - 1.11.3. Disagreement with DEIS/EIR Impact Conclusions
  - 1.11.4. Concern for Growth at Interchanges

2. Development and Description of Preferred Alternative (Modified J1T)
- 2.1. Development of Preferred Alternative
- 2.2. Purpose and Need for the Project
  - 2.2.1. Traffic Operations
  - 2.2.2. Traffic Safety
- 2.3. Modified Alternative J1T Alignment Description
  - 2.3.1. Engineering Features
  - 2.3.2. Structures

2.3.3. Southern Interchange
2.3.4. Access Roads
2.3.5. Borrow Requirements
2.3.6. Exceptions to Design Standards
2.3.7. Highway Relinquishment
2.4. Project Construction
2.4.1. Pre-construction Activities
2.4.2. Roadway Construction
2.4.3. Structures Construction (Bridges)
2.4.4. Traffic Management During Construction

3. Project Impacts, and Avoidance, Minimization, and Mitigation Measures
3.1. Modified Alternative J1T Studies
3.2. Geology and Soils
3.3. Community Impacts
3.3.1. Community Cohesion
3.3.2. Residential Relocation
3.3.3. Title VI and Environmental Justice
3.3.4. Affordable Housing Supply
3.3.5. Business Relocation
3.3.6. City and County Tax Revenue
3.3.7. Property Tax Base
3.3.8. Business Impact
3.3.9. Regional Economic Impacts
3.3.10. Public Facilities and Services
3.3.10.1. Museum and Parks
3.3.10.2. Streets and Roads
3.3.10.3. Wastewater Treatment Plant
3.3.10.4. Emergency Services Providers Response Time
3.3.11. Consistency with Local Plans and Policies
3.4. Farmland
3.4.1. Prime Farmland Soils
3.4.2. California Land Conservation (Williamson Act)
3.4.3. Timberland Protection Zone
3.5. Water Quality
3.5.1. Increases in Water Temperature
3.5.2. Sediments, Turbidity, and Floating Material
3.5.3. Oil, Grease, and Chemical Contamination
3.6. Floodplain
3.7. Biological Resources
3.7.1. Impacts to Sensitive Plant Communities and Habitats
3.7.2. Impacts to Sensitive Plant Communities and Habitats at Oil Well Hill
3.7.3. Impacts to Special Status Plants

3.7.3.1. Baker's Meadowfoam
3.7.3.2. Roderick's Fritillary and North Coast Semafore Grass
3.7.3.3. Narrow-leaved Water Plantain
3.7.4. Impacts to Wetlands and Other Waters of the U.S.
3.7.4.1. Wetlands and Other Waters of the U.S. at Oil Well Hill
3.7.5. Impacts to Special Status Wildlife
3.7.5.1. Northern spotted owl, Red tree vole, and Pacific fisher
3.7.5.2. White-tailed kite, Cooper's hawk, Yellow-breasted chat, and California yellow warbler
3.7.5.3. Northwestern pond turtle and Yellow-legged frog
3.7.6. Impacts to Other Wildlife
3.7.7. Impacts to Special Status Fish
3.7.8. Invasive Plant Species
3.8. Historic and Archaeological Resources
3.9. Hazardous Materials
3.10. Visual Resources
3.10.1. Future Development
3.11. Noise
3.12. Air Quality
3.13. Energy
3.14. Section 4(f) Resources
3.14.1. Park Recreation Complex
3.14.2. Historic Properties
3.15. SMARA Exemption/Grading Permit
3.16. Growth Inducement
3.17. Indirect Impacts
3.17.1. Indirect Impacts to Salmonids
3.17.2. Indirect Impacts to Special Status Plants
3.17.3. Indirect Impacts to Wetlands
3.18. Construction Impacts
3.18.1. Construction-related Community Impacts
3.18.1.1. Public Services
3.18.1.2. Housing
3.18.1.3. Local and Regional Economy
3.18.2. Construction-related Water Quality Impacts
3.18.2.1. Sediments, Turbidity, and Floating Material
3.18.2.2. Oil, Grease, and Chemical Contamination
3.18.3. Construction-related Noise Impacts
3.18.4. Construction-related Air Quality Impacts
3.18.5. Construction-related Hazardous Materials Impact
3.19. Cumulative Impacts
3.19.1. Cumulative Impacts to Wetlands
3.19.2. Cumulative Impacts to Baker's Meadowfoam

3.19.3. Cumulative Impacts to Northern spotted owl, Pacific fisher, and Red tree vole
3.19.4. Cumulative Impacts to Salmonids
3.19.5. Cumulative Impacts to Other Sensitive Habitats and Species
3.19.6. Cumulative Impacts to Farmland
3.19.6.1. Prime Soils
3.19.6.2. Williamson Act Contracts
3.19.7. Cumulative Impacts to Floodplain

4. California Environmental Quality Act (CEQA) Evaluation
4.1. Determining Significance Under CEQA
4.2. Discussion of Significant Impacts
4.2.1 Significant Environmental Effects of the Proposed Project
4.2.2 Unavoidable Significant Environmental Effects
4.2.3 Significant Irreversible Environmental Changes
4.2.4 Growth Inducing Impacts
4.3. Mitigation Measures for Significant Impacts Under CEQA

5. Public Participation, Comments and Coordination

6. Compliance with Environmental Laws and Status of Permits Required for this Project
6.5. NEPA and CEQA
6.6. Section 404(b)(1) Clean Water Act
6.7. Section 106 of the National Historic Preservation Act
6.8. Section 4(f) Resources
6.9. Permits Required for this Project

7. Contributors and Reviewers

Volume 1 - Figures

1-1 Project Location
1-2 Modified Alternative J1T
2-1 Approximate Extent of Excavation at Designated Borrow Site

Volume 1 - Tables

1-1 CEQA Summary of Environmental Impacts and Mitigation Measures for Modified Alternative J1T
1-2 NEPA Summary of Environmental Impacts and Mitigation Measures for Modified Alternative J1T
3-1 Farmland Conversion by Alternative

3-2 Summary of Impacts to Williamson Act Parcels
3-3 Summary of Temporary and Permanent Impacts to Sensitive Plant Communities and Habitats
3-4 Predicted Traffic Noise Impacts for Modified Alternative J1T
3-5 Projects and Impacts Considered in Cumulative Impact Analysis
4-1 Summary of CEQA Significant Impacts and Mitigation Measures
6-1 Permits and Consultations Required for Willits Bypass Project

Volume 1 - Appendices

A. Proposed Mitigation Measures for Modified Alternative J1T
B. Jurisdictional Determinations
C. Agency Concurrence Letters
D. Biological Opinions
E. Farmland Conversion Impact Rating Form for Modified Alternative J1T and Williamson Act Contract Lands Summary of Impacts
F. Willits Bypass Newsletters and Other Public Announcements
G. Final Alternatives Analysis
H. Layouts and Profiles of Modified Alternative J1T
I. Locations of Noise Receptors
J. Wetlands Only Practicable Alternative
K. Issue Paper on Center Valley Interchange
L. Conceptual Mitigation Plan
M. Bibliography of Technical Studies Prepared for Modified Alternative J1T
N. Acronyms and Definitions
O. Distribution List

Volume 2 Comments and Responses

Volume 2 - Chapters

1 General Responses
1.1 How to Use the Responses to Comments Volume
1.2 General Responses
1.3 Support for Hybrid Alternative L/C
1.4 Mitigate Alternative L/C's Wetland Impacts by Restoring Willits (Mill) Creek
1.5 Willits Creek Restoration for the City's Wastewater Treatment Plant
1.6 Brooktrails Township Second Access Road
1.7 Northern Interchange: Emergency Services
1.8 Quail Meadows Interchange: Traffic Operations and Local Traffic
1.9 Center Valley Interchange
1.10 Two-Lane Bypass

1.11 Impact Conclusions and Recirculating EIS/EIR
1.12 Growth at Interchanges
1.13 Further Reduction of Median Width
1.14 Mitigation Plan for Impacts to Biological Resources

2 Comment Letters and Responses

Federal Agencies (Nos. 1 – 4)
State Agencies (Nos. 5 – 8)
Local and County Agencies (Nos. 9 – 25)
Organizations (Nos. 26 – 36)
Private Citizens (Nos. 37 – 234 & 306)
Open House Comments (Nos. 235 – 305).

Volume 2 - Figures

1 Brooktrails Township Second Access Road Alternative Alignments
2 Traffic Conditions, Comparison of Alternatives
3 ADT & Peak Hour Intersection Volumes for Alternative J1T Year 2028
4 Highway Capacity Manual Analysis Summary
5 Level of Service Ratings for Two-Lane Conventional Highways
6 Highway Capacity Software (HCS3) Analysis Summary for a Two-Lane Facility for Year 2008
7 Highway Capacity Software (HCS3) Analysis Summary for a Two-Lane Facility for Year 2028
8 Highway Capacity Software 2000 (HCS2000) Analysis Summary for a Two-Lane Facility for Year 2008
9 Highway Capacity Software 2000 (HCS2000) Analysis Summary for a Two-Lane Facility for Year 2028

Volume 3 May 2002 Draft EIS/EIR

(*Originally circulated in 2002 as Volume 1*)

Includes text changes and errata

Volume 4 Environmental Map Atlas

(*Originally circulated in 2002 as Volume 2 of the DEIS/EIR*)

CHAPTER 1 Executive Summary

1.1 Introduction

This Final Environmental Impact Statement/Environmental Impact Report (FEIS/EIR) comprises four separate volumes, which are organized as follows:

- **Volume 1** contains the text and appendices of the FEIS/EIR (which includes Chapters 1 through 7, and Appendices A through O).
- **Volume 2** contains responses to all comments received from federal, state, and local agencies and organizations, as well as the general public, on the May 2002 Draft EIS/EIR (DEIS/EIR), during the public comment period.
- **Volume 3** contains the text and appendices of the May 2002 DEIS/EIR (*originally circulated as DEIS/EIR Volume 1*). Text changes to the DEIS/EIR, which include strikethroughs and underlines to indicate changes made in response to comments on the DEIS/EIR, have been inserted in the front of this volume. These text changes supersede and/or clarify the information contained in the May 2002 DEIS/EIR.
- **Volume 4** contains the Environmental Map Atlas that accompanied the May 2002 DEIS/EIR (*originally circulated as DEIS/EIR Volume 2*).

This document is a Final Environmental Impact Statement/Environmental Impact Report (FEIS/EIR), which examines the potential environmental impacts of alternative routes for the proposed Willits Bypass in Mendocino County. The proposed project is a joint project by the Federal Highway Administration (FHWA) and the California Department of Transportation (Caltrans) and is subject to federal and state environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). FHWA is lead agency under NEPA and the Caltrans is the lead agency under CEQA. Some impacts determined to be significant under CEQA may not lead to a determination of significance under NEPA. The lead agencies (FHWA and Caltrans) must certify that the FEIS/EIR has been completed in conformance with NEPA and CEQA and adequately discloses the environmental effects of the proposed project, and that the decision making bodies independently reviewed and considered the information contained in the FEIS/EIR prior to taking action on the project. Chapter 4 of this FEIS/EIR presents the specific evaluations and determinations of significance for the purposes of CEQA.

The FEIS/EIR must also be considered by cooperating agencies, which are federal agencies other than the Lead Agency, that have jurisdiction by law or special expertise with respect to the environmental impacts expected to result from the proposed project (40 CFR 1508.5, 1501.6, and Forty Questions Nos. 14[a], 14[b], and 14[c]). Letters were sent to all such prospective federal agencies requesting their participation as cooperating agencies for the Willits Bypass Project. The following agencies responded to indicate their willingness to participate as cooperating agencies: U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (USFWS), and the National Marine Fisheries Service (NMFS). The U.S. Environmental Protection Agency (USEPA) has declined participation as a cooperating agency; however, as a signatory to the NEPA/Section 404 Memorandum of Understanding, USEPA has been extensively involved in the project, including the development of the project's purpose and need and the range of alternatives studied, as well as the development of the Least Environmentally Damaging Practicable Alternative (LEDPA) and the Conceptual Mitigation Plan. The California Department of Fish and Game (CDFG) is a trustee agency with jurisdiction over certain natural resources held in trust for the people of California (CEQA Guidelines Sec. 15386). These cooperating and trustee agencies must consider the environmental effects of the project as disclosed in the FEIS/EIR, prior to approving any portion of the project over which each of the agencies has authority.

Following the circulation of the FEIS/EIR, a Record of Decision (ROD) pursuant to NEPA will be prepared by FHWA. The ROD will document the decision made, discuss the alternatives considered, the proposed mitigation measures, and measures to minimize environmental harm. The ROD will be completed no earlier than 30-days from the date that the notice of the FEIS appears in the Federal Register (40 CFR 1506.10). Concurrently, a Notice of Determination (NOD) pursuant to CEQA will be issued by Caltrans. The NOD will notify the public of the project approval, and provide information on environmental effects and mitigation measures (CEQA Guidelines Sec. 15094).

The Draft EIS/EIR (DEIS/EIR) for the Willits Bypass Project was published in May 2002. According to regulations set forth in Title 23 CFR 771.129, a written evaluation of the DEIS/EIR is required if the FEIS/EIR has not been submitted to FHWA within three years of the date of the DEIS/EIR circulation. Since it has been over three years since circulation of the Willits Bypass DEIS/EIR, a written evaluation was prepared by Caltrans and submitted to FHWA for review in April 2006. The purpose of such a written evaluation is to determine whether or not it is necessary to circulate a new or

supplemental DEIS/EIR. FHWA determined that no new or supplemental DEIS/EIR is necessary for the Willits Bypass project, as there have been no substantial changes in the project scope or level of environmental impacts, and efforts to advance the action have been actively and continuously pursued since publication of the DEIS/EIR.

It should be noted that, at a future date, FHWA or another Federal Agency may publish a notice in the Federal Register, pursuant to 23 USC §139(I), indicating that a final action has been taken on this project by FHWA or another federal agency. If such notice is published, a lawsuit or other legal claim will be barred unless it is filed within 180 days after the date of publication of the notice (or within such shorter time period as is specified in the Federal laws pursuant to which judicial review of the Federal agency action is allowed). If no notice is published, then the lawsuit or claim can be filed as long as the periods of time provided by other Federal laws that govern claims are met.

The following summarizes the major subject areas of importance to decision-makers regarding the proposed Willits Bypass project. The reader will find additional pertinent information about the project, including the development and description of the Preferred Alternative (Modified Alternative J1T), throughout the body of this report. In addition, the reader is advised to refer to the May 2002 DEIS/EIR (Volumes 3 and 4) in conjunction with the information presented here in Volume 1. All technical studies are available for viewing at:

- Caltrans District 1 Office, 1656 Union Street, Eureka, California 95502.
- Caltrans District 3/North Region Office, 2389 Gateway Oaks Drive, Sacramento, California 95833.
- Federal Highway Administration – California Division Office, 650 Capital Mall, Suite 4-100, Sacramento, California 95814.

1.2 Project Description, Funding, and Estimated Schedule

The California Department of Transportation (Caltrans), in conjunction with the Federal Highway Administration (FHWA), proposes to construct a new segment of US Highway 101 (US 101) that would bypass the City of Willits in Mendocino County (Figure 1-1). The project is being proposed to reduce delays, improve safety, and achieve a “C” Level of Service for interregional traffic on US 101 (see Section 2.2). The Willits Bypass project, as described, has been programmed for capital improvements in the 2004 State Transportation Improvement Plan. The Mendocino Council of Governments has contributed its entire share of 1998 Regional Improvement Program funds for the project.

The estimated project construction cost is $247 million (2006). The current funding level programmed for construction is $114 million, as shown for PPNO:0125F in the 2006 State Transportation Improvement Program (STIP). Right of Way cost is programmed for $23 million. Additional sources of funding will likely be drawn from a combination of Federal Demonstration and Regional and Interregional Improvement Program funds. The current project schedule proposes to begin right-of-way acquisition in 2007, advertise in 2008, begin construction in 2009, and complete construction in 2012.

If the project were given environmental approval, and funding were appropriated, the Department could design and construct all or part of the proposed project depending on funding availability. In an effort to balance potential funding limitations and the need for the project, the Willits Bypass could be constructed in phases.

1.3 Least Environmentally Damaging Practicable Alternative (NEPA) and Environmentally Superior Alternative (CEQA)

Following public circulation of the May 2002 DEIS/EIR (see Volume 3) and input from the public and resource/regulatory agencies, Alternative J1T *with modifications* (Modified Alternative J1T) was identified as the Least Environmentally Damaging Practicable Alternative (LEDPA)/Environmentally Superior Alternative. In accordance with Section 404(b)(1) Guidelines (Clean Water Act), the U.S. Army Corps of Engineers (USACE) and the United States Environmental Protection Agency (USEPA) concurred that Modified Alternative J1T is the LEDPA and that Alternatives E3, C1T, L/C, LT, and J1T do not meet LEDPA criteria because of their overall environmental impacts (see Chapter 2). The USACE and the USEPA have issued letters of concurrence that Modified Alternative J1T is the LEDPA for the Willits Bypass project (Appendix C).

The Section 404(b)(1) Final Alternatives Analysis (FAA), which can be found in Appendix G of this report, includes a comparison of all alternatives considered, as well as their corresponding impacts to resources, and describes why Modified Alternative J1T was identified as the LEDPA. Maps depicting all of the build alternatives considered in the May 2002 DEIS/EIR can be found in the Environmental Atlas (see Volume 4). The No Build Alternative, while being the least environmentally damaging alternative, would not meet the purpose and need for the project.

In accordance with the California Environmental Quality Act (CEQA; Sec. 15126[d] Guidelines), the FEIR identifies Modified Alternative J1T as the Environmentally Superior Alternative from the range of reasonable build alternatives that were evaluated

in the Draft EIR. The alternative that has been identified as the Least Environmentally Damaging Practicable Alternatives (LEDPA) is also considered the Environmentally Superior Alternative under CEQA.

1.4 Preferred Alternative

Based on community input, resource agency input, and engineering and environmental analyses, Modified Alternative J1T has been identified as the Preferred Alternative for the Willits Bypass project. Modified Alternative J1T is the identified Preferred Alternative because it would have the least overall impact to the environment while meeting the purpose and need for the project. The Modified Alternative J1T is described in detail in Chapter 2 of this document.

1.5 Wetlands Only Practicable Alternative Finding

Pursuant to Executive Order 11990 [23 CFR 771.125(a)(1)], Caltrans has determined that there is no practicable alternative to constructing the project in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands, which may result from such use. The analysis for this Wetlands Only Practicable Alternative Finding is located in Appendix J of this report.

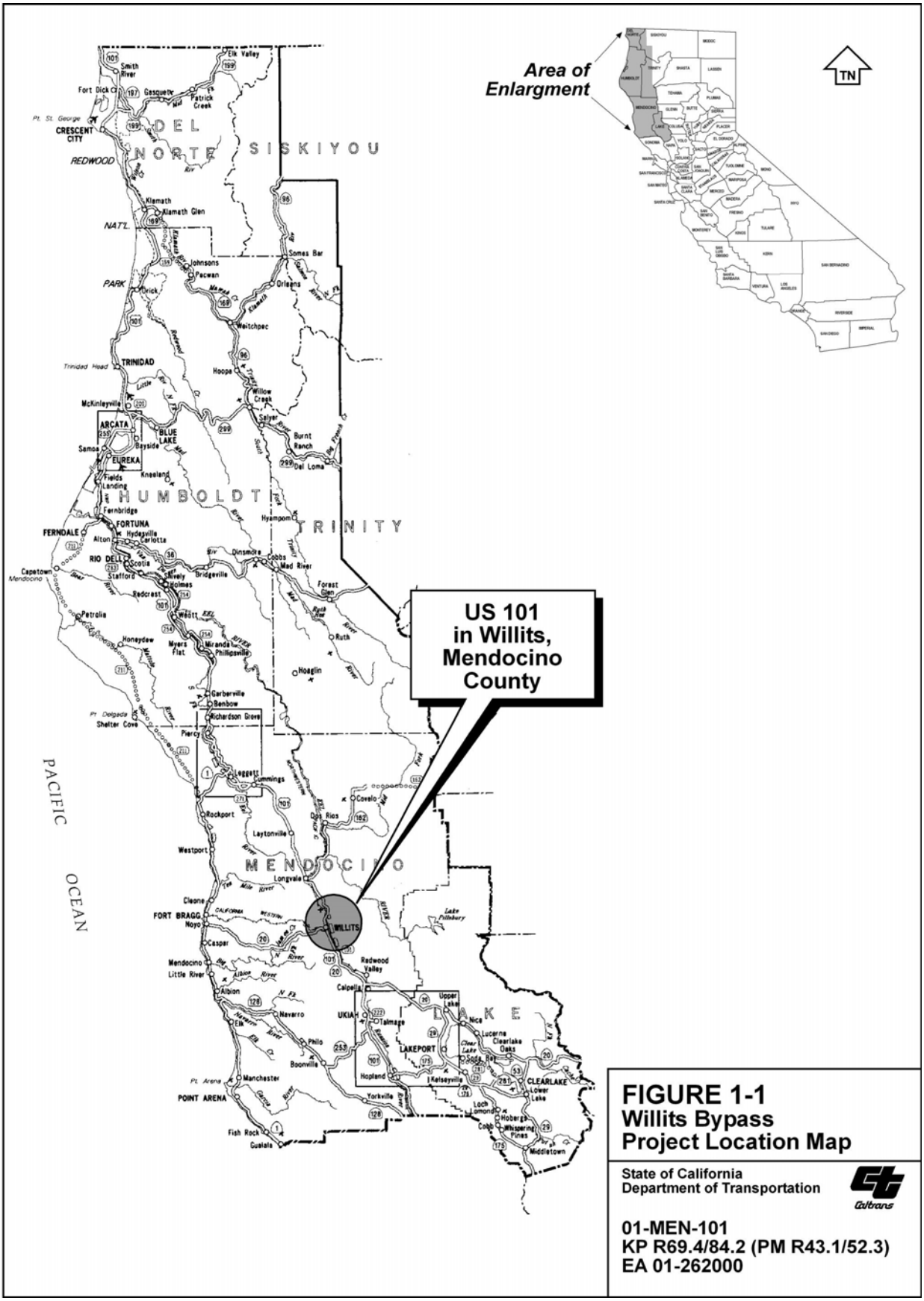

FIGURE 1-1
Willits Bypass
Project Location Map

State of California
Department of Transportation

01-MEN-101
KP R69.4/84.2 (PM R43.1/52.3)
EA 01-262000

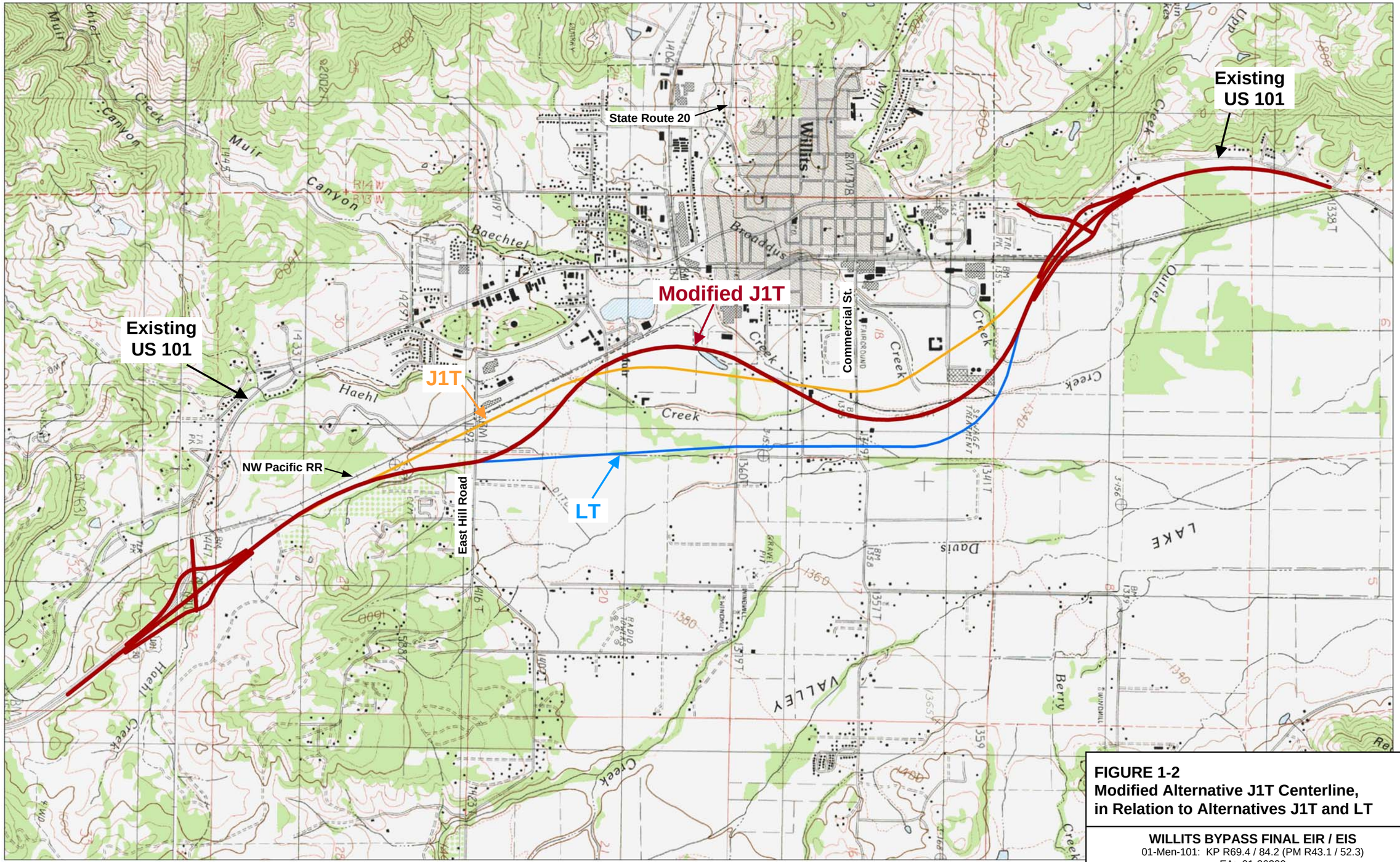

FIGURE 1-2
Modified Alternative J1T Centerline, in Relation to Alternatives J1T and LT

WILLITS BYPASS FINAL EIR / EIS
01-Men-101: KP R69.4 / 84.2 (PM R43.1 / 52.3)
EA: 01-26200

1.6 Potential Impacts and Mitigation

The primary environmental impacts associated with the proposed bypass project consist of temporary and/or permanent impacts to biological resources (see Sections 3.7 and 3.17). Among the biological resources that would be affected are sensitive plant communities and habitats (including wetlands, riparian woodlands, oak woodlands, and Baker's meadowfoam habitat), as well as federal and state wildlife species that are listed as rare, proposed, threatened, or endangered (including three federally listed salmonid species, the Northern spotted owl, and the Pacific fisher).

The potential for permanent and/or temporary impacts have been investigated for the following areas of concern: Geology and Soils (Section 3.2); Community Cohesion (Sections 3.3 and 3.18.1); Farmland (Section 3.4); Water Quality (Sections 3.5 and 3.18.2); Floodplain (Section 3.6); Cultural Resources (Section 3.8); Hazardous Materials (Sections 3.9 and 3.18.5); Visual Resources (Section 3.10); Noise (Section 3.11 and 3.18.3); Air Quality (Sections 3.12 and 3.18.4); and Growth Inducement (Section 3.16). There would be no use of any Section 4(f) resource by the preferred alternative (Section 3.14).

Avoidance, minimization, and mitigation measures have been proposed to address potential project impacts (see Appendix A). A number of Best Management Practices (BMPs) and Caltrans Standard Specifications have been incorporated as part of the project to avoid or minimize impacts to resources. Table 1-1 (below) presents a summary of all project impacts and corresponding levels of significance before and after mitigation for the purposes of CEQA. Please note that avoidance and/or minimization measures are listed for some impacts that were identified as 'less than significant.' These measures have been included in the table to illustrate the avoidance and minimization efforts that have been incorporated as part of the project. Table 1-2 (below) provides a summary of impacts and avoidance, minimization, and/or mitigation measures with regard to NEPA. All avoidance, minimization, and mitigation measures proposed for the project are detailed in Appendix A of this report.

The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) have each issued a Biological Opinion (BO), which states that the proposed project is not likely to jeopardize the continued existence of Northern spotted owl, Pacific fisher, and three listed salmonid species, after implementation of mitigation measures. The Biological Opinions issued by the USFWS (March 2006) and NMFS (September

2006) can be found in Appendix D. The project shall comply with the terms and conditions of the USFWS and NMFS BOs to further minimize impacts to these resources.

In cooperation with the resource agencies, Caltrans has prepared a Conceptual Mitigation Plan (CMP; see Appendix L), which contains detailed information about: the biological resources identified within the project area; how these resources would be impacted by the proposed project; the avoidance and minimization measures to be implemented; and a conceptual plan for the compensatory mitigation of project-related impacts. The USACE, USEPA, and USFWS have issued letters of concurrence that the CMP, which will serve as the basis for the Final Mitigation Plan, is adequate (see Appendix C). Caltrans will continue to work with the resource agencies to develop a Final Mitigation and Monitoring Plan, which will detail the location and extent of all biological mitigation requirements to be implemented for the project.

Table 1-1 CEQA Summary of Environmental Impacts and Avoidance, Minimization, and Mitigation Measures for Modified Alternative J1T

CEQA Environmental Impacts	DEIR Section Number	FEIR Section Number	CEQA Level of Impact before Mitigation[1]	Avoidance, Minimization, and/or Mitigation Measures (See Appendix A)	CEQA Level of Impact After Mitigation
LONG-TERM IMPACTS					
Geology: Landsliding	5.1.4.1	3.2	LS	GEO-1, GEO-2	LS
Geology: Seismicity	5.1.4.2	3.2	LS	NA	NA
Geology: Settlement	5.1.4.3	3.2	LS	GEO-4	LS
Geology: Liquefaction	5.1.4.4	3.2	LS	GEO-5	LS
Community Cohesion	5.2.5.1	3.3.1	LS	NA	NA
Residential Relocation	5.2.5.2	3.3.2	LS	COM-1, COM-3, COM-4	LS
Affordable Housing Supply	5.2.5.4	3.3.4	NI	NA	NA
Business Relocation or Disruption	5.2.5.5	3.3.5	LS	COM-1	LS
City and County Tax Revenue	5.2.5.6	3.3.6	LS	NA - Project was redesigned to avoid business park	NA
Property Tax Base	5.2.5.7	3.3.7	LS	NA - Project was redesigned to avoid business park	NA
Business Impacts	5.2.5.8	3.3.8	LS	NA - Project was redesigned to avoid business park	NA

[1] **KEY** to levels of impact: **PS** = potentially significant impact; **S** = significant impact; **LS** = less than significant impact; **B** = beneficial impact; **NI** = no impact; **NA** = not applicable

CEQA Environmental Impacts	DEIR Section Number	FEIR Section Number	CEQA Level of Impact before Mitigation[1]	Avoidance, Minimization, and/or Mitigation Measures (See Appendix A)	CEQA Level of Impact After Mitigation
Public Facilities & Services: museum and park	5.3.2.1	3.3.10.1	NI	NA - Project was redesigned to avoid the park/recreation complex	NA
Public Facilities & Services: streets and roads	5.3.2.2	3.3.10.2	LS	NA	NA
Public Facilities & Services: Wastewater Treatment Plant	NA	3.3.10.3	LS	NA	NA
Public Facilities & Services: Emergency services providers response time	5.3.3.1	3.3.10.4	B	NA	NA
Consistency with local plans and policies	5.4.1.1 – 5.4.1.3	3.3.11	LS	NA	NA
Farmland: Prime Soils	5.4.6.1	3.4.1	LS	FRM-1, FRM-2, FRM-4	LS
Farmland: Williamson Act Contract Lands	5.4.6.2	3.4.2	LS	FRM-1, FRM-4	LS
Timberland Protection Zone	5.4.6.3	3.4.3	NI	NA	NA
Water Quality: Increases in water temperature	5.5.6.3	3.5.1	PS	WQ-3, BIO-9	LS
Water Quality: Long-term Sediment, turbidity, floating material	5.5.6.4	3.5.2	LS	WQ-1, WQ-6, WQ-7	LS
Water Quality: Long-term Oil, grease, and chemical contamination	5.5.6.5	3.5.3	LS	WQ-2, WQ-6, WQ-8	LS
Floodplain Encroachment	5.6.5	3.6	LS	FP-1 – FP-4 Construction of viaduct minimizes impacts to floodplain.	LS
Sensitive Plant Communities	5.7.4.4	3.7.1	S	BIO-1 – BIO-6, BIO-8, 9, 13	LS
Special-status Plants	5.7.4.5	3.7.2	S	BIO-11	LS
Wetlands and Waters of the U.S.	5.7.4.6	3.7.3	S	BIO-1 – BIO-7, BIO-13, FP-1 – FP-4 Construction of viaduct minimizes impacts to wetlands.	LS
Special-Status Wildlife	5.7.4.7	3.7.4.1 – 3.7.4.3	PS	BIO-1 – BIO-6, BIO-8, BIO-9, BIO-14, BIO-16 – 16C, BIO-17 – BIO-19	LS

CEQA Environmental Impacts	DEIR Section Number	FEIR Section Number	CEQA Level of Impact before Mitigation[1]	Avoidance, Minimization, and/or Mitigation Measures (See Appendix A)	CEQA Level of Impact After Mitigation
Other Wildlife	5.7.4.8	3.7.5	LS	BIO-3, BIO-4, BIO-8, BIO-9, BIO-18, BIO-21; Construction of viaduct minimizes impacts to connectivity of species.	LS
Special-status Fish	5.7.4.9	3.7.6	PS	BIO-1 – BIO-7, BIO-9, BIO-22, WQ-1, WQ-3	LS
Invasive Plant Species	5.7.4.10	3.7.7	LS	BIO-23	LS
Cultural Resources	5.8	3.8	LS	ARCH-2 – ARCH-4	LS
Hazardous Materials	5.9	3.9	NI	NA	NA
Visual Resources	5.10	3.10	LS	VIS-1 – VIS-5, VIS-8 – VIS-11, and most BIO measures	LS
Noise	5.11	3.11	LS	NA	NA
Air Quality: Long-term regional carbon monoxide emissions	5.12.5.1	3.12	NI	NA	NA
Energy	5.13	3.13	B	NA	NA
SMARA	5.15	3.15	NA	NA	NA
Growth-Inducement	6.1	3.16	LS	NA	NA
INDIRECT IMPACTS					
Special Status Fish	5.7.4.9	3.17.1	PS	BIO-7, BIO-9, BIO-13, BIO-22, WQ-1 – WQ-3, WQ-6	LS
Special Status Plants	5.7.4.5	3.17.2	PS	BIO-11	LS
Wetlands and waters of US	5.7.4.6	3.17.3	PS	BIO-1 – BIO-7, BIO-13, FP-1 – FP-4	LS
SHORT-TERM CONSTRUCTION IMPACTS					
Short-term Community Impacts: Public Services	5.3.3.2	3.18.1.1	LS	PS-1, PS-2, PS-3	LS
Short-term Community Impacts: Housing	NA	3.18.1.2	NI	NA	NA
Short-term Community Impacts: Local & Regional Economy	NA	3.18.1.3	B	NA	NA

CEQA Environmental Impacts	DEIR Section Number	FEIR Section Number	CEQA Level of Impact before Mitigation[1]	Avoidance, Minimization, and/or Mitigation Measures (See Appendix A)	CEQA Level of Impact After Mitigation
Short-term Water Quality Impacts: Sediment, turbidity, floating material	5.5.6.1	3.18.2.1	LS	WQ-1	LS
Short-term Water Quality Impacts: Oil, grease, chemical contamination	5.5.6.2	3.18.2.2	LS	WQ-2, WQ-8	LS
Short-term Noise Impacts Special Status Fish	5.11.4.5	3.18.3	PS	BIO-7, BIO-24	LS
Short-term Noise Impacts Community	5.11.4.5	3.18.3	LS	NOI-1 – NOI-7	LS
Short-term Air Quality Impacts: Dust emissions & Naturally Occurring Asbestos (NOA)	5.12.5.2	3.18.4	LS	AQ-1 – AQ-4	LS
Short-term Hazardous Materials Impacts: Asbestos Containing Building Materials (ACBM) & Lead based paints	5.12.5.3	3.18.5	LS	HAZ-7, HAZ-8	LS
CUMULATIVE IMPACTS					
Cumulative Impacts	6.2	3.19.1 – 3.19.7	LS	NA	NA

Table 1-2 NEPA Summary of Environmental Impacts and Avoidance, Minimization, and Mitigation Measures for Modified Alternative J1T

NEPA Environmental Impacts	DEIS Section Number	FEIS Section Number	Avoidance, Minimization, and Mitigation Measures (See Appendix A)
LONG-TERM IMPACTS			
Geology: Landsliding	5.1.4.1	3.2	GEO-1, GEO-2
Geology: Seismicity	5.1.4.2	3.2	NA
Geology: Settlement	5.1.4.3	3.2	GEO-4
Geology: Liquefaction	5.1.4.4	3.2	GEO-5
Community Cohesion	5.2.5.1	3.3.1	NA
Residential Relocation	5.2.5.2	3.3.2	COM-1, COM-3, COM-4
Title VI Environmental Justice	5.2.5.3	3.3.3	NA
Affordable Housing Supply	5.2.5.4	3.3.4	NA
Business Relocation or Disruption	5.2.5.5	3.3.5	COM-1
City and County Tax Revenue	5.2.5.6	3.3.6	NA - Project redesigned to avoid business park
Property Tax Base	5.2.5.7	3.3.7	NA - Project redesigned to avoid business park
Business Impacts	5.2.5.8	3.3.8	NA - Project redesigned to avoid business park
Regional Economy	5.2.5.9	3.3.9	NA
Public Facilities & Services: museum and park	5.3.2.1	3.3.10.1	NA - Project redesigned to avoid the park/recreation complex
Public Facilities & Services: streets and roads	5.3.2.2	3.3.10.2	NA
Public Facilities & Services: Wastewater Treatment Plant	NA	3.3.10.3	NA
Public Facilities & Services: Emergency services providers response time	5.3.3.1	3.3.10.4	NA
Consistency with local plans and policies	5.4.1.1 – 5.4.1.3	3.3.11	NA
Farmland: Prime Soils	5.4.6.1	3.4.1	FRM-1, FRM-2, FRM-4
Farmland: Williamson Act Contract Lands	5.4.6.2	3.4.2	FRM-1, FRM-4
Water Quality: Increases in water temperature	5.5.6.3	3.5.1	WQ-3, BIO-9
Water Quality: Long-term Sediment, turbidity, floating material	5.5.6.4	3.5.2	WQ-1, WQ-6, WQ-7
Water Quality: Long-term Oil, grease, and chemical contamination	5.5.6.5	3.5.3	WQ-2, WQ-8
Floodplain Encroachment	5.6.5	3.6	FP-1 – FP-4 Construction of viaduct minimizes impacts to the floodplain.

NEPA Environmental Impacts	DEIS Section Number	FEIS Section Number	Avoidance, Minimization, and Mitigation Measures (See Appendix A)
Sensitive Plant Communities	5.7.4.4	3.7.1	BIO-1 – BIO-6, BIO-8, 9, 13
Wetlands and Waters of the U.S.	5.7.4.6	3.7.3	BIO-1 – BIO-7, BIO-13, FP-1 – FP-4 Construction of viaduct minimizes impacts to wetlands.
Special-Status Wildlife	5.7.4.7	3.7.4.1 – 3.7.4.3	BIO-1 – BIO-6, BIO-8, BIO-9, BIO-14, BIO-16 – 16C, BIO-17 – BIO-19
Other Wildlife	5.7.4.8	3.7.5	BIO-3, BIO-4, BIO-8, BIO-9, BIO-18, BIO-21 Construction of viaduct minimizes impacts to connectivity of species.
Special-status Fish	5.7.4.9	3.7.6	BIO-1 – BIO-7, BIO-9, BIO-22, WQ-1, WQ-3
Invasive Plant Species	5.7.4.10	3.7.7	BIO-23
Cultural Resources	5.8	3.8	ARCH-2 – ARCH-4
Hazardous Materials	5.9	3.9	NA
Visual Resources	5.10	3.10	VIS-1 – VIS-5, VIS-8 – VIS-11, and most BIO measures
Noise	5.11	3.11	NA
Air Quality: Long-term regional carbon monoxide emissions	5.12.5.1	3.12	NA
Energy	5.13	3.13	NA
SMARA	5.15	3.15	NA
Growth-Inducement	6.1	3.16	NA
INDIRECT IMPACTS			
Salmonids (Water Quality)	5.7.4.9	3.17.1	BIO-7, BIO-9, BIO-13, BIO-22, WQ-1 – WQ-3, WQ-6
Wetlands	5.7.4.6	3.17.3	BIO-1 – BIO-7, BIO-13, FP-1 – FP-4
CONSTRUCTION IMPACTS			
Community Impacts: Public Services	5.3.3.2	3.18.1.1	PS-1, PS-2, PS-3
Community Impacts: Housing	NA	3.18.1.2	NA
Community Impacts: Local & Regional Economy	NA	3.18.1.3	NA
Water Quality Impacts: Sediment, turbidity, floating material	5.5.6.1	3.18.2.1	WQ-1
Water Quality Impacts: Oil, grease, chemical contamination	5.5.6.2	3.18.2.2	WQ-2, WQ-8
Noise Impacts	5.11.4.5	3.18.3	NOI-1 – NOI-7, BIO-7, BIO-24
Air Quality Impacts: Dust emissions & Naturally Occurring Asbestos (NOA)	5.12.5.2	3.18.4	AQ-1 – AQ-4
Hazardous Materials Impacts: Asbestos Containing Building Materials & Lead based paints	5.12.5.3	3.18.5	HAZ-7, HAZ-8
CUMULATIVE IMPACTS			
Cumulative Impacts	6.2	3.19.1 – 3.19.7	NA

1.7 Irreversible Commitment of Resources

The proposed project would not result in an irreversible commitment of resources (i.e., fossil fuels, fiscal resources, land use, labor, etc.). While considerable amounts of fossil fuels and highway construction materials such as cement and aggregate would be expended in construction of the proposed project, their use would not have an adverse effect upon their continued availability. Construction of the project would require a substantial one-time expenditure of both state and federal funds that are not retrievable. The commitment of these resources will benefit the region, the state, and the residents of the immediate area with an improved transportation system. The benefits of improved safety and savings in time and fuel should outweigh the commitment of the resources being used.

1.8 Adverse Environmental Effects that Cannot be Avoided if the Project is Built

Under CEQA, construction of Modified Alternative J1T would not result in unavoidable significant impacts (after mitigation) (CEQA Guidelines, Section 15126.2[b]). The Preferred Alternative would not have the unavoidable adverse impacts related to wetlands or other waters of the U.S., sensitive habitats, special status species, business or residential relocation, water quality, hazardous materials, community resources, or geotechnical issues that would have resulted from the other build alternatives, as depicted in Table S-1 of the DEIS/EIR (see Volume 3). The Preferred Alternative, which USACE and USEPA concur is the LEDPA, includes project design features intended to avoid and minimize impacts to certain resources,[2] and mitigation measures to further avoid, reduce, or compensate for remaining impacts. In addition, the USFWS and NMFS have issued Biological Opinions stating that the project is not likely to jeopardize the continued existence of listed species (see Appendix D).

1.9 Compliance with Environmental Laws and Status of Permits Required for the Project

This document has been prepared in compliance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). Permits that will be required prior to project construction include Section 404 permit (Clean Water Act) from

[2] Alternative J1T was modified to reduce impacts to community resources. The resulting Modified Alternative J1T avoids the City's Sanhedrin industrial park and its park/recreation complex (a Section 4(f) resource). Modified Alternative J1T also minimizes impacts to the oak riparian woodland at Haehl Creek.

USACE, and Section 1602 permit (California Fish and Game Code) from California Department of Fish and Game (CDFG). A water quality certification, as required under Section 401 of the Clean Water Act will be obtained. This project will be covered by the Caltrans National Pollutant Discharge Elimination System (NPDES) permit (Order No. 99-06-DWQ) issued by the State Water Resources Control Board.

Because the project could impact plants, animals, fish, or their habitat, protected by the federal Endangered Species Act (ESA) (16 USC 1536), FHWA initiated formal consultation with USFWS and NMFS under Section 7 of the ESA. Caltrans and FHWA prepared Biological Assessments to identify the impacts of the Preferred Alternative on northern spotted owl, Pacific fisher, Southern Oregon/Northern California Coho salmon, Northern California steelhead, and California coastal Chinook salmon. USFWS issued a Biological Opinion (BO) concurring with FHWA that the project is not likely to jeopardize the continued existence of northern spotted owl or Pacific fisher (see Appendix D). NMFS issued a BO concurring that the project is not likely to jeopardize the continued existence of Southern Oregon/Northern California Coho salmon, Northern California steelhead, and California coastal Chinook salmon (see Appendix D). The bypass project shall comply with the terms and conditions contained in each BO.

A Consistency Determination (Section 2080.1 of the Fish and Game Code) will also be obtained from CDFG (for the Southern Oregon/Northern California Coho salmon) to ensure that the terms and conditions of the NMFS BO (which was prepared as part of the formal consultation under Section 7 of the Endangered Species Act) are consistent with the California Endangered Species Act.

Construction of Modified Alternative J1T would require demolition of structures that may have asbestos-containing building materials and lead-based paint. Structures demolition would require Caltrans to obtain permits from Mendocino County Air Quality Management District (AQMD) under the National Emission Standards for Hazardous Air Pollutants (NESHAP).

1.10 Resolution of Controversial Issues

The summary section of the DEIS/EIR (Volume 3; Section S.3, Summary of Possible Controversial Issues) identified areas of controversy known to the lead agency including issues raised by other agencies and the public. The following list includes the issues that

were identified in the DEIS/EIR, the positions of the respective parties, and the steps that have been taken to resolve the issues.

1.10.1 A Two-Lane Facility

A number of organizations and individuals believe that a two-lane bypass should be among the range of alternatives studied in the DEIS/EIR and/or that a two-lane bypass would satisfy the purpose and need for the project.

Caltrans, in consultation with local government agencies and stakeholders, as well as state and federal resource agencies and the general public, analyzed the concept of a two-lane bypass but did not add a two-lane alternative because, foremost, a two-lane alternative would not meet the purpose and need for the project. The purpose and need calls for a facility that would provide at least a Level of Service (LOS) "C" through the 20-year design period (i.e., 2028). A two-lane facility would provide a LOS "D" at peak hour upon construction and throughout the 20-year design period. Thus, a new two-lane highway would not meet the project purpose. A more detailed discussion of this issue can be found in Volume 2 (General Response 1.10).

1.10.2 Impacts to Wetlands and Other Waters of the U.S.

The project's impacts to wetlands would require a Section 404 Individual Permit under the Clean Water Act from USACE (for discharging or placing fill material into waters of the U.S.). To comply with the guidelines of Section 404(b)(1) Clean Water Act, an Alternatives Analysis is required in order to study the impacts to aquatic resources and related sensitive species associated with each alternative. The Draft Alternatives Analysis is located in Appendix H of the May 2002 DEIS/EIR (see Volume 3). The Final Alternatives Analysis can be found in Appendix G of this report.

During Draft Alternatives Analysis, Caltrans and FHWA initially determined that Alternatives J1T and LT appeared to be candidates for the LEDPA; however, Alternative J1T would have impacted the Sanhedrin industrial park, as well as a park/recreation complex of regional importance (a Section 4[f] resource), and Alternative LT, which would have avoided the community resources, would have impacted about 20 more acres of wetlands and would have fragmented a large stand of valley oak riparian woodland. Caltrans and FHWA, therefore, consulted with the NEPA/404 resource agencies, and local stakeholders to develop the Modified Alternative J1T (the Preferred Alternative), which avoids important local community resources, while minimizing direct impacts to wetlands compared to the other build alternatives, as detailed in the Final Alternatives

Analysis (Appendix G). USACE and USEPA have issued letters of concurrence that Modified Alternative J1T is the LEDPA (Appendix C).

1.10.3 Impacts to Special-Status Plants

Construction of the preferred alternative could impact two reported populations of Baker's meadowfoam, which is a state-listed rare plant species. Caltrans has been coordinating with the CDFG to develop mitigation measures for impacts to Baker's meadowfoam (see Appendix L; Conceptual Mitigation Plan). This coordination remains ongoing. See Appendix A (Proposed Mitigation Measures for Modified Alternative J1T) for additional information.

1.10.4 Impacts to Special-Status Wildlife

Construction of Modified Alternative J1T could impact northern spotted owl (a federally-listed threatened species) by removing suitable foraging and dispersal habitat used by this species at the proposed borrow site at Oil Well Hill. Use of Oil Well Hill for borrow material could also impact Pacific fisher, a federal candidate for listing as threatened or endangered. The USFWS BO states that the project is not likely to jeopardize the continued existence of these species. The project will comply with terms and conditions detailed in the BO (Appendix D) to minimize impacts to these species.

1.10.5 Impacts to Special-Status Fish

Construction of the preferred alternative could potentially impact Southern Oregon/Northern California Coho salmon, California Coastal Chinook salmon, Northern California steelhead (all federally-listed threatened species). The NMFS BO states that the project is not likely to jeopardize the continued existence of these species. The project will comply with terms and conditions detailed in the NMFS BO to avoid and minimize impacts to these species (Appendix D).

1.10.6 Impacts to Farmland

Modified Alternative J1T, like all of the build alternatives discussed in the DEIS/EIR (see Volume 3), would result in the conversion of prime and unique farmlands and agricultural lands to other uses.

Modified Alternative J1T would permanently convert approximately 42 ha (104 ac) of Prime or Unique Farmland to other uses (see Section 3.4.1). This impact to prime farmlands is the same for Alternative J1T, and between 6 ha and 14 ha (15 ac and 35 ac) less than for the other build alternatives considered in the DEIS/EIR. The Farmland

Conversion Rating score for Modified Alternative J1T is 156, which is comparable to the other valley alternatives; this score is below the 1984 Farmland Protection and Policy Act 160-point threshold for adverse impacts. Modified Alternative J1T is similar to the other build alternatives in its conversion of 20.8 ha (51.4 ac) of Williamson Act contract land to other uses (see Section 3.4.2).

The preferred alternative would relocate one farm/ranch operation at the northern end of the proposed alignment. The owner of this property would receive fair market value for this land, as well as relocation benefits and assistance. Other farms and ranches along this alternative's alignment would not be displaced, and access to these properties would be perpetuated by way of frontage roads and access roads.

Measures have been proposed to reduce the impacts of Modified Alternative J1T on prime farmlands and agricultural uses (see Appendix A). Furthermore, the preservation of wet meadow in Little Lake Valley as part of the proposed wetlands mitigation could also protect prime farmland soils and open space values.

1.10.7 Impacts to Community Resources

With the construction of the Modified Alternative J1T, the project would avoid impacts to the important community resources (i.e., the Sanhedrin industrial park and a park/recreation complex along Commercial Street) that would have otherwise been impacted by the original Alternative J1T. Part of Modified Alternative J1T would be constructed on the City's wastewater treatment plant property and would impact part of the facility, as well as the City's mitigation area for its wastewater treatment plant expansion. Caltrans will coordinate with the City on fair compensation for impacts to these resources.

1.11 Additional Issues Raised since Public Circulation

Additional issues were raised since public circulation of the DEIS/EIR. The following list includes the issues, the positions of the respective parties, and the steps that have been taken to resolve the issues.

1.11.1 Support for a hybrid Alternative L/C[3] with Truck Scales Interchange

In the May 2002 DEIS/EIR (Section 1.5), Caltrans evaluated each valley alternative using a nodal approach, which combined segments of alternatives to increase the possibilities for identifying a suitable preferred alternative. The public circulation of the DEIS/EIR revealed considerable local support for a combination of the south section of Alternative LT and the north section of Alternative C1T (referred to as Alternative L/C). Supporters of the Alternative L/C include the City of Willits (Comment Letter #9), Brooktrails Township CSD (Resolution 2002-28) (Comment Letter #12), the City of Willits Police Department (Comment Letter #10), County Supervisor Hal Wagenet (Comment Letter #212), and a number of emergency services providers. Supporters for Alternative L/C provide the following reasons they consider it a superior alternative:

- Better operations for emergency services providers;
- Safer traffic conditions at the high school and at Sherwood Road/Main Street intersection;
- Accommodates a Brooktrails Township second access road;
- Associated wetland and fisheries impacts can be mitigated with a Willits Creek Restoration;
- Avoids crossing the railroad;
- Connects with existing Route 101 further to the north, thus bypassing more of the two-lane;
- Lower cost.

Caltrans and FHWA have met with supporters of the Alternative L/C on a number of occasions to discuss their interest in the hybrid alternative. The NEPA 404(b)(1) Draft Alternatives Analysis, located in Appendix H of the DEIS/EIR (Volume 3), showed that the north segment of Alternative C1T would have adverse impacts to wetlands and fisheries; therefore, the Hybrid Alternative L/C, which includes the north segment of Alternative C1T, would also have adverse impacts to wetlands and fisheries. Some members of the Project Development Team (PDT) continued to support Alternative L/C and to request further studies of its potential as a LEDPA. Caltrans consulted with resource agencies to determine whether the hybrid alternative might meet LEDPA criteria. In the Final Alternatives Analysis (Appendix G), it was determined that a hybrid Alternative L/C could not be modified sufficiently to reduce its impacts and to meet the requirements of the Clean Water Act. The proposed creek restoration, which could be

[3] Some comment letters also refer to Alternative L/C as the Elsie or Wild Oat Canyon alternative.

considered as mitigation for any of the alternatives, would not justify the magnitude of the impacts that would result from construction of the hybrid Alternative L/C.

1.11.2 Support for Center Valley Interchange

During the many years of planning and developing this project, Caltrans and its local partners discussed the feasibility of a center valley/S.R.20 interchange as part of the bypass project, either as a southern interchange at S.R. 20, or as a third, middle interchange. An additional interchange in the center of a valley alignment is beyond the scope of the bypass project. Please see General Response 1.9 (in Volume 2) for more detailed discussion on this issue. See also, Appendix K of this report (Issue Paper on Center Valley Interchange).

1.11.3 Disagreement with DEIS/EIR Impact Conclusions

Caltrans and FHWA received a number of comments disagreeing with the document's impact conclusions (related to noise, visual resources, farmlands, biological resources, and businesses). These comments were received from Mendocino Forest Watch (Comment Letter #30), Willits Environmental Center (Comment Letter #35), and a number of individuals (including Comment Letters #73 and #233). These comments were not, however, accompanied by technical information to substantiate their claims. The impact conclusions disclosed in the DEIS/EIR are based upon technical studies conducted by technical specialists for each environmental issue in compliance with all applicable laws and regulations. Please see Caltrans' response to this issue in General Response 1.11 (Volume 2).

1.11.4 Concern for Growth at Interchanges

Caltrans and FHWA received a number of comments expressing concern that the project would result in growth at the north and south interchanges. This position was expressed by the City of Willits Mayor's Office (Comment Letter #9), the Willits Citizens for Good Planning (Comment Letter #34), and a number of individuals (including Comment Letters #73 and #233).

The potential for development at the interchanges is constrained by a number of factors. Caltrans would maintain full access control at the southern interchange. There would be one driveway to an adjacent ranch on the east side of the highway. The access opening for this driveway would be 20 feet wide and not suitable for development. Any future requests for changes to access from the southern interchange to this property would require mutual approval by the California Transportation Commission and Mendocino

County. Development at the northern interchange would be complicated by geotechnical constraints to the west, and by floodplains, wetlands, and agricultural uses to the east, as well as existing zoning designations (AG-Agriculture). A few parcels next to the southwest quadrant of the northern interchange are zoned for commercial use (C-1), and an RV park and mini-storage occupy this area. While there may be some potential for commercial development at the northern interchange, any large-scale development would have to overcome physical and political constraints. Growth at these locations could occur with or without construction of the bypass. Caltrans responds to this issue in General Response 1.12 (Volume 2).

CHAPTER 2 Development and Description of the Preferred Alternative – Modified Alternative J1T

2.1 Development of the Preferred Alternative

Based on input from the community and the resource agencies, as well as on engineering and environmental analyses, Modified Alternative J1T has been identified as the Preferred Alternative for the proposed Willits Bypass project. In accordance with Section 404(b)(1) of the Clean Water Act, a Final Alternatives Analysis (FAA), which compares the alternatives considered in the DEIS/EIR, was completed in April 2005 (see Appendix G). As a result of the FAA, Modified Alternative J1T, which shares design elements with Alternatives LT and J1T, was identified as the Least Environmentally Damaging Practicable Alternative (LEDPA) for the proposed project. Modified Alternative J1T was determined to be the LEDPA/Preferred Alternative because it would have the least overall impact to the natural and community resources, while still meeting the purpose and need for the project. The factual determinations in the Final Alternatives Analysis demonstrate the following:

- **Alternative E3**, which would affect approximately 15 acres of wetlands and other waters, should be eliminated from consideration as the LEDPA for the following reasons: (a) it has the greatest potential to degrade water quality because of highly erosive soils and numerous of stream crossings, as well as the extensive earthwork required, and therefore; (b) it has the greatest potential to affect local populations of three federally listed salmonid species; (c) it would have the largest direct impact to foraging habitat for northern spotted owl because of the removal of approximately 300 acres of coniferous forest; (d) it would displace the largest number of homes and businesses (133); (e) it has the potential to affect the largest number of archaeological sites (18); (f) it would convert a large amount of Williamson Act Contract farmland (59.3 ha/146.6 ac); and (g) it would impact larger areas of upland/foothill habitats, including oak woodland, which is more difficult to replace than the other alternatives.

- **Alternatives C1T and L/C** (the south segment of Alternative LT plus the north segment of Alternative C1T) should be eliminated from consideration as the LEDPA because of substantial impacts to wetlands and other waters of the U.S. and to federally listed fish species. The impacts associated with Alternatives C1T

and L/C include the greatest direct impact to jurisdictional wetlands and other waters of the U.S. when compared to the other build alternatives: 52.7 ha (130.2 ac) for Alternative C1T, and 48.5 ha (119.9 ac) for Alternative L/C. Both alternatives would require realignment of approximately one mile of salmon-bearing creek, which is critical habitat for three federally-listed fish species.

- **Alternative LT** should be eliminated from consideration as the LEDPA because it would directly impact approximately 29.9 ha (73.8 ac) of jurisdictional wetlands and other waters of the U.S. Alternative LT also would result in fragmentation of the largest stand of valley oak riparian woodland in the valley.

- **Alternative J1T** does not meet LEDPA criteria because, while it has impacts to wetlands and other waters of the U.S. comparable to those of Modified Alternative J1T, it creates unacceptable impacts to the local and regional park/recreation complex ("human use characteristics" under Section 404(b)(1) Subpart F of the Clean Water Act) and the Sanhedrin industrial park. In addition impacts to the industrial park would result in the loss of businesses that would not or could not relocate in Willits. Thus, even though wetlands impacts would be comparable impacts to those of Modified Alternative J1T, Alternative J1T is the more environmentally damaging of the two alternatives.

- **Modified Alternative J1T** meets LEDPA criteria because it would result in the least overall environmental harm. The Draft Alternatives Analysis had identified Alternatives J1T and LT as potential candidates for the LEDPA; however, it became necessary to develop a modification that incorporated portions of these two alternatives in order to avoid important community and biological resources. The Modified Alternative J1T would have comparable wetlands impacts to those of Alternative J1T, but it avoids the important community resources that Alternative J1T would have otherwise impacted. Modified Alternative J1T has fewer impacts to wetlands than Alternative LT and avoids a large stand of valley oak riparian woodland that would have been impacted by Alternative LT.

- **No-Build Alternative** is not a practicable alternative because it does not meet the purpose and need of the project.

The U. S. Army Corps of Engineers (USACE) and the U.S. Environmental Protection Agency (USEPA) have issued letters of concurrence that Modified Alternative J1T is the

LEDPA (see Appendix C). Both the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) have issued Biological Opinions (BOs), which state that construction of the Preferred Alternative is not likely to jeopardize the continued existence of federally listed species (see Appendix D).

2.2 Purpose and Need for the Project

Caltrans and FHWA propose to construct a new segment of U.S. 101, which would bypass the City of Willits, to reduce delays, improve safety, and achieve a minimum level of service (LOS) "C" for interregional traffic on U.S. 101 within the project area through the 20-year design period (i.e., 2028). Chapter 2 of the DEIS/EIR (Volume 3) provides a detailed discussion of the project's purpose and need, including an explanation of existing and future traffic conditions with and without the proposed project. Construction of the Modified Alternative J1T is consistent with the purpose and need for the project.

Caltrans analyzed the concept of a two-lane bypass but did not add a two-lane alternative because a two-lane facility would fail to achieve a minimum LOS "C" and would only provide a LOS "D" (unstable traffic flow) at peak hour upon construction, as well as throughout the 20-year design period. Thus, a new two-lane highway would fail to meet the purpose and need of the project. A four-lane bypass would provide a LOS "A" upon construction, as well as throughout the 20-year design period; therefore, a four-lane bypass meets the purpose and need for the project. A detailed discussion of this issue can be found in Volume 2 (see General Response 1.10).

Upon environmental approval and appropriation of funding, the Department could design and construct all or part of the proposed project depending on funding availability. In an effort to balance potential funding limitations and the need for the project, the Willits bypass could be constructed in phases, whereby a functional interim facility would be constructed initially, and completion of the full facility would occur at a later date when additional funding is available.

2.2.1 Traffic Operations

The Modified Alternative J1T is similar to Alternatives J1T and LT in that it shares the Haehl Creek and the Quail Meadows Interchanges, as well as some design elements. Traffic forecasting and modeling analyses were conducted for the various bypass alternatives under consideration, including Alternatives E3, J1T, LT, and C1T, as well as

the Base Year and No-Build alternatives. The results of the analyses, including critical performance measures, are described in the DEIS/EIR (see Volume 3, Section 3.5).

The revised traffic analysis conducted for Modified Alternative J1T concluded that it would operate similarly to Alternative J1T (Caltrans 2003). Interchange locations had the most significant effect on the distribution of traffic in the forecast scenarios. Traffic forecasts completed for Alternatives J1T and LT are valid for Modified Alternative J1T because the locations of the interchanges remain constant for all three alternatives. Average operating speeds would be equivalent because design characteristics, traffic volumes, and truck volumes would be nearly identical. Level of Service (LOS) "A" was calculated for Alternatives J1T and LT. Similarly, Modified Alternative J1T also would maintain a LOS "A" because traffic volumes and operating speeds are the same for all three alternatives.

2.2.2 Traffic Safety

Collision comparisons for the alternatives considered in the May 2002 DEIS/EIR can be found in Section 3.5.1 of the DEIS/EIR (see Volume 3). The same assumptions that generated the comparison information for Alternatives E3, C1T, LT, and J1T were used for generating projections for Modified Alternative J1T (statewide collision rates for a 5-year period, and Year 2028 ADTs). The revised traffic analysis conducted for Modified Alternative J1T concluded that it would operate similarly to Alternative J1T (Caltrans 2004a).

The number of total collisions, based on statewide collision rates at the predicted ADT for similar facilities as Modified Alternative J1T, is approximately 35 percent below the No-Build Alternative. Modified Alternative J1T would provide an alternate route for Main Street traffic; therefore, based on statewide average collision rates for similar facilities, the number of collisions on Main Street with a bypass is less than the number of collisions for the No-Build Alternative.

2.3 Modified Alternative J1T Alignment Description

The physical location and design elements of Modified Alternative J1T are described in detail below. Figure 1-2 (previous chapter) and Appendix H (Layouts and Profiles of Modified Alternative J1T) depict the alignment and structures for the Modified Alternative J1T.

The Modified Alternative J1T would begin approximately 1.3 km (0.8 mi) south of the Haehl Overhead and would end approximately 2.9 km (1.9 mi) south of Reynolds Highway. The overall length of this alternative would be approximately 9.3 km (5.8 mi) with Post Mile (PM) limits ranging from R43.1 to R49.0 (kP R69.4/78.9). The Modified Alternative J1T shares design elements with both Alternative J1T and Alternative LT (see Figure 1-2). All three alternatives share the Haehl Creek and Quail Meadows interchanges. Modified Alternative J1T differs from Alternatives J1T and LT in that it has long, large-radius curves, which were designed to avoid sensitive resources in the valley. The use of large-radius curves makes Modified Alternative J1T approximately 6 percent (0.25 miles) longer than Alternative J1T and 4 percent (0.16 miles) longer than Alternative LT.

Like the other valley alternatives, Modified Alternative J1T would diverge from existing U.S. 101 at the Haehl Creek Interchange and continue northwesterly on the embankment constructed with excess fill from a previous freeway project. Modified Alternative J1T would conform to Alternative LT swinging to the northeast to avoid the Sanhedrin industrial park. It borders the railroad tracks north of East Hill Road to avoid the oak riparian forest on the Colli Ranch. Between Center Valley Road and the wastewater treatment plant, the alignment has been placed east of a line of trees that would serve as a visual buffer between the viaduct and the city's park/recreation complex on Commercial Street. The alignment travels back to the northwest, crossing the northern edge of the city's existing wastewater treatment plant and then conforms to Alternative LT's northern segment.

The vertical alignment would begin with a gentle downgrade at the south end of the project and proceed northwesterly from the existing freeway section to approximately one-half mile south of East Hill Road. From this point north to the Quail Meadows Interchange, the flat valley floor would allow grades that are nearly flat except at structure approaches and departures. Throughout the valley, Modified Alternative J1T would cross the 100-year floodplain and would be constructed at least 1 m (3 ft) above the estimated 100-year floodwater surface level.

2.3.1 Engineering Features

Modified Alternative J1T shares a number of design features with Alternatives J1T and LT (see Section 3.3 DEIS/EIR "Common Features of Alternatives C1T, E3, J1T, and LT"). Modified Alternative J1T would be constructed with four lanes, two in each direction, with full access control bypassing Willits. Each lane would be 3.6 m (12 ft)

wide. A 13.8 m (45.3 ft) median would separate the northbound and southbound lanes. The inside (i.e. nearest the median) shoulder width would be 1.5 m (5 ft) and the outside shoulder would be 3.0 m (10 ft) wide. Cut slopes for the roadway generally would vary between a 1:2.5 and a 1:4 ratio (vertical: horizontal). Fill slopes generally would vary between a 1:2 and 1:4 ratio. Slope(s) would be rounded at appropriate locations. Please refer to Figures 3-1 through 3-3 of the DEIS/EIR (Volume 3) for Typical Cross Sections for the project.

Modified Alternative J1T would include two interchanges, which would serve as access points to the town of Willits: (1) The Haehl Creek Interchange, and (2) the Quail Meadows Interchange. The Haehl Creek Interchange would be located at the south end of the project and would provide access to Willits via existing U.S. 101. The Quail Meadows interchange would be located at the north end of the project and would provide a northern access to Willits and the Brooktrails Township. Modified Alternative J1T would conform to existing U.S. 101 approximately 1.7 km (1.1 mi) north of the Quail Meadows Interchange. The existing highway would remain in service north of this point and retain the existing at-grade crossing with the Northwestern Pacific Railroad. Interchange ramps would have a single lane. Where local roads are improved or constructed, they would be two lanes or two lanes with a left-turn pocket and would generally have 2.4 m (8 ft) shoulders. The freeway sections of Modified Alternative J1T would maintain a minimum design speed of 110 kilometers per hour (kph) (68 mph).

2.3.2 Structures

The bypass project would be several bridge structures that span creeks and local roads. The major structure required for the project would be the floodway viaduct, which would span the Little Lake Valley floodway. This and the other structures (such as mainline bridges and ramp bridges) are depicted in Appendix H (Layouts of Modified Alternative J1T).

2.3.3 Southern Interchange

Since public circulation of the May 2002 DEIS/EIR, the Haehl Creek Interchange, located at the southern end of the project, has been modified to accommodate access to an adjacent ranch (see Appendix H). The redesigned Haehl Creek Interchange is a diamond configuration. The profile of the proposed U.S.101 alignment would follow the grade of the existing freeway section south of the interchange and continue into a crest vertical curve heading north into the valley. The ramps would drop to at-grade intersections with a roadway crossing under the freeway. The roadway under the freeway would become

S.R. 20 and join existing U.S. 101 (which would become S.R. 20) just east of the Haehl Overhead crossing over the railroad. To the east, a private access opening would serve an adjacent ranch. Bridges across Haehl Creek would support the mainline, northbound on-ramp, and southbound off-ramp of the proposed bypass.

The revised southern interchange would no longer require realignment of 275 m (902 feet) of Haehl Creek, as originally proposed in the DEIS/EIR. The revised interchange would require some rock slope protection within the stream to protect the bridge abutments. An existing culvert under the proposed Haehl Creek bridges (#10-0129R/L) would be removed and another existing culvert upstream would be replaced to facilitate fish passage.

2.3.4 Access Roads

The construction of Modified Alternative J1T would require new access roads to some private properties near the project area. These private access roads would need to accommodate hay trucks, fire trucks, and other equipment. Roadway width for private access roads has been estimated at approximately 7.2 m (24 ft) to allow for a two-lane roadway with no shoulders. It may be possible to reduce this width to about 6 m (20 ft); however, the design will need to conform to the Caltrans right-of-way requirement to "replace in kind or better" and be constructed to meet the California Department of Forestry's Fire Safe road standards as required by Mendocino County. Caltrans will work with property owners to provide suitable access. Final design may result in additional environmental impacts associated with providing suitable access roads to private landowners. Should any additional impacts be identified during final design, they will be addressed and mitigated, if necessary.

2.3.5 Borrow Requirements

Modified Alternative J1T would require an estimated 1.0 million cubic meters (1.3 million cubic yards) of imported fill material. The construction contractor would determine the specific source of borrow material for earthwork; however, to ensure that borrow needs are identified early in the project planning process and adequate time is allowed to complete required environmental approvals, Caltrans has identified a potential borrow site within the project area on state-owned lands as a possible optional source for material that the contractor may choose to use for the project. Contractors may choose to use a different borrow site when/if it is advantageous to them, provided they have met all applicable environmental compliance requirements.

The area known as Oil Well Hill, located at the northern end of the project alignment, has been identified as the designated borrow site and was determined to contain good quality material suitable for use in embankment construction on the project. The portion of Oil Well Hill that lies within the current right-of-way for U.S. 101 can provide sufficient borrow material for the proposed project. The designated borrow site is within the project study limits and is, therefore, included in the environmental review of this project. Figure 2-1 (below) depicts the approximate extent of proposed excavation at the designated borrow site. Extracting borrow material from Oil Well Hill for the proposed project may require a permit from the County of Mendocino in accordance with the Surface Mining and Reclamation Act (SMARA 1975; see DEIS/EIR, Section 5.15).

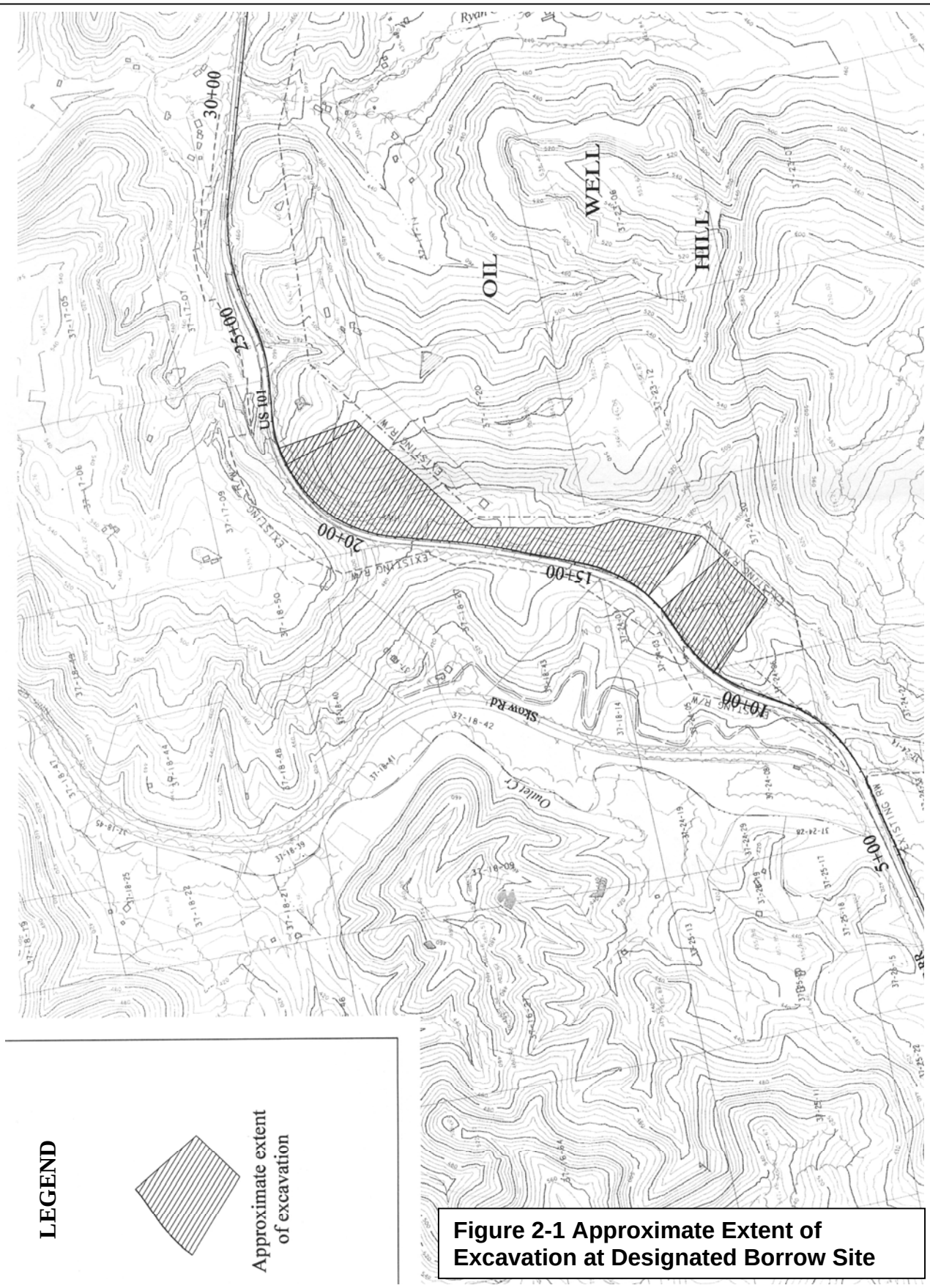

Figure 2-1 Approximate Extent of Excavation at Designated Borrow Site

2.3.6 Exceptions to Design Standards

Modified Alternative J1T would require design exceptions, some of which would also minimize environmental impacts. The following design exceptions have been approved:

- The width of the highway median would be reduced to 13.8 m (45.3 ft) (the current Caltrans design standard minimum median width is 18.6 m [61 ft]). Reducing the width of the median decreases the footprint of the roadway, which reduces the project's area of impact.

- Interchange ramps would exceed the advisory standards for the maximum length of a single lane ramp. This exception is due largely to grade and topographic constraints. Ramps exceeding the single-lane maximum length would generally require the addition of a second lane for passing. The omission of a second passing lane on the interchange ramps would also result in fewer direct environmental impacts.

- The roadway embankment height will generally increase near structures. Caltrans proposes to build the slopes of this embankment steeper than the current Caltrans design standard, thus reducing the area of impact. As flattening these slopes would have increased wetland and other environmental impacts, this design exception minimizes impacts to environmental resources.

- Caltrans' mandatory standard distance between a ramp intersection and a local road intersection is 125 m (410 ft). Due to physical and environmental constraints, the distance between the proposed Quail Meadows Interchange southbound ramps intersection and the nearest local road intersection is approximately 60 m (196 ft). Obtaining this design exception would reduce environmental impacts, including impacts to the steep hillside to the west.

- Most of the structures on Modified J1T would be constructed on curves. The railings on these structures would limit sight distance, a condition that does not meet current Caltrans design standards. A design exception would, therefore, be required for this condition.

- At the Haehl Creek Interchange, the southbound on-ramp is designed to intersect with what will become SR 20 (currently US 101) at a 60-degree angle; the

advisory minimum standard is 75 degrees. This reduced angle avoids additional impacts to biological resources at this location.

2.3.7 Highway Relinquishment

Relinquishment of portions of existing U.S. 101 to the city and county for removal from the state highway system due to bypass construction would require a resolution by the California Transportation Commission. Relinquishment is discussed in detail in Section 3.3.3 of the DEIS/EIR. The portion of existing U.S. 101 between the proposed Haehl Creek Interchange and the Main Street/State Route 20 intersection would be redesignated as State Route 20. The segment of existing U.S. 101 from the Main Street/State Route 20 intersection north to the Quail Meadows Interchange area (near the old truck scales) would be relinquished to the City of Willits and Mendocino County. Minor modifications to the existing highway would provide for connections to the interchange.

2.4 Project Construction

Prior to construction, Caltrans produces plans and specifications, which describe the finished project, including the materials to be used and the dimensions and locations of the work areas. Construction contractors bid on the project and Caltrans awards the construction contract to the lowest responsible bidder. Caltrans oversees the work of the contractor and ensures that all work conforms to the plans and specifications.

The selection of a contractor, based on the bidding process, fosters competition and correspondingly, more cost effective techniques for constructing the project. The exact method of construction, including the sources of materials, means of transporting materials, and scheduling of major items of work, is left to the discretion of the contractor, provided that the work meets the terms of the contract. Caltrans' Standard Specifications require the contractor to be informed of and observe all local, state, and federal regulations and laws for all aspects of work, including all resource agency permit measures and conditions.

The following discussion presents the construction process as a linear set of tasks in which the various steps are completed sequentially. In reality, however, the construction steps overlap and take several construction seasons. The contractor would only work on as much of the project as can be completed to a logical point during each construction season. The following descriptions should be considered typical roadway and bridge

construction scenarios that could vary depending on the contractor selected for the project.

2.4.1 Pre-Construction Activities

- Utility relocation normally precedes construction and is performed by the respective company or agency.

- Caltrans acquires rights to properties needed for the project. Caltrans' construction oversight division prepares for construction by establishing a local office from which the inspectors and Resident Engineer can operate. Caltrans surveyors reestablish ground control.

- Project information is shared with the public through handouts, media coverage or a combination thereof.

- The contractor's work begins with establishing an office, obtaining permits from outside agencies, and submitting numerous documents, including a detailed construction schedule, storm water pollution prevention plan, safety plan, etc.

- The contractor sets up construction yard(s) and moves in equipment in preparation for the work. Concrete batch plants or material fabrication sites are developed.

- Advance Mitigation is performed, as appropriate and feasible.

2.4.2 Roadway Construction

- Caltrans surveyors set ground stakes for the work to be completed, and the contractor demolishes structures and clears the construction area.

- Earthwork follows clearing. For Modified Alternative J1T, earthwork would probably begin on Oil Well Hill, where excavation would generate material to be placed for roadway embankment in the valley. Material obtained this way is called borrow material and the site from which it is excavated is called a borrow site. The material obtained from the borrow site must be transported to the alignment where it is placed and compacted to support the pavement section.

Material to be transported for the valley alternatives is currently estimated at 1.0 million cubic meters (1.3 million cubic yards).

- The Oil Well Hill borrow site has been identified as an option for the contractor. Caltrans generally does not require the use of a specific borrow site because requiring a specific borrow site could limit competition between bidders. The contractor may find a more cost effective site. Caltrans believes the material could be imported from some distance away, possibly several kilometers (miles).

- Transporting the material on existing roadways through the Willits incorporated area would be impractical due to the number of trucks required. To avoid creating excessive truck traffic through Willits, haul trucks would enter the project alignment from either the north or south end of town. Using Oil Well Hill as a borrow site, trucks could haul material south on existing U.S.101 and enter the project area at the Quail Meadows Interchange site. For a borrow site south of the project, trucks could haul material northbound on U.S. 101 and enter the project area at the Haehl Creek Interchange site. Once on the alignment, the borrow material could be distributed along the new roadbed using a haul road constructed within the new alignment. If the new alignment were not used as a haul route during earthwork operations, some other form of material transportation would need to be developed by the contractor.

- Once the material is transported to its desired location, heavy equipment such as bulldozers, graders, scrapers and large trucks shape an embankment on which the freeway would be constructed. Compaction occurs simultaneously during this process. Dewatering and drainage installations also take place during this phase of the work.

- Staging areas could be established at the northern and middle areas of the project area. The staging areas would be used by the contractor to store construction equipment and materials since they are at logical locations for the contractor to gain access to construct the project. It is anticipated that work would begin at multiple access areas at the same time

- The protection of resources from storm water runoff is an ongoing operation accomplished in concert with the soil placement.

- When the embankment is completed, aggregate is brought in with belly dump trucks and spread on the surface. The aggregate is then watered, shaped, and compacted to design specifications. Trucks then haul in asphalt concrete, spread it with specialized paving equipment and roll/compact it to the specified dimensions.

- Permanent erosion control measures would be implemented throughout the project as part of the project construction operation.

- Placing signs and traffic striping, installing guard railing, constructing fencing, and installing electrical facilities, such as overhead lighting, would take place toward the end of the bypass construction.

2.4.3 Structures Construction (Bridges)

- Construction of bridges would begin following clearing and continue during the roadway construction. A subcontractor or joint venture contractor would probably construct the structures. This work would take three to four construction seasons and would not be completed until toward the end of the project.

- If the contractor uses a Portland Cement Concrete (PCC) plant, he would obtain the necessary environmental approvals to construct temporary PCC facilities.

- Temporary access roads would be constructed and used for transporting material, equipment, and workers to the bridge locations, as well as to the new roadway.

- The proposed bridge sites would be cleared of vegetation prior to construction, and bridge work would begin with construction of the bridge abutments (beginning and end supports for the bridge).

- Some bridge locations may require temporary stream crossings to allow for construction. These temporary crossings may consist of temporary bridges, culverts, or dry channel crossings. None of the work would affect flowing water in a creek. Applicable Best Management Practices (BMPs) would be implemented for all soil disturbing activities, in accordance with a site-specific Storm Water Pollution Prevention Plan (SWPPP).

- Creek crossings would have separate bridges for northbound and southbound traffic. One of these bridges would probably be used as a haul bridge during construction and it would, therefore, be built first. This would reduce the need for some of the temporary bridges and associated temporary impacts.

- Approach fills would probably be placed first and then the bridge abutment work would begin. The abutment and pier work would include: excavating for the footings, pile driving or drilling for the foundations, formwork for concrete placement, bar reinforcing steel placement, concrete pouring, and concrete finishing and curing. Concrete washout areas would be a required BMP in the SWPPP. After the concrete has cured the forms would be stripped and the superstructure falsework would begin.

- The falsework erection for the superstructure would begin after the abutment work is completed: Temporary falsework supports would be erected out of the waterway and would span over the water. The falsework would support the formwork for the concrete placement of the superstructure. Once the falsework is erected, the bar reinforcing steel and stressing ducts would be tied in place.

    - Forms for girders would be installed and the concrete pumped into the forms. All concrete trucks, as well as concrete pumps, would utilize concrete washout areas in accordance with SWPPP measures.

    - The bridge deck surface would be formed, bar reinforcing steel placed, and concrete for the bridge deck would be pumped, placed, finished and cured.

    - Falsework would then be removed, and remaining items of work on bridge, such as barrier rail, tubular railings or approach slabs would be completed.

- Bridgework for the Floodway Viaduct would require permanent piers in the floodplain. The work area would be accessed by a work or haul road, which would require access on both sides of the viaducts and underneath the structures. Not all of this area would need to be cleared; however, the area would need to be accessible to the contractor for foundation, pier and falsework erection and removal.

- Excavating equipment, pile driving or drilling equipment, cranes, and other construction equipment would need to be in the floodplain for the construction of these bridges due to their length.

- Deck forms would be placed, the bar reinforcing steel tied in place, and the concrete pumped, placed, finished and cured. Once the concrete has attained the necessary strength, the falsework would be removed and set up on the next span.

- The northbound and southbound structures of the viaduct would probably be constructed simultaneously. Each section of bridge would be completed and then the material and equipment moved to the next span.

- Erosion control measures would be implemented for the project. Permanent replanting would be completed at the end of the work.

- Temporary infiltration basins, settling tanks, and other appropriate BMPs may be employed for any dewatering operations associated with construction of piers for the viaduct and bridge structures.

2.4.4 Traffic Management During Construction

Traffic control takes place during all phases of the construction. Prior to construction, Caltrans will prepare a Traffic Management Plan (TMP).

- Traffic control measures would include: lane closures, detours, flaggers directing traffic, and the channeling of traffic adjacent to temporary barriers or in reduced-width lanes. Advanced warnings and portable changeable message signs help relieve congestion and driver confusion by alerting drivers to the construction operations ahead.

- Earthwork operations and roadway construction in the Oil Well Hill area would probably include temporary barriers to separate traffic from workers and equipment. The passing lanes in the Oil Well Hill area may be closed during earthwork activities and roadway construction, leaving two through lanes for traffic.

- Toward the end of construction, when the contractor makes final connections to the existing roadways, one-lane traffic control would be a common occurrence.

- The TMP would establish limits on traffic interruptions. For example, the TMP may define the times the contractor may close lanes, the number of lanes that may be closed at any one time, or the maximum delays imposed upon the traveling public. The TMP would also include a public awareness plan that describes what Caltrans will do to inform the public of disruptions to the normal traffic patterns.

CHAPTER 3 Project Impacts, and Avoidance, Minimization, and Mitigation Measures

3.1 Modified Alternative J1T Studies

The following discussion describes anticipated impacts associated with the construction and operation of the proposed Willits Bypass project (Modified Alternative J1T), as well as efforts proposed to avoid, minimize and/or mitigate project-related impacts. The technical studies conducted for the Preferred Alternative address the following topics of concern: Air Quality, Biological Resources, Community Resources and Services, Cultural Resources, Energy Expenditures, Farmland, Floodplain and Hydrology, Geology and Seismicity, Noise, Business and Residential Relocation, Traffic Operations and Safety; Visual Resources, and Water Quality.

The regulatory setting for each resource topic discussed below has not changed since publication of the May 2002 Draft EIS/EIR. Detailed discussions of the regulatory settings, methods of analysis, and impacts associated with each of the resource topics can be found in Chapter 5 of the DEIS/EIR (Volume 3), and are not repeated here. The reader is advised to refer to the DEIS/EIR in conjunction with the information presented below.

A comprehensive listing of all technical studies prepared for the Willits Bypass Project, including all recent studies prepared for the Modified Alternative J1T alignment can be found in Appendix M of this report. The complete list of avoidance, minimization, and/or mitigation measures, which include all appropriate Best Management Practices (BMPs) and Caltrans Standard Specifications, proposed for Modified Alternative J1T is included as Appendix A of this report.

3.2 Geology and Soils

Several geologic conditions are present in the project area. Detailed information about these conditions, as well as the potential impacts of such conditions, are described in Sections 4.2 and 5.1 of the DEIS/EIR (see Volume 3). Since the May 2002 DEIS/EIR, an Addendum to the preliminary Geotechnical Report has been prepared to specifically evaluate the Modified Alternative J1T alignment (Caltrans 2005f). The geotechnical considerations identified for the preferred alternative are:

- Active faults in the project area are undergoing fault creep at the rate of several millimeters per year, posing a potential for a major earthquake to occur (0.8G)[4].

- The interior of Little Lake Valley has shallow groundwater levels and soil deposits that may be subject to liquefaction, shear failures, and settlement during strong seismic events.

- Cut slopes in the Unnamed Plio-Pleistocene Non-Marine Sedimentary Deposits would require special design considerations since these deposits are highly erodible and prone to landsliding when saturated.

- The primary geotechnical consideration for Modified Alternative J1T is the potential for poor foundation materials that may underlie a substantial portion of the proposed alignment. These deposits may be subject to significant long term and differential settlement after placement of the proposed embankments.

- Some of the embankments may require staged construction due to the potential for overloading to cause shear failures in underlying low strength soils.

Based on the geotechnical analysis of Modified Alternative J1T, construction of a major freeway through Little Lake Valley appears feasible and the geologic hazards that could affect the Modified Alternative J1T are generally controllable and/or avoidable. The portions of Modified Alternative J1T that are proposed to be constructed over very loose granular sediments may be subject to liquefaction during a large magnitude earthquake and may require special design to withstand seismic forces. The proposed embankments for the new alignment that are located on compressible deposits would experience settlement that may be corrected by foundation treatments or long-term settlement periods. If the proposed alignment crosses a fault zone, special designs would be used to improve roadway stability during severe earthquakes and to withstand seismic creep. These geotechnical concerns identified for the project can be addressed thorough study, adequate design, and good construction practice. The following measures are proposed to avoid or minimize potential impacts:

Measures GEO-1, GEO-2, GEO-4, and GEO-5 will avoid or reduce potential impacts related to geological and/or soil conditions.

[4] G refers to gravitational force.

3.3 Community Impacts

Section 5.2 of the DEIS/EIR discusses in detail the regulatory setting, impact thresholds, and methods of analysis for the community impact study (see Volume 3). The following presents the results of the community impact analysis conducted for the Preferred Alternative (Caltrans 2003h). Modified Alternative J1T would pass through areas zoned by the County for residential uses at the southern end of the project limits, through a small portion of a parcel zoned for commercial use on the city's northeastern edge; and through an area zoned Heavy Industrial on the city's eastern edge. This alternative would also pass through parcels in the Southeast Annexation Area, as well as through two vacant parcels zoned for industrial use. The Preferred Alternative avoids the Sanhedrin industrial park and the park/recreation complex along Commercial Street, although it would pass through a parcel on the city's northeastern edge designated for public facility use. Impacts of Modified Alternative J1T to these and other community resources are summarized below.

3.3.1 Community Cohesion

Modified Alternative J1T would pass through areas zoned as “Rural/Rural Residential” rather than suburban or densely populated neighborhoods, limiting its effects on community cohesion. Neighborhood stability in Willits may be preserved by the removal of through traffic and associated noise and congestion from neighborhood streets. Additional discussion can be found in Section 5.2.5.1 of the DEIS/EIR (see Volume 3). No mitigation measures are proposed.

3.3.2 Residential Relocation

Modified Alternative J1T would require the relocation of 10 residences (nine single family homes and one mobile home). The Final Relocation Impact Statement (FRIS) prepared for this alternative concludes that adequate relocation resources are available for all displaced households in the area (Caltrans 2004e). Additional discussion regarding residential relocation is found in Section 5.2.5.2 of the DEIS/EIR (see Volume 3). Detailed information about the Caltrans Relocation Assistance Program can be found in Appendix J of the DEIS/EIR (Volume 3). Updates made to the Relocation Assistance Program since publication of the May 2002 DEIS/EIR can be viewed at the following website: http://www.dot.ca.gov/hq/row/rowman/revision/index.htmb.

> Measures COM-1, COM-3, and COM-4 will minimize residential relocation impacts.

3.3.3 Title VI and Environmental Justice

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, signed by the President on February 11, 1994, directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Modified Alternative J1T would not cause disproportionately high and adverse effects to any minority or low-income populations as discussed in E.O. 12898. Additional discussion can be found in Section 5.2.5.3 of the DEIS/EIR (see Volume 3). No mitigation measures are proposed.

3.3.4 Affordable Housing Supply

Relative to the amount of affordable housing available in Willits, Modified Alternative J1T would not have an impact on the local affordable housing supply. It would involve less than one percent of all the affordable housing in the Willits area. Additional discussion can be found in Section 5.2.5.4 of the DEIS/EIR (Volume 3). No mitigation measures are proposed.

3.3.5 Business Relocation

According to the Final Relocation Impact Statement, the Modified Alternative J1T would require relocating six industrial businesses and one non-profit organization (Caltrans 2004e). Several suitable relocation/replacement properties are available in Willits for these businesses, including an inactive mill site on the northern end of town that would provide easy access to U.S. 101. In addition to advisory assistance, the four businesses may be eligible for moving and related expenses. Additional discussion regarding business relocation can be found in Section 5.2.5.5 of the DEIS/EIR (see Volume 3). Detailed information about the Caltrans Relocation Assistance Program can be found in Appendix J of the DEIS/EIR (Volume 3). Updates made to the Relocation Assistance Program since publication of the May 2002 DEIS/EIR can be viewed at the following website: http://www.dot.ca.gov/hq/row/rowman/revision/index.htmb.

Measure COM-1 will minimize business relocation impacts.

3.3.6 City and County Tax Revenue

Modified Alternative J1T, like the other Valley Alternatives, is expected to have minimal impacts to City and County tax revenue. Additional discussion regarding this topic can

be found in Section 5.2.5.6 of the DEIS/EIR (see Volume 3). No mitigation measures are proposed.

3.3.7 Property Tax Base

Modified Alternative J1T would require removing some private property from the local property tax base. Like the other Valley Alternatives, Modified J1T is expected to have minimal impacts on public agencies' property tax revenues. Additional discussion can be found in Section 5.3.5.7 of the DEIS/EIR (see Volume 3). No mitigation measures are proposed.

3.3.8 Business Impact

Modified Alternative J1T, like the other Valley Alternatives, would have minimal impacts to business. See Responses to Comments (Volume 2) #34-43 and #34-46 (Willits Citizens for Good Planning) for more information. Additional discussion can be found in Section 5.2.5.8 of the DEIS/EIR (see Volume 3). Due to the minimal business impacts of this alternative, no mitigation measures are proposed.

3.3.9 Regional Economic Impacts

Modified Alternative J1T, like the other build alternatives, would have a beneficial effect on regional goods movement and the North Coast's accessibility. Additional discussion can be found in Section 5.2.5.9 of the DEIS/EIR (see Volume 3). No mitigation measures are proposed.

3.3.10 Public Facilities and Services

3.3.10.1 Museum and Parks

Modified Alternative J1T would utilize the natural barriers provided by riparian vegetation and tree lines along Baechtel and Haehl Creeks to screen the park/recreational facilities along East Commercial Street from the bypass. This alternative avoids impacts to the museum complex and park/recreation areas. Additional discussion can be found in Section 5.3.2.1 of the DEIS/EIR (see Volume 3). No mitigation measures are proposed.

3.3.10.2 Streets and Roads

As discussed in Section 5.3.2.2 of the DEIS/EIR (Volume 3), the proposed project would result in the relinquishment of portions of existing U.S. 101 to the City of Willits and to Mendocino County (see also Section 2.3.7, above). For a discussion of the relinquishment process, please refer to Section 3.3.3 of the DEIS/EIR (Volume 3). See

also Responses to Comments (Volume 2), letter #9-49 (City of Willits Mayor's Office). No mitigation measures are proposed.

3.3.10.3 Wastewater Treatment Plant

The floodway viaduct of the Modified Alternative J1T crosses over the City of Willits' wastewater treatment plant (WWTP) aeration ponds. The City is in the process of enhancing operations at the WWTP. The WWTP enhancement project will include either updating or eliminating the aeration ponds. In the event the WWTP enhancement project includes updating the existing aeration ponds, the ponds and various support structures will be relocated and/or modified as part of the bypass project.

3.3.10.4 Emergency Services Providers Response Time

The bypass would provide emergency services providers with an alternate route to access north and south Willits. The removal of interregional traffic from Main Street would allow for improved emergency response times through Willits, compared to the no-build alternative. See Responses to Comments (Volume 2), General Response 1.7. No mitigation measures are proposed (see Section 3.18.1.1 for temporary measures to be implemented during project construction).

3.3.11 Consistency with Local Plans and Policies

Like the other proposed build alternatives, Modified Alternative J1T would not include an interchange at East Commercial Street as recommended in Section 1.514 of the City of Willits' 1992 General Plan. The construction of an East Commercial Street interchange does not meet the scope of the proposed bypass project. The proposed project is, however, consistent with the Willits General Plan policy supporting the construction of a bypass around the city. See Section 5.4.1.3 of the DEIS/EIR (Volume 3) for a discussion of the City's General Plan and its support for a bypass around the city. See also, Responses to Comments (Volume 2), General Response 1.9. No mitigation measures are proposed.

3.4 Farmland

A detailed discussion of the regulatory setting, method of analysis, and impact thresholds regarding the farmland analysis can be found in Section 5.4.2 of the DEIS/EIR (Volume 3). The Natural Resource Conservation Service (NRCS) soil survey indicates a high concentration of prime farm soils in the Willits Bypass project area; however, intensive agricultural production does not occur in the area due to the high water table and absence

of drainage features, which would make it difficult to cultivate orchards, vineyards, or other crops. The primary farming activities in the project area are the production of hay and the grazing of livestock, mostly sheep, cattle, and horses. The following discussion is based on updated analyses conducted for the Modified Alternative J1T (Caltrans 2005d, 2005k).

3.4.1 Prime Farmland Soils

A Farmland Conversion Impact Rating Form was prepared for the various project alternatives to identify the impacts on agricultural lands in the project area (see Appendix E). As explained in Section 5.4.3 of the DEIS/EIR (Volume 3), the impact rating form provides a numerical score, which denotes the extent of farmland impacts using federally established criteria. According to the 1984 Farmland Protection and Policy Act, a score of 160 points or more is considered to be an adverse impact to farmland. The farmland conversion impact score for Modified Alternative J1T is 156 points, which is below the 160-point threshold for adverse impacts. Table 3-1 (below) presents a comparison of the farmland conversion impact scores for each alternative, along with their respective land conversions and associated important agricultural soils.

The Modified Alternative J1T would permanently convert 42 ha (104 ac) of Prime or Unique Farmland. The Modified Alternative J1T would bisect a total of 24 parcels that contain either farmland or farm/ranch operations. Only one ranch operation would be displaced as a result of the bypass project, while the other affected parcels containing farmable land or farm operations would continue to have full access to the remainder of their land by way of new frontage or access roads. A map depicting both the prime farmland soils and Williamson Act contract lands that would be converted by the Modified Alternative J1T can be found in Appendix E, along with the NRCS Conversion Impact Rating forms. The following measures are proposed to reduce the impacts of the project to prime farmland:

Measures FRM-1, FRM-2, and FRM-4 will reduce impacts to prime farmland.

Table 3-1. Farmland Conversion by Alternative

Alternatives	Land Converted ha (ac)	Prime & Unique Farmland ha (ac)	Percent of Farmland (County)	Relative Value of Farmland (Storie Index)	Farmland Conversion Impact Rating
C1T	98 (242)	53.0 (131.0)	0.14	56.0	153.0
E3	288 (713)	56.0 (139.0)	0.14	60.0	170.0
J1T	85 (209)	42 (104)	0.11	62.0	158.0
LT	91 (226)	48 (119)	0.13	58.0	155.0
Mod J1T	56.6 (140)	42 (104)	0.11	54	156

Source: Form NRCS-CPA-106 (Farmland Conversion Impact Rating for Corridor-Type Projects)

Note: Modified Alternative J1T was re-evaluated by the NRCS in fall 2005 based on more detailed design information than was previously available. As a result, 83 acres of publicly held land within the project's footprint that is currently unavailable as farmland was not considered "farmland" by the NRCS.

3.4.2 California Land Conservation (Williamson Act)

Modified Alternative J1T, like the other build alternatives, would affect parcels that are enrolled in the Williamson Act program. Table 3-2, below, summarizes the impacts to Williamson Act parcels by alternative.

Table 3-2. Summary of Impacts to Williamson Act Parcels

Alternative	Total ha (ac)
C1T	62.6 (154.6)
E3	59.3 (146.6)
J1T	20.7 (51.2)
LT	28.1 (69.5)
Modified J1T	20.8 (51.4)

As depicted in the table above the magnitude of impacts to Williamson Act contract lands would be similar for Modified Alternative J1T and Alternative J1T. Appendix E of this report contains a table identifying the Williamson Act parcels that would be affected by the proposed project alternative. The following measures are proposed to reduce impacts to Williamson Act contract lands.

Measures FRM-1 and FRM-4 will help to reduce impacts to Williamson Act contract lands.

3.4.3 Timberland Protection Zone

Modified Alternative J1T does not impact any parcels designated as Timberland Protection Zones. No mitigation is proposed.

3.5 Water Quality

A detailed discussion of the regulatory setting, methods of analysis, impact thresholds, and impact analyses related to the Water Quality study are presented in Section 5.5 of the DEIS/EIR (Volume 3). Since completion of the Water Quality studies prepared for the DEIS/EIR (Caltrans 2000, 2000a), Caltrans conducted an additional review for the Modified Alternative J1T and concluded that the preferred alternative would have fewer water quality impacts compared to those reported for the other build alternatives presented in the DEIS/EIR (see Caltrans 2003d).

Modified Alternative J1T would span the surface waters of Haehl Creek, Baechtel Creek, Broaddus Creek, Mill Creek, and Upp Creek, all of which are tributaries to Outlet Creek. As with the other valley alternatives, the Modified Alternative J1T crosses areas that are within the 100-year flood plain and areas of FEMA-defined floodways. The Modified Alternative J1T would include a slightly longer viaduct than the original Alternative J1T (approximately 1730 m [5675 ft], compared to 1600 m [5250 ft]). Compared to a highway facility constructed directly on earthen fill, the construction of an elevated viaduct structure would limit the alteration of surface and groundwater hydrologic conditions, minimize the total disturbed soil area during construction, and reduce indirect effects to nearby wetlands, as well as to plant and wildlife species dependent on these aquatic habitats. The only anticipated penetration into the water table as a result of the project would be the support piles and footings for the bridges and structures. These minor and isolated intrusions are not expected to impact the quality of groundwater.

3.5.1 Increases in Water Temperature

Based on a focused study of stream water temperature and canopy cover conducted for the Willits Bypass Project (Caltrans 2000a), any work that would realign or modify significant segments of stream channels would likely have a direct temporary impact to water quality by increasing water temperature until mature riparian and streamside canopy cover could be sufficiently reestablished to provide shade to the affected stream

areas. Modified Alternative J1T does not propose stream channel realignment to any fish-bearing stream or any stream that flows directly into a fish-bearing stream; therefore, impacts due to loss of canopy and elevated stream temperatures are significantly reduced compared to the other alternatives considered in the DEIS/EIR. Some riparian woodland and scrub habitat would be removed at the stream crossings, in order to accommodate the construction of bridges, culverts, and the viaduct structure. The removal of vegetation and loss of canopy cover could affect water quality by elevating stream water temperatures at these locations, which could also affect salmonid habitat. The following mitigation measures are proposed to reduce potential impacts related to loss of canopy and elevated stream temperature. In addition, Caltrans will comply with the terms and conditions of the NMFS Biological Opinion (Appendix D). See also, the Conceptual Mitigation Plan (Appendix L).

> Measures WQ-3 and BIO-9 will reduce potential impacts to water quality due to loss of canopy and corresponding elevated stream temperature.

3.5.2 Sediments, Turbidity, and Floating Material

Sediment is of specific concern in the project area since it is listed as a source of impairment to beneficial uses. Caltrans' standard practices and procedures, which are intended to reduce or eliminate water quality impacts, have been incorporated as part of the proposed project. As a result, the potential for long-term impacts related to sediments, turbidity, and floating material would be minimal. The following measures would avoid and/or minimize long-term impacts to water quality.

> Measures WQ-1, WQ-6, and WQ-7 will reduce the potential for long-term impacts to water quality.

3.5.3 Oil, Grease, and Chemical Contamination

Highway runoff, accidental spills, or the application of chemicals, such as fertilizers for landscaping, and/or other long-term maintenance activities may introduce oils, greases, or chemicals to surface water. As part of the standard operation and maintenance procedures, Caltrans would implement a standard Hazardous Waste and Spill Response Plan, as well as a number of maintenance BMPs, as part of the project. As a result, potential for long-term impacts associated with chemical applications or accidental spills would be avoided or minimized. Water quality monitoring results in the Willits area suggest that highway runoff is sufficiently diluted upon entering receiving waters to avoid increases in pollutant loadings. This is evidenced by the low concentrations of

pollutants currently found in Outlet Creek (typically below detection limits). It is reasonable to assume that following construction of the Modified Alternative J1T, runoff would be similarly diluted.

Measures WQ-2, WQ-6, and WQ-8 will reduce the potential for long-term impacts from oil, grease, and chemical contamination.

3.6 Floodplain

Information regarding the affected environment, the regulatory setting, and the impact thresholds related to the floodplain analysis can be found in Sections 4.8 and 5.6 of the DEIS/EIR (see Volume 3). Following the publication of the DEIS/EIR, a detailed analysis of the effects of Modified Alternative J1T to the regulatory floodplain was completed (Caltrans 2006a). The following discussion summarizes the results of the Floodplain Evaluation Report as it relates to Modified Alternative J1T.

The Modified Alternative J1T alignment lies partially within the Federal Emergency Management Agency's (FEMA) Zones A, AE, A3, B, C, X-Other Flood Areas, and X-Other Areas. Encroachment into the floodplain by Modified Alternative J1T would be the result of roadway embankment construction and the columns of the floodway viaduct. The total encroachment or footprint cast upon the floodplain by Modified Alternative J1T is estimated at 15.7 ha (38.8 ac), which is about 1 percent of the total base floodplain area in the valley. This loss would have negligible effect on the floodplain's natural ability to moderate floods and recharge groundwater.

Construction of the 1.7-km (1.1-mi.) Floodway Viaduct would avoid and minimize impacts to both groundwater and surface water hydrology on the east side of the railroad tracks. Starting about 30 m south of Center Valley Road, the viaduct would carry Modified Alternative J1T over Haehl Creek, across the combined floodways of Baechtel and Broaddus creeks and then across the floodway at Mill Creek. The viaduct would: ensure that flood flows are not redirected; limit the increases of the 100-year flood water surface elevation; and avoid any increase in the floodway water surface elevation by the project. The 100-year floodwater surface would increase by no more than 0.08 m (0.26 ft) on the Huffman Ranch property near the railroad; elsewhere, changes in the flood elevation would be negligible. The only encroachment by Modified Alternative J1T into the floodways would be in the form of bridge columns, with the total encroachment area estimated at 0.01 ha (0.03 ac).

On the west side of the railroad tracks, the Quail Meadows Interchange and the northern segment of Modified Alternative J1T would be constructed in the base floodplain. Existing U.S. 101 would be realigned and relinquished to the County to provide access to the freeway. This realigned segment would enter the base floodplain approximately 60 m (200 ft) south of the undercrossing. The roadway surfaces that would encroach into the floodplain would be above the base flood elevation.

North of the Quail Meadows Interchange, a triple 10-ft. by 6-ft. reinforced concrete box (RCB) culvert will be constructed where the proposed alignment crosses Upp Creek. To provide a fish passage, the culvert invert will be constructed one-foot below the existing stream invert providing a natural streambed through the culvert. This drainage structure would direct the stream flows and minimize the upstream impacts of the encroachment.

Further north, beyond the project limits, the existing highway dips into the base floodplain at Wild Oat Canyon Creek where roadway overtopping would be anticipated during severe storms. With residential dwellings located between Upp and Wild Oat Canyon creeks, the highway provides the only evacuation route for the immediate area. Modified Alternative J1T would not pose an adverse impact because roadway overtopping at Wild Oat Canyon Creek is already anticipated under the pre-project conditions. The encroachment would not have a substantial effect upon the base floodplain, and there is a low risk of additional damage to the adjacent property.

The construction of Modified Alternative J1T within the floodplain would have minimal impacts related to additional impervious surface area or to beneficial floodplain values because of the relatively small areas involved.

Measures FP-1 through FP-4 will minimize floodplain impacts.

3.7 Biological Resources

The primary environmental impacts associated with the proposed bypass project would involve temporary and/or permanent impacts to biological resources. The May 2002 DEIS/EIR details the proposed project's affected environment, regulatory setting, and methods of analysis pertaining to biological resources within the Willits Bypass study area (see Volume 3, Sections 4.9 and 5.7). Since publication of the DEIS/EIR, a comparative analysis of the various study alternatives was conducted, in accordance with Section 404(b)(1) of the Clean Water Act, and the results were documented in the Final

Alternatives Analysis (FAA). The FAA identifies the Modified Alternative J1T as the Least Environmentally Damaging Practicable Alternative (LEDPA) (see Appendix G; see also Section 2.1). This section presents the results of biological studies conducted specifically for the Modified Alternative J1T alignment, as well as anticipated project impacts to biological resources (CDFG 2004; Caltrans 2004, 2005a, 2005b, 2005e, 2005g, 2005h, 2005j, 2006c, 2006e, 2006f, 2006g). The avoidance, minimization, and mitigation measures proposed for the project can be found in Appendix A.

As part of the effort to address impacts to biological resources associated with Modified Alternative J1T, Caltrans, in consultation with the resource agencies, has prepared a Conceptual Mitigation Plan (CMP; see Appendix L), which contains detailed information about the biological resources identified within the project area, how these resources would be impacted by the proposed project, avoidance and minimization measures to be employed, and a conceptual plan for the final mitigation of project-related impacts. The USACE, USEPA, and USFWS have issued written concurrence that the CMP, which will serve as the basis for the Final Habitat Mitigation and Monitoring Plan, is adequate (see Appendix C). Further refinement of the project design would incorporate measures to reduce impacts to resources within the project limits. Caltrans will continue to consult with the resource agencies to identify the percentages of temporary and permanent impacts to biological resources and determine the appropriate ratios for final mitigation. Following approval of this FEIS/EIR, Caltrans will prepare the detailed Final Habitat Mitigation and Monitoring Plan, which is subject to resource agency review and approval, to address all unavoidable impacts to biological resources resulting from the construction of Modified Alternative J1T. Caltrans will also comply with the terms and conditions of the Biological Opinions issued by USFWS (March 2006) and NMFS (September 2006) to further minimize impacts to biological resources (see Appendix D).

3.7.1 Impacts to Sensitive Plant Communities and Habitats

The project study area for the Modified Alternative J1T alignment, as well as the designated borrow site at Oil Well Hill, together comprise 109 ha (270 ac) of land. Within the project study limits, permanent impacts to sensitive plant communities and habitats are estimated at approximately 57 ha (142 ac), and temporary impacts are estimated at 11 ha (27 ac) (see Table 3-3, below). In considering the impacts and mitigation to various biological resources, it was recognized that some resources occur together as components of the same habitat or community (e.g., Baker's meadowfoam occurs within jurisdictional wetlands, oak trees occur within riparian zones, etc.). Due to such overlaps in the occurrence of certain resources, the acreage of permanent impacts to

sensitive plant communities and habitats, when adjusted for resource overlaps, becomes approximately 39 ha (96.3 ac) (see Conceptual Mitigation Plan, Appendix L). Table 3-3, below, provides the estimated areas of both temporary and permanent impacts to sensitive plant communities and habitats occurring within the project area *before* adjustment for overlap of sensitive resources. Resources that coexist within the same habitat would be compensated for by means of multiple in-kind mitigation. The Conceptual Mitigation Plan (Appendix L) provides more detailed information regarding the concept of resource overlap, levels of impact *after* adjustments for overlap, and multiple in-kind mitigation.

Table 3-3. Summary of Temporary and Permanent Impacts to Sensitive Plant Communities and Habitats *Before* Adjustments for Resource Overlap

Sensitive Plant Community/Habitat	Temporary Impacts	Permanent Impacts
Baker's meadowfoam habitat	0.3 ha (0.86 ac)	10.0 ha (24.7 ac)
Riparian woodlands associated with anadromous fish streams (Category I)	0.7 ha (1.95 ac)	2.1 ha (5.43 ac)
Other riparian woodlands (Categories II and III)	1.1 ha (2.82 ac)	3.8 ha (9.47 ac)
Jurisdictional wetlands (All categories)	7.6 ha (18.8 ac)	20.5 ha (50.7 ac)
Jurisdictional other waters (Ponds and Streams)	1.1 ha (2.6 ac)	1.2 ha (2.96 ac)
Oak woodland (Aerial canopy)	N/A	30 ha (48.7 ac)
TOTALS	**11 ha (27 ac)**	**57.4 ha (142 ac)**

Note: The above table is based on the Conceptual Mitigation Plan (April 2006). Subsequent to the CMP, further studies were conducted for the Modified Alternative J1T (see Caltrans 2006e, 2006f, 2006g). Based on these 2006 studies, project impacts to Oak Woodlands were adjusted to 35.27 ac, and Baker's meadowfoam impacts were adjusted to 24.5 ac. Resources identified at Oil Well Hill are described in the sections below.

The following measures are proposed to address impacts to sensitive plant communities and habitats:

> Measures BIO-1 through BIO-6, BIO-8, BIO-9, BIO-11, and BIO-13 will reduce impacts to sensitive plant communities and habitats.

3.7.2 Sensitive Plant Communities and Habitats at Oil Well Hill

Surveys of wetlands and other waters of the U.S. on Oil Well Hill encompassed approximately 60 acres; however, the area of Oil Well Hill that may be impacted for

project-related borrow operations is only anticipated to be a maximum of 40 acres. Within the 60-acre study area at Oil Well Hill, oak woodlands comprised 15.57 ac, and riparian habitat comprised 7.4 ac (Caltrans 2006e, 2006f). Although there is some overlap of the oak woodland and riparian communities, the acreages presented here are before adjustment of overlaps. No Baker's meadowfoam plants or suitable Baker's meadowfoam habitat were identified at Oil Well Hill. Refer to Section 3.7.3.4, below, for wetland habitats identified on Oil Well Hill.

Measures BIO-1 through BIO-6, BIO-8, BIO-9, BIO-13, BIO-16A, and BIO-16C will reduce impacts to sensitive plant communities and habitats at Oil Well Hill.

3.7.3 Impacts to Special-Status Plants

The initial Natural Environment Study (NES; Caltrans 1997) conducted for the Willits Bypass project documented the potential for a number of special status plants to occur within the limits of the various proposed bypass alternatives. As a result of modifications to the various alternatives, potential direct and/or indirect impacts to most special status plants discussed in the NES were avoided. The following discussion addresses potential or anticipated impacts to special status plants that could result from construction of the Modified Alternative J1T (see also, Conceptual Mitigation Plan; Appendix L).

3.7.3.1 Baker's Meadowfoam

Baker's meadowfoam is a federal species of concern, a state-listed rare species, and a California Native Plant Society (CNPS) List 1B species.[5] Modified Alternative J1T could impact approximately 24 acres of suitable Baker's Meadowfoam habitat located in two locations along the proposed alignment. One location lies on the Colli Ranch property, while the other location lies in the proposed Quail Meadows Interchange area. Compared to the original Alternative J1T, the Modified Alternative J1T would have considerably less impact to Baker's Meadowfoam on the Colli Ranch property and may potentially avoid it altogether, as most of the alignment would be west of a previously identified population (see Appendix G; Final Alternatives Analysis, Figure 7-6). Modified Alternative J1T would have similar hydrologic and fragmentation effects as Alternatives JIT and LT on the Baker's meadowfoam habitat at Quail Meadows Interchange. Pre-construction surveys would be conducted to determine the acreage of mitigation that would be required. The results of the pre-construction surveys will be addressed in the Final Habitat Mitigation and Monitoring Plan. Caltrans has been

[5] List 1B – Considered by CNPS as rare, threatened, or endangered in California or elsewhere.

working with the CDFG to develop mitigation measures, pursuant to CEQA Sections 15065 and 15126.4, for impacts to Baker's meadowfoam (see Appendix L; Conceptual Mitigation Plan). It is possible that the relocation of a private stock pond could result in additional impacts to Baker's meadowfoam habitat, depending on where the stock pond is placed. Should such impacts be identified when plans for the stock pond relocation have been determined, they will be addressed and mitigated, if necessary.

Measure BIO-11 will reduce impacts to Baker's meadowfoam.

3.7.3.2 Roderick's Fritillary and North Coast Semafore Grass

The 1997 NES conducted for the Willits Bypass project documented the potential for Roderick's fritillary (*Fritillaria biflora* var. *biflora* [= *Fritillaria roderickii*]) (listed by the state as endangered) and North Coast semafore grass (*Pleuropogon hooverianus*) (listed by the state as threatened) to occur within the project area. Plant surveys for these species were conducted within the project area during the flowering seasons of 1991 through 1994 at which time no evidence of these species was found. Due to the time that had passed since the initial plant surveys, CDFG requested that two seasons of additional plant surveys be conducted by Caltrans to confirm their presence or absence within the Modified Alternative J1T corridor. Per CDFG protocol, additional plant surveys were conducted during the flowering seasons of 2005 and 2006. This two-season protocol level survey resulted in no evidence of either Roderick's fritillary or North Coast semaphore grass within the Modified Alternative J1T project study area (Caltrans 2006e). Because surveys have determined that Roderick's fritillary and North Coast semaphore grass are not present in the project area, construction of the proposed project will not affect these two species.

3.7.3.3 Narrow-leaved Water Plantain

The narrow-leaved water plantain is a CNPS List 2 species, with no federal or State listing status. Recent protocol-level surveys (Caltrans 2006) resulted in finding one small population of narrow-leaved water plantain, containing approximately 20 individual plants, in an area encompassing approximately 0.004-acre. These plants were found in the middle of an abandoned road in an old pear orchard. This population is located east of the existing embankment that was constructed in the 1960's, south of East Hill Road. This area may or may not be required for the relocation of a portion of an unnamed ephemeral stream channel that is parallel to the existing embankment. Because a drainage design has not been finalized the specific location of the realigned stream reach

affected by the project has not been determined. Hence, it is possible that the proposed stream realignment may impact 0.004-acre of narrow-leaved water plantain.

Mitigation BIO-3, BIO-4, BIO-5, BIO-6 will reduce impacts to narrow-leaved water plantain.

3.7.4 Impacts to Wetlands and Other Waters of the United States

The presence and extent of jurisdictional wetlands and Waters of the United States within the Willits Bypass study area was confirmed by the USACE in a Jurisdictional Determination (JD) issued in April 1998 (Volume 3, Appendix F). An additional JD for Modified Alternative J1T was issued in March 2005 (Appendix B; see also Appendix G, Section 6.3). As part of the criteria for selecting the LEDPA, the JDs served as the basis for assessing the potential impacts to wetlands associated with each alternative within the bypass study area, as detailed in the Final Alternatives Analysis (FAA; Appendix G). The FAA found that Modified Alternative J1T would have comparable impacts to wetlands as Alternatives LT and J1T; however, Modified Alternative J1T was selected as the LEDPA because it would avoid other significant environmental consequences that would have resulted from the other alternatives (see Appendix G; see also Section 2.1).

Since completion of the FAA in April 2005, refinement in the project's design has further reduced the estimated impacts to wetlands reported in the FAA for the Modified Alternative J1T. It is currently estimated that Modified Alternative J1T would permanently impact a maximum of 21 ha (51 ac) of jurisdictional wetlands and 1.2 ha (3 ac) of Other Waters. It is anticipated that two private stock ponds would need to be relocated as part of the project. Relocation of the stock ponds may result in additional impacts to wetlands. Should the stock pond relocations result in additional impacts, they will be addressed and mitigated, if necessary.

Measures BIO-1 through BIO-7 and BIO-13 will reduce impacts to Wetlands and Other Waters of the U.S.

3.7.4.1 Wetlands and Other Waters of the United States at Oil Well Hill

Surveys of wetlands and other waters of the U.S. on Oil Well Hill encompassed approximately 60 acres; however, the area of Oil Well Hill that may be impacted for project-related borrow operations is only anticipated to be a maximum of 40 acres. The Supplemental Jurisdictional Wetland Delineation Report (Caltrans 2006g) identified approximately 0.319 acre of wetlands (consisting of perennial emergent wetlands and

seasonal wetlands); and approximately 0.566 acre of Other Waters of the U.S. (consisting of intermittent and perennial streams) within the 60-acre study area at Oil Well Hill. The delineation of wetlands and Other Waters on the Oil Well Hill borrow site is subject to verification by the USACE.

Measures BIO-1 through BIO-7 and BIO-13 will reduce impacts to Wetlands and Other Waters of the U.S.

3.7.5 Impacts to Special Status Wildlife

3.7.5.1 Northern spotted owl, red tree vole, and Pacific fisher

Construction of Modified Alternative J1T could affect Northern spotted owl (a federally-listed threatened species) by removing suitable habitat that could be used by this species at the optional borrow site (Oil Well Hill). Using Oil Well Hill for borrow material could also affect Pacific fisher (a federal candidate for listing as threatened or endangered), as well as red tree vole (a non-listed state special-status species), by removing suitable habitat. The USFWS BO (March 2006) states that the project is not likely to jeopardize the continued existence of these species (Appendix D). The project will comply with terms and conditions listed in the USFWS BO to minimize impacts. In addition, all appropriate Best Management Practices (BMPs) will be implemented to minimize impacts to Northern spotted owl and other sensitive resources in the area.

Measures BIO-16, BIO-16A, BIO-16B, BIO-16C, and BIO-16D will reduce impacts to Northern spotted owl habitat. These measures also will minimize potential impacts to Pacific fisher and red tree vole.

3.7.5.2 White-tailed kite, Cooper's hawk, Yellow-breasted chat, and California yellow warbler

Modified Alternative J1T would remove approximately 6.5 ha (16 ac) of riparian woodland and scrub habitat (within all three categories) along streams that provide nesting and foraging habitat for white-tailed kite, a California fully protected species, and Cooper's hawk, yellow-breasted chat, and California yellow warbler, which are California special-status species. In addition, Modified J1T would remove approximately 24.3 ha (60 ac) of oak woodland that could provide nesting and foraging habitat for white-tailed kite, Coopers hawk, and other raptors.

Measures BIO-1 through BIO-6, BIO-8, BIO-9, BIO-14, and BIO-18 will reduce impacts to white-tailed kite, Cooper's hawk, yellow-breasted chat, and California yellow warbler.

3.7.5.3 Northwestern pond turtle and foothill yellow-legged frog

Construction of the bridges and viaducts for Modified Alternative J1T could affect Northwestern pond turtle and foothill yellow-legged frog that could be present in the streams within the project corridor. Measures implemented for salmonids (see Section 3.7.6 below) would also minimize impacts to these two species.

3.7.6 Impacts to Other Wildlife

Segments of Modified Alternative J1T could affect other wildlife (e.g., deer) by blocking corridors used for seasonal and/or daily movements between the valley and the hills to the west. The following measures are proposed to reduce impacts to wildlife habitat and passage.

Measures BIO-3, BIO-4, BIO-8, BIO-9, and BIO-18 will benefit wildlife, and BIO-21 will aid wildlife movement.

3.7.7 Impacts to Special-Status Fish

Modified Alternative J1T would require stream crossings that would directly affect the upper, middle, and lower reaches of Haehl Creek, as well as the lower reaches of Baechtel, Broaddus, Mill, and Upp creeks, which contain habitat for three listed salmonids (Northern California steelhead, Southern Oregon/Northern California coho salmon, and California Coastal Chinook salmon). The project would affect Critical Habitat and Essential Fish Habitat for the listed salmonids (Designation of Critical Habitat was restored for California coastal Chinook salmon and Northern California steelhead, effective January 2, 2006) [Federal Register, September 2, 2005]). The stream crossings would, however, be located downstream from the high-quality spawning habitat in the upper reaches of these streams, and would therefore have relatively less severe impacts on salmonids because of the small amount of higher-quality habitat exposed to project impacts.

The NMFS BO (September 2006) states that the project is not likely to jeopardize the continued existence of Northern California steelhead, Southern Oregon/Northern California coho salmon, and California Coastal Chinook salmon (Appendix D). Measures to reduce impacts to special status fish are detailed in the Conceptual

Mitigation Plan (Appendix L). Construction and maintenance Best Management Practices (BMPs) and compliance with the Caltrans statewide NPDES permit would also reduce impacts to fish species. Caltrans will implement the terms and conditions of the NMFS BO, as well as the following measures, to minimize impacts to salmonids:

> Measures BIO-1 through BIO-7, BIO-9, and BIO-22, as well as WQ-1 through WQ-3 will reduce impacts to salmonids.

3.7.8 Invasive Plant Species

Construction of Modified Alternative J1T could result in the introduction and spread of invasive non-native plant species. Caltrans would implement protection measures to comply with Executive Order (EO) 13112.

> Measure BIO-23 will reduce potential impacts related to invasive plant species.

3.8 Historic and Archaeological Resources

The May 2002 Draft EIS/EIR presented the results of the cultural resource inventory conducted for all alternatives under consideration at that time (see Volume 3, Section 5.8). Upon selection of Modified Alternative J1T as the Preferred Alternative, a formal Area of Potential Effects (APE) was established for the proposed project. Five cultural resources were identified within or adjacent to the APE for Modified J1T: four archaeological sites and the historic Northwestern Pacific Railroad. These resources were evaluated in accordance with Section 106 of the National Historic Preservation Act and its implementing regulations (36 CFR 800) to determine whether or not they meet the eligibility criteria for listing in the National Register of Historic Places (NRHP). The study concluded that two of the cultural resources along the Modified Alternative J1T alignment are eligible for the NRHP: one archaeological site and the historic Northwestern Pacific Railroad. Although located within the project's APE, neither of these resources would be directly impacted by the project; therefore, it was determined that the proposed project would have *No Adverse Effect* on historic properties, if protective measures are taken (i.e., the establishment of an Environmentally Sensitive Area). An Environmentally Sensitive Area (ESA) action plan, which outlines measures to ensure the avoidance and protection of historic properties during construction, has been prepared as a part of the cultural resource study documentation. The conclusions of the cultural resource study and the assessment of project effects to historic properties for the Modified Alternative J1T alignment are documented in the Historic Property Survey

Report (HPSR) and Finding of Effect (FOE) document (Caltrans 2005i). The State Historic Preservation Officer (SHPO) reviewed the HPSR and FOE and concurred with the findings in a letter dated December 6, 2005 (see Appendix C).

Measures ARCH-2 through ARCH-4 will further reduce and/or avoid any potential for impacts to historic properties.

3.9 Hazardous Materials

A supplemental Initial Site Assessment conducted for the preferred alternative identified one potential hazardous waste issue for the Modified Alternative J1T (Caltrans 2003e). The possible presence of heavy metal contamination at the city's wastewater treatment plant required a Preliminary Site Investigation (PSI) to determine if soil and/or groundwater contamination is present and if so, to what extent. A PSI was conducted (Caltrans 2004b) and revealed no significant soil or groundwater contamination within the limits of Modified Alternative J1T. As a result, no mitigation measures are proposed. See Section 3.18.5 (Construction-Related Impacts) regarding the hazardous waste assessment at the designated borrow site at Oil Well Hill, which is located north of the Modified Alternative J1T alignment.

3.10 Visual Resources

The May 2002 DEIS/EIR presents the results of the Visual Impact Assessment for the alternatives considered during the draft environmental phase of the project (see Section 5.10, Volume 3). An addendum Visual Impact Assessment was prepared for the Modified Alternative J1T (Caltrans 2003g) using the same methods, impact analysis, and Landscape Assessment Units (LAUs) that are described in the DEIS/EIR (see Volume 3) and as depicted on Map 23 of the Environmental Atlas (see Volume 4). The following discussion summarizes the results of the addendum Visual Impact Assessment for Modified Alternative J1T.

South Valley and Little Lake Valley LAU

At the south end of the project, within the South Valley LAU and the southern portions of the Little Lake Valley LAU, the proposed highway facility is within visual range of the nearby ranch properties; however, in most cases, the facility would be partially obscured by existing trees. From the perspective of occupants of the commercial and industrial establishments near East Hill Road, views of the Modified Alternative J1T alignment would be similar to those of Alternatives J1T and LT. The visual impact of Modified

Alternative J1T on the Sanhedrin industrial park would be the same as that of Alternative LT (see Section 5.10.5.3 of the DEIS/EIR).

Miracle Mile LAU

Modified Alternative J1T would be approximately the same distance as the original Alternative J1T from the Redwood Meadows senior housing development, which is in the Miracle Mile LAU; however, due to the curved highway design, views from this location would be of a higher quality than the previous alternatives, since smaller portions of the highway would be visible from any given vantage point. As viewed from many areas of the city, the new curvilinear alignment results in less opportunity to view the highway than would have been available with the more linear alignments of Alternatives J1T and LT.

Historic District LAU

From the rodeo grounds and other components of the recreation/museum complex on Commercial Street (including the baseball and soccer fields, the Roots of Motive Power museum grounds, and the skate park), which are in the Historic District LAU, views of Modified Alternative J1T would be an improvement over the original Alternative J1T. The preferred alternative would be to the east of an existing corridor of dense mature trees, which would provide a visual buffer, thus reducing the visual impacts from the perspective of viewers at the rodeo grounds, as well as the future playground north of the rodeo ground. The preferred alternative would cross the city's wastewater treatment plant. There are no permanent viewers in the immediate vicinity of this site, so there would be no visual impacts at this location.

Visual Impact Conclusion for Modified Alternative J1T

Modified Alternative J1T would have a less than adverse visual impact to the South Valley, Little Lake Valley, Miracle Mile, and Historic District LAUs, and no visual impact to the Brooktrails LAU. The overall visual quality of Modified Alternative J1T is higher than that of Alternatives J1T and LT, and its curvilinear design would be more compatible with the natural landscape and creeks of the valley floor. Additionally, drivers would benefit from the visual interest that a meandering highway provides as it progresses through various scenic vistas of the Little Lake Valley. The following measures are proposed to further minimize visual impacts:

> Measures VIS-1 through VIS-5 and VIS-8 through VIS-11 will reduce visual impacts caused by Modified Alternative J1T.

If the designated borrow site were used for fill material, excavation would begin north of the Reynolds Highway on the east side of the existing U.S. 101. Excavation would result in a visible cut slope next to the highway. Homes on the west side of the highway are far from the road. Dense woods provide a visual buffer for these residences. One home near the excavation on the east side of the highway and higher on the hill could be impacted visually. The Visual measures listed above (VIS-1 through VIS-5 and VIS-8 through VIS-11) will reduce visual impacts associated with the extraction of borrow material at Oil Well Hill.

3.10.1 Future Development

Several parcels within the Southeast Annexation Area are slated for future development. The visual impact of Modified Alternative J1T would be less than that of Alternative J1T for future viewers of the planned hospital and senior housing/assisted living center, since the preferred alternative would be placed farther away from these future facilities. The preferred alternative would bisect an area zoned for an industrial park just north of the existing Sanhedrin industrial park. The future industrial park would be adjacent to the preferred alternative; however, viewers at an industrial park are considered less sensitive to visual impacts, since they would view the highway for a shorter duration of time than residential viewers. Furthermore, the highway would be placed on a fill slope in this area and highway plantings would soften the visual impact of this alternative. The following measure is proposed to reduce potential impacts to future development.

> Measure VIS-5 will reduce visual impacts to planned development in the City's Southeast Annexation Area.

3.11 Noise

The regulatory setting, methods of analysis, definitions, and impact thresholds pertaining to the noise analysis are detailed in Section 5.11 of the May 2002 DEIS/EIR (Volume 3). Subsequent to the May 2002 DEIS/EIR, an addendum to the noise study was prepared for the Modified Alternative J1T (Caltrans 2005c). Table 3-4 (below) depicts the projected noise levels for the proposed project. The locations of noise receptors for the Modified Alternative J1T alignment can be found in Appendix I of this report.

Table 3-4 Predicted Traffic Noise Impacts for Modified Alternative J1T

Receptor I.D. No.	Activity Category and NAC Leq(h)	Existing	Modified Truncated Alternative J1T		
		Predicted Noise Level Leq(h), dBA	Predicted Noise Level Leq (h), dBA Year 2028	Noise Increase (+) or Decrease (-)	Impact Type* (S, A/E, CR or None)
2	B (67)	52	56	+4	None
3	B (67)	49	59	+10	None
4	B (67)	46	55	+9	None
69	B (67)	51	56	+5	None
20	B (67)	53	56	+3	None
30	B (67)	53	57	+4	None
31	B (67)	53	60	+7	None
A	C (72)	49	59	+10	None
B	B (67)	55	64	+9	None
C	B (67)	51	60	+9	None
D	B (67)	50	57	+7	None
E	B (67)	48	58	+10	None
F	B (67)	48	58	+10	None
G	B (67)	47	57	+10	None
H	B (67)	48	54	+6	None
I	B (67)	60	64	+4	None
AA	B (67)	56	58	+2	None
73	B (67)	55	56	+1	None
74	B (67)	55	56	+1	None
75	B (67)	57	58	+1	None
68	B (67)	53	58	+5	None
63	B (67)	54	57	+3	None
62	B (67)	53	54	+1	None

* Impact Type: S – Substantial Increase (12 dBA or more)
A/E – Approach or Exceed NAC
CR – Classroom Noise (Section 216 of the Streets and Highway Code)

Under Title 23, Code of Federal Regulations (CFR) Part 772, *Procedures for Abatement of Highway Traffic Noise*, no noise abatement measures would be required for the proposed bypass project, since the projected noise levels for Modified Alternative J1T are below the Noise Abatement Criteria (NAC) (see Volume 3; DEIS/EIR, Section 5.11.2 for a description of impact thresholds). Therefore, under 23 CFR 772 and the Caltrans Traffic Noise Analysis Protocol (CaTNAP), the proposed project would result in no substantial noise increase.

According to the CEQA guidelines, a project may be deemed to have a significant adverse environmental effect if it results in an increase of 12 dBA or more above the existing ambient noise level. The Modified Alternative J1T would have no such increase of 12 dBA or above; therefore, the project would have no significant adverse environmental effect, as defined by CEQA.

Caltrans will consider the use of quiet pavement technologies, such as open-graded asphalt concrete (OGAC). The current project design incorporates the use of OGAC throughout much of the project alignment (excluding bridge structures). No mitigation measures are proposed.

3.12 Air Quality

The air quality study that was conducted for the alternatives considered in the DEIS/EIR involved air quality modeling of carbon monoxide (CO) impacts using the EMFAC7F and CALINE4 models (see Volume 3, Section 5.12). The modeling methods included worst-case assumptions for meteorological conditions, so the results of the analyses yielded conservative conclusions. The air quality receptors that were previously analyzed for Alternatives J1T and LT are within the same study area as those examined for Modified Alternative J1T; therefore, the results of the study are unchanged. The original air quality analysis yielded results between 3.0 and 4.0 parts per million (PPM), which is well below the California and National Ambient Air Quality Standard of 9.0 ppm. The air quality impacts of the Modified Alternative J1T alignment would, therefore, not be substantial, and it can be concluded that the Modified Alternative J1T would not generate any additional long-term CO emissions to local air quality (Caltrans 2003i).

Diesel exhaust is an issue on facilities with large volumes of truck traffic. It is known that exposure to diesel exhaust over time can have effects on health. Criteria and quantitative methods for assessing diesel impacts are not yet developed at the regulatory level. It is, however, important to document any sensitive land uses in the vicinity of the project. Sensitive Land Uses include schools, medical centers and similar health care facilities, childcare facilities, parks and playgrounds. The vicinity of the project is defined as 150 meters (500 feet) from the edge of the nearest traveled lane. Existing U.S. 101 travels through the center of Willits, which is primarily commercial with some residential areas. Three sensitive receptors have been identified along U.S. 101 through the town of Willits: Willits High School, Sanhedrin High School, and Howard Memorial Hospital. The trucks and automobiles that travel on SR 101 are subject to continual stop and go traffic due to the traffic signals in town. It is known that diesel trucks will emit higher

levels of emissions when the trucks stop and then start again. The proposed Willits Bypass would redirect the interregional traffic to the outskirts of town on an access-controlled freeway, thereby increasing the speed of travel and eliminating the stop and go traffic. Sensitive receptors would, therefore, be exposed to less diesel emissions as a result of the bypass. The areas near the proposed bypass alignment are less populated thereby lowering the exposure to diesel emissions and lowering the health risks. No long-term air quality mitigation measures are proposed. The California Air Resources Board's Diesel Risk Reduction Plan (DRRP) is also expected to significantly reduce future diesel emissions throughout California. According to the DRRP, the projected emission benefits associated with the full implementation of this plan, including proposed federal measures, are reductions of diesel PM emissions and associated cancer risks to 75 percent by 2010 and 85 percent by 2020. The details of the DRRP are available at: http://www.arb.ca.gov/diesel/documents/rrpFinal.pdf. No long-term air quality mitigation measures are proposed. Short-term construction-related air quality impacts are addressed in Section 3.18.4.

3.13 Energy

The amount of energy used, based on energy efficiency factors, would result in the bypass project being 5 percent to 13 percent more efficient than the No Build Alternative. A detailed discussion of the energy analysis can be found in Section 5.13 of the DEIS/EIR (see Volume 3). The results of the energy analysis indicate that the bypass would be a positive investment and would not result in a wasteful or inefficient use of energy resources (Caltrans 2001g). No mitigation is necessary.

3.14 Section 4(f) Resources

A definition of Section 4(f) (U.S. Department of Transportation Act, 49 USC 303) is provided in Section 5.14 of the DEIS/EIR (Volume 3). FHWA has determined that Modified Alternative J1T would not impact any potential Section 4(f) properties, as detailed below; therefore, no formal Section 4(f) evaluation is required for this project.

3.14.1 Park Recreation Complex

During public circulation of the May 2002 DEIS/EIR (Volume 3), the City of Willits informed Caltrans that it had proceeded with plans to construct a skate park (including picnic areas, benches, landscaping, walkways, parking, and restrooms), which would be located within the footprint of Alternative J1T. FHWA determined that, if the project were to result in a use of these parklands, a Section 4(f) evaluation would be required for

the project, and an avoidance alternative would have to be developed. As a result, Caltrans and FHWA coordinated extensively with local government and community representatives during regular coordination meetings and NEPA 404(b)(1) agency meetings. These meetings were instrumental in developing the Modified Alternative J1T alignment, which was designed to avoid the public park/recreation complex, yet still minimize impacts to other important resources (see Appendix G).

3.14.2 Historic Properties

Modified Alternative J1T does not adversely affect any historic properties for which a formal Section 4(f) evaluation would be required. Based on the cultural resource investigation conducted for the project, as well as coordination with the local Native American community, historic preservation organizations, and the State Historic Preservation Officer, no historic properties would be adversely affected by the proposed project (Caltrans 2005i).

3.15 SMARA/Grading Permit

Modified Alternative J1T would require fill material for construction of embankment (see also Section 2.3.5, Borrow Material). Caltrans has identified a designated borrow site on state-owned land at the north end of the project. The designated borrow site (Oil Well Hill) was found to contain suitable material for constructing the project. Extracting borrow material from Oil Well Hill may require a permit from the County of Mendocino in accordance with the Surface Mining and Reclamation Act (SMARA 1975; see DEIS/EIR, Section 5.15).

Removal of embankment material from the designated borrow site could impact habitat of Northern spotted owl, red tree vole, and Pacific fisher; indirectly impact water quality due to erosion of disturbed soils from construction activities; and alter the visual character of the hillside due to excavation and the removal of vegetation. Please refer to the following sections for a discussion of the specific impacts and measures that would be implemented to minimize these potential impacts: Section 3.7.4.1 (Northern spotted owl, red tree vole, and Pacific fisher), Sections 3.5 and 3.18.2 (Water Quality), Section 3.7.6 (Special-Status Fish), and Section 3.10 (Visual Resources).

Caltrans' identification of Oil Well Hill as the designated borrow site provides the contractor an optional location from which to obtain the necessary embankment material to construct the project. Contractors may, however, choose to use other borrow sites

when it is advantageous to them (e.g., savings in time or money). The use of other borrow sites not designated by Caltrans would require that the contractor obtain environmental approvals and resource agency permits to meet environmental compliance requirements.

3.16 Growth Inducement

Modified Alternative J1T would not remove obstacles to development in Willits, Brooktrails Township, or unincorporated Mendocino County. Modified Alternative J1T would not foster growth or create capacity to accommodate growth beyond what has been permitted by the Willits General Plan and the Brooktrails Specific Plan. Growth at the local level is controlled by the land use plans of Willits and Mendocino County. Section 6.1.2 of the DEIS/EIR (Volume 3) explains in more detail why the project would not be growth inducing.

Following public circulation of the DEIS/EIR, Mendocino County issued a *Background Report for the County of Mendocino General Plan Update* (County of Mendocino 2003). This document includes data on land use, housing, circulation, etc., which is being used to prepare a revised County General Plan. The document discusses the Willits area and its potential for future development and concludes: "The largest areas of land adjacent to the city of Willits are agricultural lands to the east, rangelands to the west, and several low-density rural residential areas. These low-density residential areas are not conducive to large increases in residential population due to flooding, access, and other constraints. However, there are areas classified as Suburban Residential southeast, southwest, and north of the City, including the Brooktrails Township subdivision. Suburban residential areas within Mendocino County allow minimum lot sizes of 6,000 square feet provided they are served by both public water and sewer service." Residential growth in areas zoned SR (Suburban Residential) in the project area would comply with the County's General Plan.

Table 3-5 in the DEIS/EIR (Volume 3) shows some of the alternatives that were considered but eliminated from further study, in part because of the growth-inducing impacts of including an additional valley interchange. The design of Modified Alternative J1T is not growth inducing, in part because it does not include a center valley interchange, which is beyond the scope of the bypass project. There is limited potential for some commercial development near the northern interchange that could occur with or without construction of the bypass (see Volume 2, General Response 1.12).

3.17 Indirect Impacts

Indirect impacts are those, which are caused by the project either later in time or farther removed in distance and are reasonably certain to occur in or outside the project area. The following discussion addresses potential indirect impacts identified for the proposed bypass project.

3.17.1 Indirect Impacts to Salmonids

Construction-related soil disturbances and exposure could result in soil erosion, which could indirectly impact salmonids by introducing sedimentation into salmon-bearing streams (refer to Appendix D, NMFS BO). The designated borrow site (Oil Well Hill) is inherently rocky material currently stable at a 3/4:1 (horizontal: vertical) slope ratio. This cut slope has not experienced slope failure since its construction in 1936, and Caltrans and FHWA have no reason to expect instability during borrow excavation. The proposed borrow excavation would remove material from Oil Well Hill and establish a variable cut slope no steeper than 1:1, thus reducing the steepness of the existing cut slope. Sediment transport offsite would be minimal because of the rocky nature of the Oil Well Hill material and can be further mitigated by using standard excavation techniques and best management practices (BMPs) for erosion control. Permanent and temporary BMPs will include soil stabilization mulches and blankets, linear sediment controls, and drainage diversion channels to reduce surface water contact with soils.

Like the other alternatives, Modified Alternative J1T would impact or degrade riparian woodland and scrub habitat along streams that is designated as Critical Habitat for the listed Southern Oregon/Northern California coho salmon. In addition, on January 2, 2006, the Critical Habitat designation for California coastal Chinook salmon and Northern California steelhead was restored. Removal of such riparian vegetation could affect stream temperature and cause sedimentation, which could result in indirect impacts to listed salmonids. The following measures would minimize these indirect impacts to salmonids:

> Measures BIO-7, BIO-9, BIO-13, BIO-22, WQ-1 through WQ-3, and WQ-6 will minimize indirect impacts to salmonids.

3.17.2 Indirect Impacts to Special Status Plants

As discussed in Section 3.7.2, Modified Alternative J1T would affect two populations of Baker's meadowfoam. The alignment would avoid most of the central population of

Baker's meadowfoam (on the Colli Ranch property), but would impact much of the northern population in the vicinity of the Quail Meadow Interchange. Potential indirect impacts to this species could include habitat fragmentation or habitat degradation caused by changes in drainage patterns and hydrology. However, because the populations on the Colli Ranch are located between the existing railroad tracks and Haehl Creek, and the northern population is located between the existing Highway 101 and the railroad tracks, hydrologic connectivity to other populations within Little Lake Valley may be limited. Mitigation measures proposed in the CMP (attached as Appendix L) are expected to minimize potential indirect effects to this species.

Measure BIO-11 will reduce indirect impacts to Baker's meadowfoam.

3.17.3 Indirect Impacts to Wetlands

Modified Alternative J1T would adversely affect approximately 21 ha (51 ac) of wetlands. The majority (approximately 75%) of these wetlands are classified as wet meadow. Potential indirect impacts could include changes in drainage patterns and groundwater hydrology. Construction of the floodway viaduct structure (as opposed to a highway facility constructed directly on earthen fill) would minimize the alteration of surface and groundwater hydrologic conditions and reduce indirect effects to nearby wetlands, as well as to plant and wildlife species dependent on these aquatic habitats. Mitigation measures proposed in the CMP (attached as Appendix L) are expected to minimize potential indirect impacts to wetlands.

Measures BIO-1 through BIO-7 and BIO-13 will reduce impacts to Wetlands and Other Waters of the U.S. Measures FP-1 through FP-4 will also reduce indirect impacts to wetlands.

3.18 Construction Impacts

3.18.1 Construction-related Community Impacts

3.18.1.1 Public Services

During construction, no traffic delays are expected to occur since most of the project would be constructed on new alignment with minimal impact on local roadways. However, to reduce conflicts with emergency services providers and other public services, the following measures are proposed.

Measures PS-1 through PS-3 will be implemented to reduce impacts to emergency services providers and other public services, as well as to local traffic.

3.18.1.2 Housing

Project construction would require the presence of between 100 and 200 workers (including Caltrans staff) at any given time. Some construction workers are expected to seek short-term housing in local hotels, motels, and campgrounds. Changes in the local housing market are not expected to occur as a result of the influx of construction workers, though a small number of workers may attempt to find low-cost housing in the area. No mitigation measures are proposed.

3.18.1.3 Local and Regional Economy

The construction of Modified Alternative J1T would have a positive impact on the regional economy. In terms of economic impact, the construction of this alternative would provide an influx of construction capital to the local economy very similar to what would be seen under any of the other alternatives. Additional discussion can be found in Sections 5.2.5.6 through 5.2.5.9 of the DEIS/EIR (see Volume 3). No mitigation measures are proposed.

3.18.2 Construction-related Water Quality Impacts

3.18.2.1 Sediments, Turbidity, and Floating Material

Construction activities, including the removal of material from Oil Well Hill, could result in disturbed soil areas, creating loose or unprotected soil that could be transported by surface runoff or wind to nearby watercourses. Such increases in sediment and turbidity could adversely affect receiving waters. These impacts have the potential to occur for the duration of the construction activities, which are listed in Section 5.5.6.1of the DEIS/EIR (see Volume 3). Measures are proposed to avoid and minimize the amount of sediment, turbidity, and floating materials transported to receiving waters as a result of project construction activities.

Measures WQ-1, WQ-6 and BIO-22 will avoid or reduce impacts to water quality,

3.18.2.2 Oil, Grease, and Chemical Contamination

Without proper management during construction, chemicals, oil, and grease from equipment and accidental spills could be carried by runoff to surface waters. These impacts have the potential to occur for the duration of construction activities, which are listed in Section 5.5.6.2 of the DEIS/EIR (see Volume 3). The following measures are

proposed to avoid or minimize water quality impacts related to oil, grease, and/or chemical contamination during construction.

Measures WQ-2 and WQ-8 will avoid or minimize impacts to water quality.

3.18.3 Construction-related Noise Impacts

During the construction phase of the project, noise generated by construction activities would dominate the noise environment in the immediate area. General construction activities would generate noise levels typically ranging from 70 to 90 dB at a distance of 15 m (50 ft). Noise levels related to pile driving activities would exceed this range, but would vary depending upon the type of equipment, the size and type of piles, and the soil conditions where the work is occurring. Construction activities would be temporary and would typically occur during normal working hours. Caltrans will work with the City to identify areas of sensitivity, such as the Senior Center, where nighttime work, if necessary, would be restricted.

Measures NOI-1 through NOI-7 will reduce construction noise impacts.

Pile driving activities on land in close proximity to salmonid-bearing streams could result in noise vibrations that may be harmful to fish. Pile driving activities on land below the top-of-banks and within 15 meters (50 feet) of the salmon-bearing streams may have the potential to generate noise levels that could be harmful to fish, if water is present in the channel at the time of pile driving. The following measures are proposed to reduce the potential for such impacts. In addition, Caltrans will comply with the terms and conditions of the NMFS Biological Opinion (see Appendix D).

Measures BIO-7 and BIO-24 will reduce the potential for impacts to fish due to pile driving activities.

3.18.4 Construction-related Air Quality Impacts

Construction is a source of dust emissions that can have a temporary impact on local air quality. Construction dust emissions would result from earthmoving and heavy equipment use in the course of land clearing, ground excavation, cut and fill operations, and the construction of the roadway itself. Dust emissions could vary substantially from day to day depending on the level of activity, the specific operations, and the prevailing weather. A major portion of these emissions would probably result from equipment

traffic over temporary construction roads. The following measures are proposed to minimize the potential for impacts:

> Measures AQ-1 through AQ-3, which are standard best management practices and comply with Rule 430 (Mendocino Air Quality Management District), will minimize construction-related air quality impacts associated with dust emissions.

It is known that exposure to diesel exhaust over time can have effects on health. As discussed in Section 3.12, the proposed bypass would reduce the exposure of diesel emissions to sensitive receptors in the long term. Activities during construction along the proposed alignment, as well as at the proposed borrow site, would produce combustion emissions from various sources such as site grading, utility engines, on-site heavy-duty construction vehicles, equipment hauling materials to and from the site, and vehicles transporting the construction crew. The use of construction equipment on site would result in localized exhaust emissions. On site exhaust emissions during construction would vary daily, as construction activity levels change. The Department's standard specifications for construction would be adhered to in order to reduce construction related emissions. Caltrans would comply with all of Mendocino County's Air Quality Management District regulations and enforce the measures listed in the Caltrans Standard Specifications to reduce particulate emissions.

> Measures AQ-5 through AQ-9 will reduce the potential for exhaust emissions during construction.

Naturally Occurring Asbestos (NOA) is not known to occur in the vicinity of Oil Well Hill; however, measures are in place for the handling of NOA if it is encountered.

> Measure AQ-4 will reduce impacts if NOA is present at the designated borrow site.

3.18.5 Construction-related Hazardous Materials Impact

No hazardous waste/material issues were identified at the designated borrow area at Oil Well Hill (Caltrans 2006b). Construction of Modified Alternative J1T would require the removal of some structures that have potential for the presence of asbestos-containing building materials (ACBM) and/or lead-based paint. Asbestos is common in buildings, especially in roofing, siding, flooring, and insulation materials. Worker health and safety, as well as public safety, are key issues when dealing with hazardous materials that

may affect human health and the environment. An asbestos and lead-based paint survey prior to demolition activities and proper disposal of hazardous material is required, if it is disturbed during project construction. The following measures are proposed:

> Measures HAZ-7 and HAZ-8 will reduce impacts associated with potential ACBM and lead-based paint.

3.19 Cumulative Impacts

Section 6.2 of the May 2002 DEIS/EIR (Volume 3) presents an analysis of cumulative impacts for all proposed alternatives under consideration at the time of the DEIS/EIR publication. The following discussion focuses on cumulative impacts for the current preferred alternative, Modified J1T. The list of projects presented in Figure 6.1 of the DEIS/EIR (Volume 3, p. 6-11) has been expanded to include projects not known at the time of the DEIS/EIR (see Table 3-5, below). The Modified Alternative J1T was examined for its possible contribution to cumulative impacts to aquatic resources and sensitive species, including: wetlands and other waters of the U.S.; Baker's meadowfoam; salmonids; foothill yellow-legged frog; western pond turtle; white-tailed kite, Cooper's hawk; California yellow warbler; yellow-breasted chat; Northern spotted owl; Pacific fisher; red tree vole; oak woodland; floodplains; and farmland (Caltrans 2005). Three of the projects presented in Figure 6.1 of the DEIS/EIR have been eliminated from this analysis, as they would not affect any of the resources discussed here: the traffic signal at Holly and Main Streets (constructed); expansion of the Mendocino County Museum on East Commercial Street; and Willits' zoning changes (implemented). Impacts associated with the proposed Hopland Bypass do not fall within the study areas of any of the resources being studied.

This discussion concludes that after mitigation Modified Alternative J1T's contribution to cumulative impacts to resources is minimal. Table 3-5, below, presents the projects that were considered in the cumulative impact analysis for Modified J1T. Additional discussion, including the regulatory framework for cumulative impacts analysis can be found in Section 6.2 of the DEIS/EIR (Volume 3).

Table 3-5. Projects and Impacts Considered in Cumulative Impact Analysis

Project	Feasible within 20-year timeframe	Studies available	Resource impacts
Brooktrails Specific Plan, Buildout to 4,000 single family residences	No	No	Salmonids Northern spotted owl, Pacific fisher, and Red tree vole Farmland Oak woodland
Brooktrails Township second access road	Yes	No	Salmonids Oak woodland Northern spotted owl, Pacific fisher, and Red tree vole Farmland
Calpella County Water District – Central Ave Annexation	Completed	Yes	Farmland
Calpella Subdivision S# 2-2000 (Marina Drive, Calpella)	Completed	Yes	Farmland
California Department of Fish and Game, various fish passage and creek maintenance projects, Outlet Creek watershed	Yes	Yes	Salmonids (beneficial impact)
Repairs to Northwestern Pacific Railroad	Yes	Yes	Wetlands Salmonids
Timber Harvest Plans, Foothills surrounding Little Lake Valley and Oil Well Hill	Yes	Yes	Salmonids Northern spotted owl, Pacific fisher, and Red tree vole
Willits Bypass	Yes	Yes	Wetlands and other waters of the U.S. Salmonids Oak woodland Riparian woodland Northern spotted owl, Pacific fisher, and Red tree vole Baker's meadowfoam Farmland Floodplain
Willits North-South Corridor, From Baechtel Road to Railroad Avenue	Yes	No	Wetlands and other waters of the U.S. Salmonids
Willits Recreational Facilities: pedestrian, bicycle, hiking trail, and other recreational facilities	Yes	Yes	Wetlands

Project	Feasible within 20-year timeframe	Studies available	Resource impacts
Willits Wastewater Treatment Plant Expansion Project	Yes	Yes	Wetlands and other waters of the U.S. Baker's meadowfoam Farmland Floodplain
Willits-New Hospital and 61-Lot Residential Subdivision	Yes	Preliminary	Wetlands and others waters of the U.S. Salmonids
Willits Municipal Airport Improvements	Yes	No	Salmonids Northern spotted owl, Pacific fisher, and Red tree vole

3.19.1 Cumulative Impacts to Wetlands

The watershed of Outlet Creek is the study area for the cumulative wetlands impact analysis. Wetlands may be affected not only by direct impacts to the wetlands themselves, but also by changes in the flow of water in the area, which can change the degree to which water reaches traditionally "wet" areas.

The City of Willits Wastewater Treatment Plant (WWTP) expansion project would result in the loss of approximately 16 ha (40 ac) of seasonal wetlands (for oxidation ponds and berms). The new treatment and enhancement wetlands would represent a change in wetlands from a seasonal wetland type to a perennial wetland type. To meet USACE requirement of "no net loss" of wetlands, the City purchased a 50 ha (125 ac) parcel north of the existing WWTP and will create approximately 16 ha (40 ac) of new seasonal wetlands to compensate for the loss of approximately 16 ha (40 ac) of wetlands due to the construction of ponds and berms. The proposed WWTP expansion and mitigation for the project will result in an overall increase in wildlife habitat value since there is little existing perennial water habitat within the project vicinity. The WWTP expansion project EIR concludes that the proposed project's treatment and enhancement wetlands would represent a net benefit in the functional value of onsite wetlands because there would be an increase in both plant and animal species diversity and increased habitat diversity.

The City is reviewing two development proposals in the southeastern part of Willits, along the Haehl Creek corridor: these are the relocation of the Frank R. Howard Memorial Hospital and the construction of 61 single-family homes and a senior medical care facility adjacent to the hospital. The proposed hospital relocation and adjacent

development includes a buffer between these structures and the Haehl Creek corridor to avoid impacts to this jurisdictional resource.

The City of Willits' proposal to develop a recreational complex on East Commercial Street, including a skate park (opened in 2005) and baseball fields (still pending), would be adjacent to delineated wetlands in the area, but would avoid them.

Improvements to the Northwestern Pacific Railroad would avoid wetlands, but activities, such as improving bridges or removing debris from culverts may contribute sediments to local water bodies. Best management practices would reduce this impact.

Modified Alternative J1T would result in permanent impacts to jurisdictional wetlands. These impacts would require compensatory mitigation, including wetland creation, restoration and enhancement, as well as wetland preservation. The Conceptual Mitigation Plan (Appendix L) provides details regarding the implementation of mitigation strategies aimed at minimizing and/or compensating for impacts to wetlands.

3.19.2 Cumulative Impacts to Baker's Meadowfoam

Because Baker's meadowfoam is a rare plant limited to Mendocino County, the cumulative impact study area includes the known populations in Little Lake Valley, Laytonville, Hulls Valley, Summit Valley, and near Ukiah.

The proposed WWTP expansion project would result in the loss of approximately 0.18 ha (0.45 ac) of Baker's meadowfoam resulting from the construction of the treatment and enhancement wetlands. The majority of the Baker's meadowfoam populations on-site would be avoided, and the City has set aside this area as a Baker's meadowfoam preserve. The newly created 16 ha (40 ac) of wetlands, plus the 6 ha (15 ac) of existing wetlands to be preserved will provide 22 ha (55 ac) of potential and existing habitat for Baker's meadowfoam. The City proposes to:

- Establish a conservation easement or fee title transfer to CDFG to protect the mitigation areas once CDFG determines the success of the Baker's meadowfoam mitigation efforts.
- Compensate for the loss of 0.18 ha (0.45 ac) of Baker's meadowfoam by implementing a seed collection and transplant program to re-establish, at a minimum, 0.18 ha (0.45 ac) of new meadowfoam populations within the City's 6 ha (15 ac) preserve.

- Preserve 0.5 ha (1.3 ac) of meadowfoam currently on the site so that it will not be impacted by the proposed WWTP expansion project.
- Adopt an invasive plant species elimination/control plan to create new areas for the establishment of Baker's meadowfoam.

The WWTP EIR concluded that the expansion project would not have an incremental contribution, after mitigation, to cumulative impacts to Baker's meadowfoam.

A search of projects for which CEQA documentation has been filed (using the California Office of Planning and Research's online CEQANet query) did not identify any projects in Hulls Valley or Summit Valley, two of the other known locations of Baker's Meadowfoam. A high school construction project was identified in Laytonville, another known location of Baker's meadowfoam, but this project did not involve the use of this species' habitat.

The Modified Alternative J1T would permanently impact approximately 9.4 ha (23.2 ac) of suitable Baker's meadowfoam habitat. Mitigation strategies for minimizing and/or compensating for project impacts would include creation, restoration, enhancement, and preservation of Baker's meadowfoam habitat, as described in the Conceptual Mitigation Plan (see Appendix L). With successful implementation of the Final Mitigation and Monitoring Plan for Baker's meadowfoam, the project's incremental impacts are not expected to contribute to the decline of this species.

3.19.3 Cumulative Impacts to Northern Spotted Owl, Pacific Fisher, and Red Tree Vole

Suitable nesting, foraging, and dispersal habitat for Northern Spotted Owl is present only within the designated borrow site (Oil Well Hill) portion of the Willits bypass project area. This area could also support Pacific fisher and red tree vole. Large areas of potential Northern spotted owl habitat are known to exist west of Little Lake Valley.

Two activities, besides the proposed Willits bypass, were examined for their possible contribution to the loss of habitat for these species: Timber harvest plans, and a proposed Brooktrails Township second access road. The California Department of Forestry and Fire Prevention (CDF) has records of six Timber Harvest Plans (THPs) within, or partially within, a 2.6 km (1.6 mi) radius of Oil Well Hill. These are: 1-90-364 MEN (50 acres); 1-90-631 MEN (665 acres); 1-94-155 MEN (20 acres); 1-94-591 MEN (238

acres); 1-95-487 MEN (50 acres); and 1-99-051 MEN (11 acres). Portions of two THPs, 1-90-631 and 1-94-591, extend outside the 2.6 km (1.6-mile) radius. The majority of these logging activities involved seed tree and shelter woodcuts. Due to market conditions, the value of timber is currently low, and there are no immediate plans to harvest timber within the Oil Well Hill area. However, most of the land within the 2.6-km (1.6-mi) radius of Oil Well Hill is privately owned, and logging could occur in the future if the timber market becomes more favorable.

At the time of preparation of the Brooktrails Specific Plan and its EIR (in 1997), Northern spotted owl was not known to occur in this area. However, because DFG and the USFWS are of the opinion that this area could become habitat within 30 years of plan preparation, the Brooktrails Specific Plan EIR includes mitigation measures to ensure that the planned development would not impact future Northern spotted owl habitat, if it becomes established in the area.

Three of the six routes being considered for the proposed Brooktrails Second Access Project would pass through identified Northern spotted owl habitat within a 2.6 km (1.6 mi) radius of Oil Well Hill. Because no project specific surveys have been carried out to date for the Brooktrails Second Access Project, the magnitude of this potential impact cannot be accurately determined, but would not likely exceed an estimated 32 ha (80 ac) of habitat loss (based on a worst-case assumption of 76 m (250 ft) of forest clearing along the entire length of the longest Brooktrails access alternative under consideration). Brooktrails would be required to consult with USFWS and to assess the status of Northern spotted owl habitat associated with any of the proposed routes.

Modified Alternative J1T could have an incremental contribution to impacts to Northern spotted owl habitat; however, it is not expected to contribute to the decline of this species. The appropriate Best Management Practices (BMPs) will be implemented. Also, if the contractor chooses to use other approved borrow sites, potential impacts to Northern spotted owl habitat may be further reduced.

3.19.4 Cumulative Impacts to Salmonids

Proposed projects considered for cumulative impacts to salmonids include the Willits Bypass, Brooktrails Township second access road, Willits North-South Corridor, a new hospital and 61-unit residential subdivision, Willits municipal airport improvements, Northwestern Pacific Railroad improvements, and timber harvesting.

The Initial Study prepared for the Howard Memorial Hospital relocation and adjacent development specifies that a buffer of riparian vegetation would remain along Haehl Creek, thus avoiding impacts to this resource.

The proposed construction of a Brooktrails Township second access road could have both direct and indirect impacts to salmonids. Due to the highly erosive, unstable soils to the west of Willits, construction of a second access road could result in direct impacts to water quality and indirect impacts to aquatic resources due to sedimentation. This project is still in the planning process. No environmental studies have been completed, and no permits or funding have been obtained.

Improvements at the Willits municipal airport northwest of Willits and potential timber harvesting near the Oil Well Hill area could result in sediment deposition in creeks. Because the current value of timber is low, there are no immediate plans to harvest timber in the Oil Well Hill area. Logging could, however, occur in the future if the timber market becomes more favorable.

All of the above projects would be subject to CEQA and regional water quality regulations. Improvements to the Northwestern Pacific Railroad may include cleaning and recontouring drainage ditches in the area. This could adversely affect salmonid species and would require consultation under the federal Endangered Species Act.

These proposed projects are expected to incorporate measures to avoid and minimize impacts to anadromous fish habitat and, therefore, would not contribute to the decline of sensitive fish species.

Potential excavation activities at Oil Well Hill would not directly affect any streams that support listed salmonids. Potential indirect impacts to salmonids could include erosion of disturbed soils that could enter Outlet Creek during major storm events. However, due to the rocky nature of the substrate, and the proposed use of BMPs, indirect impacts to fisheries to Outlet Creek would be minimal.

Modified Alternative J1T would require the crossing of Haehl, Baechtel, Broaddus, Mill, and Upp Creeks. The stream crossings would directly affect the upper, middle, and lower reaches of Haehl Creek, as well as the lower reaches of Baechtel, Broaddus, Mill, and Upp creeks, which contain habitat for three listed salmonids, including critical habitat for one listed salmonid. The proposed bridge, viaduct, and culvert crossings would,

however, be located downstream from the higher quality spawning habitat located in the upper reaches of these streams, and thus would have less severe effects on salmonids because of the smaller amount of high-quality habitat exposed to sedimentation impacts. The affected stream reaches do, however, provide important migration and rearing habitat for listed salmonids. Modified Alternative J1T would not likely contribute to the decline of the three listed salmonid species. Construction and maintenance BMPs and compliance with the Caltrans statewide NPDES permit will reduce impacts to fish species.

3.19.5 Cumulative Impacts to Other Sensitive Habitats and Species

Riparian and oak woodland habitats provide nesting, food, and cover for non-listed special-status species, which occur in the project area, including white-tailed kite, Cooper's hawk, yellow-breasted chat, and California yellow warbler. Riparian vegetation and oak woodland also provide food and cover for other wildlife such as deer. Projects in the vicinity that would encroach on riparian and oak woodland habitats include the Brooktrails Second Access project, the proposed Willits North-South Connector, the Howard Memorial Hospital relocation project and adjacent residential development, and the WWTP project. These projects could also affect non-listed special status plant species, including glandular western flax and Baker's navarretia.

The Initial Study prepared for the Howard Memorial Hospital relocation and adjacent development specifies that a buffer of riparian vegetation would remain along Haehl Creek. If these projects include measures to prevent or compensate for impacts to riparian habitat and oak woodlands, cumulative impacts to these resources will be minimized.

There are currently six alternatives proposed for the Brooktrails Second Access road; two of these would have stream crossings. The Brooktrails project is still in the planning process; no environmental studies have been completed and no permits or funding have been obtained. The impacts of this project have not been quantified, but avoidance, minimization, and mitigation measures for impacts to these resources would be required by resources agencies.

Fencing associated with the WWTP project has the potential to inhibit deer movement across Little Lake Valley. The City will provide breaks in the fencing around the planned trail system to allow wildlife passage. The WWTP project would result in the loss of small stands of native trees, including riparian vegetation, that provide wildlife habitat.

The City will replace native vegetation at a 2:1 ratio within the project area to provide habitat and aesthetic value.

Modified Alternative J1T reduces impacts to the valley oak woodland that would have otherwise been impacted by Alternative LT. Oak woodlands impacts would be mitigated through creation, restoration, and/or preservation at ratios agreed upon with CDFG, and as outlined in the Conceptual Mitigation Plan (see Appendix L).

Modified Alternative J1T would require trimming and/or removal of riparian woodland vegetation at creek crossings for construction of bridge structures. This would be a permanent impact at the location of the structures, as well as where the required rock slope protection (RSP) would be placed. The areas cleared for equipment access around the structure would be impacted temporarily, as these areas would be revegetated. Mitigation for impacts to riparian woodlands would include planting riparian vegetation along reaches of streams to enhance existing riparian areas and/or in areas that currently do not contain riparian trees or shrubs, but have the necessary conditions to support this type of plant community.

Modified Alternative J1T's contribution to cumulative impacts to the above resources would be less than significant following implementation of minimization and mitigation measures, as outlined in the CMP (Appendix L). Modified Alternative JIT is not expected to contribute to the decline of these habitats or the species they support.

Cumulative impacts to foothill yellow-legged frog and western pond turtle would be the same for salmonids discussed above.

3.19.6 Cumulative Impacts to Farmland

3.19.6.1 Prime Soils

In the study area for cumulative farmland impacts (Calpella to Laytonville), the greatest threat to the continued use of farmland for grazing or hay production lies in the land's development potential. Currently, development pressure is much greater in the Calpella / Ukiah area than in Little Lake Valley or in areas to the north. Discussions with Mendocino County Planning staff indicate a number of subdivision projects in the vicinity of Calpella and northern Ukiah that would include farmland conversion. The County expects approximately 300 new residential lots to be created in this area between 2005 and 2008.

In Little Lake Valley, Modified Alternative J1T would require the use of 42 ha (104 ac) of prime or unique farmland. In the long-term, the bypass may act as a growth barrier, defining an area east of which the City is unlikely to grow. There is very little farmland between the city and the Modified Alternative J1T alignment.

The Willits Wastewater Treatment Plant (WWWTP) would require the conversion of 159 acres of farmland, 78 acres of which would be prime farmland. The WWWTP EIR points out that this conversion of agricultural land would be offset, to some extent, by the transfer of effluent (used for irrigation purposes) from acreage within the expansion area to offsite acreage, increasing this land's productivity. On average, the valley's irrigated pastures produce an estimated 24 animal-unit months (AUMs) of forage per acre, which is substantially higher than the average of 9 AUMs produced by pasture countywide. (An AUM is defined as the amount of forage required to support a cow and a calf or a 1,000 pound steer for one month). The valley's naturally irrigated pastures produce an estimated average of 3 AUMs per acre.

Since certification of the WWTP expansion project EIR, the City has purchased 125 acres in the project area for wetlands/Baker's meadowfoam/floodplain mitigation. The City will continue to allow grazing on the portions of the expansion parcels not being used for wastewater treatment and require that grazing within the WWWTP project area be managed for rotational grazing. Grazing in areas of mitigated wetlands will be allowed and encouraged.

Development projects in and around Calpella and Ukiah will result in the conversion of farmland in both the near-term and long-term. However, Mendocino County has demonstrated its commitment to preserving the viability of farming throughout the County. The Ukiah Valley Area Plan discusses measures designed to preserve the area's water supply for future farming. Also, the County's "right-to-farm" ordinance gives farming pre-eminent rights in disputes with adjacent property owners over land use. And the County has expressed its determination to preserve large, contiguous areas zoned for agricultural use.

3.19.6.2 Williamson Act Contracts

Modified Alternative J1T would require the use of 20.8 ha (51.4 ac) of farmland currently covered by Williamson Act contracts.

The WWWTP expansion area properties were enrolled in the State's Williamson Act program prior to their acquisition by the City. Because these properties are now publicly owned, they are no longer enrolled in the program.

According to the Mendocino County Regional Transportation Plan, construction of some projects could be located on properties that are currently under Williamson Act contracts. It is unknown what projects, other than the Willits bypass, might affect lands under contract.

No measures are available to replace farmland that has been or will be developed by past, ongoing, or future projects; however, the two largest projects in Little Lake Valley would include measures to minimize farmland conversion impacts. The WWWTP expansion project provides irrigation water to irrigate offsite areas within Little Lake Valley. The long-term irrigation contracts would not only increase the productivity of these areas but would also protect these areas from conversion to non-agricultural use. The Willits bypass project would include minimization measures (see Appendix A) to address impacts to farmland.

3.19.7 Cumulative Impacts to Floodplain

The City of Willits is currently planning improvements to the Willits Waste Water Treatment Plant (WWWTP). The WWWTP improvements include constructing treatment ponds within the Little Lake Valley floodplain that will require mitigation to avoid impacts to the floodplain. The City of Willits and Caltrans are coordinating and sharing information to ensure that our hydraulic analyses use the same base conditions and that the projects do not cumulatively increase floodplain elevations in the Little Lake Valley. If the WWWTP project precedes construction of the Willits Bypass, the baseline conditions for the bypass will be modified and the effects reassessed. If the Willits bypass is constructed before the WWWTP is improved, the baseline conditions for the WWWTP will be based on the conditions that include the completed bypass project.

The effects of the Willits bypass on the floodplain elevation would be minimal and would involve only small areas, as discussed in Section 3.6 of this document. With successful coordination between the City of Willits and Caltrans, the bypass would have no cumulative floodplain impacts.

CHAPTER 4 California Environmental Quality Act (CEQA) Evaluation

4.1 Determining Significance Under CEQA

The proposed project is a joint project by the California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA) and is subject to both state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). Caltrans is the lead agency under CEQA, and the FHWA is the lead agency under NEPA.

One of the primary differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an EIS, or some lower level of documentation, will be required. NEPA requires that an EIS be prepared when the proposed federal action (project) *as a whole* has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision is made regarding the need for an EIS, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental documents.

CEQA, on the other hand, does require Caltrans to identify each "significant effect on the environment" resulting from the project, as well as ways to mitigate each significant effect (see Chapter 1, Table 1.1). If the project may have a significant effect on any environmental resource, then an EIR must be prepared. Each and every significant effect on the environment must be disclosed in the EIR and mitigated, if feasible. In addition, the CEQA Guidelines list a number of mandatory findings of significance, which also require the preparation of an EIR. There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of the proposed Willits Bypass project and CEQA significance.

4.2 Discussion of Significant Impacts

4.2.1 Significant Environmental Effects of the Proposed Project

Table 4-1, below, summarizes the significant and potentially significant impacts, including the mandatory findings of significance, under CEQA, as well as the mitigation measures recommended for adoption and the resultant CEQA level of impact after mitigation. A detailed discussion of each resource can be found in the corresponding sections of both the DEIS/EIR and the FEIS/EIR, as indicated in the table.

Table 4-1. Summary of CEQA Significant Impacts and Mitigation Measures

CEQA Environmental Impacts	DEIR Section Number	FEIR Section Number	CEQA Level of Impact before Mitigation[6]	Mitigation Measures	CEQA Level of Impact After Mitigation
LONG-TERM IMPACTS					
Water Quality: Increases in water temperature	5.5.6.3	3.5.1	PS	WQ-3, BIO-9	LS
Sensitive Plant Communities	5.7.4.4	3.7.1	S	BIO-1 – BIO-6, BIO-8, 9, 13	LS
Special-status Plants	5.7.4.5	3.7.2	S	BIO-11	LS
Wetlands and Waters of the U.S.	5.7.4.6	3.7.3	S	BIO-1 – BIO-7, BIO-13, FP-1 – FP-4	LS
Special-Status Wildlife	5.7.4.7	3.7.4.1 – 3.7.4.3	PS	BIO-1 – BIO-6, BIO-8, BIO-9, BIO-14, BIO-16 – 16C, BIO-17 – BIO-19	LS
Special-status Fish	5.7.4.9	3.7.6	PS	BIO-1 – BIO-7, BIO-9, BIO-22, WQ-1, WQ-3	LS
INDIRECT IMPACTS					
Special-status Fish	5.7.4.9	3.17.1	PS	BIO-7, BIO-9, BIO-13, BIO-22, WQ-1 – WQ-3, WQ-6	LS
Special-status Plants	5.7.4.5	3.17.2	PS	BIO-11	LS
Wetlands	5.7.4.6	3.17.3	PS	BIO-1 – BIO-7, BIO-13, FP-1 – FP-4	LS
SHORT-TERM CONSTRUCTION IMPACTS					
Short-term Community Impacts: Public Services	5.3.3.2	3.18.1.1	PS	PS-1, PS-2, PS-3	LS
Short-term Noise Impacts	5.11.4.5	3.18.3	PS	NOI-1 – NOI-7, BIO-7, BIO-24	LS

[6] **KEY** to levels of impact: **PS** = potentially significant impact; **S** = significant impact; **LS** = less than significant impact; **B** = beneficial impact; **NI** = no impact; **NA** = not applicable

4.2.2 Unavoidable Significant Environmental Effects

Modified Alternative J1T would not result in unavoidable significant impacts (after mitigation) (CEQA Guidelines, Section 15126.2(b)). The Preferred Alternative would not have unavoidable adverse impacts related to wetlands or other waters of the U.S., sensitive habitats, special status species, business or residential relocation, water quality, hazardous materials, community resources, or geotechnical issues that would have resulted from the other build alternatives, as depicted in Table S-1 of the DEIS/EIR (see Volume 3). The Preferred Alternative, which USACE and USEPA concur is the LEDPA, includes project design features intended to avoid and minimize impacts to certain resources, and mitigation measures to further avoid, reduce, or to compensate for remaining impacts. In addition, the USFWS and NMFS have issued Biological Opinions stating that the project is not likely to jeopardize the continued existence of listed species (see Appendix D). All unavoidable significant impacts discussed in Section 6.4 of the DEIS/EIR (Volume 3) would not occur with the Modified Alternative J1T.

4.2.3 Significant Irreversible Environmental Changes

The proposed project would not result in an irreversible commitment of resources (i.e., fossil fuels, fiscal resources, land use, labor, etc.). While considerable amounts of fossil fuels and highway construction materials such as cement and aggregate would be expended in construction of the proposed project, they are not in short supply and their use would not have an adverse effect upon their continued availability. Construction of the project would require a substantial one-time expenditure of both state and federal funds that are not retrievable. The commitment of these resources will benefit the region, the state, and the residents of the immediate area with an improved transportation system. The benefits of an improved safety and savings in time and fuel would outweigh the commitment of the resources being used.

4.2.4 Growth Inducing Impacts

Modified Alternative J1T would not remove obstacles to development in Willits, Brooktrails Township, or unincorporated Mendocino County. Modified Alternative J1T also would not foster growth or create capacity to accommodate growth above and beyond what has been permitted by the Willits General Plan and the Brooktrails Specific Plan. Growth at the local level is controlled by the land use plans of Willits and Mendocino County. Section 6.1.2 of the DEIS/EIR (Volume 3) explains in more detail why the project would not be growth inducing.

Since public circulation of the DEIS/EIR, Mendocino County produced its *Background Report for the County of Mendocino General Plan Update* (January 2003). This document includes data on land use, housing, circulation, etc., which is being used to prepare a revised County general plan. The document discusses the Willits area and its potential for future development and concludes: "The largest areas of land adjacent to the City of Willits are agricultural lands to the east, rangelands to the west, and several low-density rural residential areas. These low-density residential areas are not conducive to large increases in residential population due to flooding, access, and other constraints. However, there are areas classified as Suburban Residential southeast, southwest, and north of the City, including the Brooktrails Township subdivision. Suburban residential areas within Mendocino County allow minimum lot sizes of 6,000 square feet provided they are served by both public water and sewer service." Residential growth in areas zoned SR (Suburban Residential) in the project area would comply with the County's General Plan.

Table 3-5 in the DEIS/EIR (Volume 3) shows some of the alternatives that were considered but eliminated from further study, in part because of the growth-inducing impacts of including an additional valley interchange. The design of Modified Alternative J1T is not growth inducing, in part because it does not include a center valley interchange, which is beyond the scope of the bypass project. There is limited potential for some commercial development near the northern interchange that could occur with or without construction of the bypass (see Volume 2, General Response 1.12).

4.3 Mitigation Measures for Significant Impacts Under CEQA

Chapter 3 describes all impacts to resources associated with the Modified Alternative J1T and the designated borrow site at Oil Well Hill. Table 4-1, above, summarizes the mitigation measures proposed for each significant impact identified for the project. Appendix A provides a detailed description of all avoidance, minimization, and mitigation measures proposed for the project.

CHAPTER 5 Public Participation, Comments and Coordination

The following public participation activities took place during and after the preparation, distribution, and review of the May 2002 DEIS/EIR. Newsletters and public announcements can be found in Appendix F of this report.

To announce availability of the DEIS/EIR, the duration of the public circulation period, and the open house, Caltrans placed a display advertisement in English in the Ukiah Daily Journal on June 7, the Fort Bragg Advocate and Mendocino Beacon on June 13 and July 18, and the Willits News on June 10 and July 17, 2002. The Spanish version appeared in the July 2002 issue of El Heraldo, Willits' Spanish language newspaper. Press releases were submitted to local media. Notices were mailed to property owners and residents living within the project area of each alternative and to federal, state, and local officials.

The hearing announcement appeared in the Federal Register on July 12, 2002 and in the Army Corps of Engineers Notice on July 8, 2002.

The public review and comment period was from June 10, 2002 to August 10, 2002, and then extended to August 26, 2002 to accommodate a delayed Federal Register filing.

Caltrans held a public hearing in an open house format on Wednesday, July 24, 2002 from 3:00 PM to 8:00 PM at the Willits City Hall in Willits, California. Public notices announcing the open house appeared in English in the Ukiah Daily Journal, Fort Bragg Advocate, Mendocino Beacon, and Willits News. A Spanish version of the announcement appeared in Willits' Spanish language newspaper, El Heraldo. Press releases were submitted to the local media. Notices were mailed to property owners and residents living within the project area and to federal, state, and local officials. The hearing announcement appeared in the Federal Register (July 12, 2002) and in the Army Corps of Engineers Notice (July 8, 2002).

Approximately 120 residents and other interested parties attended the public hearing/open house at the Willits City Hall. Information easels with maps, graphics, and display boards were situated around the room. Caltrans and FHWA staff were available at each information station to explain the displays and answer questions. Attendees were

encouraged to write and submit comments at the public comment table or offer them orally to a Court Reporter. Comment letters and responses to the comments are included in Volume 2.

Since the July 2002 open house, Caltrans and FHWA have conducted additional outreach to the public, its local partners, and resources agencies. In 2003, Caltrans held monthly meetings with local government staff from Mendocino County and the City of Willits to discuss local concerns and project status. Due to strong local interest in a hybrid Alternative L/C, Caltrans pursued the potential of this alternative to meet the Clean Water Act Section 404(b)(1) criteria. This effort involved extensive coordination with resource agencies and local government staff and elected representatives. In January and April 2003, Caltrans held project development team meetings to explain the results of the Alternatives Analysis, which was prepared in accordance with Section 404(b)(1) of the Clean Water Act. The alternatives analysis concluded that Alternatives E3 and L/C do not satisfy LEDPA criteria.

The Draft Alternatives Analysis, which is in Appendix H of the DEIS/EIR (Volume 3), concludes that Alternatives J1T and LT would have the least overall environmental impacts of all the alternatives considered. However, Alternative J1T would result in: (1) adverse impacts to "human use characteristics"[7]/Section 4(f) resources due to the construction of this alignment through the local and regional park/recreation complex; and (2) removal of the Sanhedrin industrial park, which would result in the loss of businesses that would not or could not relocate in Willits. Alternative LT would avoid the park/recreation complex and the industrial park but it would impact approximately 9 ha (22 ac) more of wetlands and other waters of the U.S. than Alternative J1T and it would result in fragmentation impacts to the largest stand of valley oak riparian woodland in the valley.

Further coordination with resource agencies and local partners resulted in the Modified Alternative J1T, which was developed in response to strong local support to avoid impacts to the Sanhedrin industrial park and the park/recreation complex on Commercial

[7] Under Section 404 (b)(1) Subpart F (federal Clean Water Act), human use characteristics should be considered when making factual determinations and findings of compliance or non-compliance with the Act. These resources include parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves, that consist of areas designated under Federal and State laws or local ordinances to be managed for their aesthetic, educational, historical, recreational, or scientific value.

Street. Modified Alternative J1T has fewer impacts to the oak riparian forest at the Colli Ranch and to aquatic resources than the original alternatives.

Caltrans held a meeting with emergency services providers and school representatives on June 30, 2003, in response to their concerns regarding impacts to emergency response times, access to Brooktrails Township, and traffic congestion at the high school. Caltrans Office of Travel Forecasting and Modeling demonstrated how the bypass would improve traffic conditions in Willits for travelers and would enable faster response times for emergency services providers. At the same meeting, the Mendocino County Department of Transportation made a presentation of the proposed Brooktrails Township alignments to demonstrate that Quail Meadows Interchange (on Modified Alternative J1T) would accommodate a connection to a Brooktrails second access road.

An open house was held on September 18, 2003, to present the proposed Modified Alternative J1T and to receive public comment. Public notices announcing the open house were placed in English in the Ukiah Daily Journal, Mendocino Beacon, and Willits News; a Spanish/English version was placed in La Voz. Approximately 900 notices were mailed to property owners and residents living within the project area and to federal, state, and local officials. Approximately 100 people attended the open house and Caltrans received 43 comment cards. A resident of the Redwood Meadows senior center voiced concerns regarding visual impacts and construction noise at the center as a result of Modified Alternative J1T. These concerns are addressed in Section 3.1.10 (Visual Resources) and Section 3.4.3 (Construction Noise) of this volume. No other new substantive issues were raised with regard to the Modified Alternative J1T alignment.

The September 2003 open house was followed by a newsletter, which reported on the proposed Modified Alternative J1T and on the results of the open house. In addition, the newsletter requested comments and input from the public. It was mailed to approximately 900 individuals, and maps of the Modified Alternative J1T were mailed to adjacent landowners and other individuals upon request. Project updates were posted to the Willits Bypass website. No new substantive issues were raised as a result of this mailing.

Following formal concurrence from USACE and USEPA that Modified Alternative J1T is the LEDPA, Caltrans made a presentation to the Willits City Council on June 8, 2005 to provide an update on the status of the project. Caltrans also published a newsletter in July 2005 that announced the agencies' decision regarding the LEDPA and provided

updated information about the status of the project. A project development team (PDT) meeting, which included Caltrans staff, as well as external partners and agency representatives, was held at the Willits City Hall on July 19, 2005. At this meeting Caltrans presented updated information about the project and answered questions from agency representatives and local partners/stakeholders. A public information meeting, held in an open house format, took place on August 9, 2005 between 4:30 and 6:30 at the Willits City Hall. No new substantive issues were raised as a result of these meetings.

Chapter 10 of the DEIS/EIR (Volume 3) discusses the public participation efforts that took place for this project from 1987 to the July 2002 open house.

CHAPTER 6 Compliance with Environmental Laws and Status of Permits Required for this Project

The May 2002 DEIS/EIR discusses the regulatory setting associated with each environmental topic addressed for the proposed bypass project (Volume 3, Chapter 5). The major environmental laws and status of permits and consultations required for the project are summarized below.

6.1 National Environmental Policy Act and California Environmental Quality Act

The proposed project is a joint effort by the Federal Highway Administration (FHWA) and the California Department of Transportation (Caltrans) and is subject to federal and state environmental review requirements. This document has, therefore, been prepared in accordance with both the National Environmental Policy Act (NEPA) of 1969, as amended, and the California Environmental Quality Act (CEQA) of 1970, as amended. NEPA requires all federal agencies to consider environmental factors through a systematic interdisciplinary approach before committing to a course of action. The NEPA process is an overall framework for the environmental evaluation of federal actions. CEQA requires public agencies to regulate activities, which may affect the quality of the environment so that major consideration is given to preventing damage to the environment. The FHWA is lead agency under NEPA and Caltrans is the lead agency under CEQA. The lead agencies (FHWA and Caltrans) must certify that the FEIS/EIR has been completed in conformance with NEPA and CEQA and adequately discloses the environmental effects of the proposed project, and that the decision making bodies independently reviewed and considered the information contained in the FEIS/EIR prior to taking action on the project.

The FEIS/EIR must also be considered by cooperating agencies, which are federal agencies other than the lead agency, that have jurisdiction by law or special expertise with respect to the environmental impacts expected to result from the proposed project (40 CFR 1508.5, 1501.6, and Forty Questions Nos. 14[a], 14[b], and 14[c]). The following agencies are cooperating agencies because of their statutory responsibility for resources that would be affected by the proposed project: U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (USFWS), and the National Marine Fisheries Service (NMFS). The U.S. Environmental Protection Agency (USEPA) has declined

participation as a cooperating agency; however, as a signatory to the NEPA/Section 404 Memorandum of Understanding, USEPA has been extensively involved in the project, including the development of the project's purpose and need and the range of alternatives studied, as well as the development of the LEDPA and the CMP. The California Department of Fish and Game (CDFG) is a trustee agency with jurisdiction over certain natural resources held in trust for the people of California (CEQA Guidelines Sec. 15386). These cooperating and trustee agencies must consider the environmental effects of the project as shown in the FEIS/EIR, prior to approving any portion of the project over which each of the agencies has authority.

6.2 Section 404(b)(1) Clean Water Act

The construction of the proposed bypass requires a US Army Corps of Engineers (USACE) Section 404 Individual Permit. Prior to issuance of the 404 Permit, USACE requires: (1) an alternatives analysis, which examines the impacts to aquatic resources and associated sensitive species for each alternative; and (2) a final mitigation and monitoring plan, which will be prepared after approval of the FEIS/EIR.

Caltrans prepared a Final Alternatives Analysis (see Appendix G), which shows that Modified Alternative J1T meets 404(b)(1) criteria for the LEDPA and that Alternatives E3, C1T, J1T, L/C, LT and No-Build do not meet Section 404(b)(1) criteria for the LEDPA. The USACE and the USEPA have issued letters concurring that Modified Alternative J1T is the LEDPA (see Appendix C).

The next step in obtaining a 404 permit from the USACE is the preparation of a Final Habitat Mitigation and Monitoring Plan. In coordination with USACE, USEPA, USFWS, and NMFS, Caltrans has prepared a Feasibility Study (Caltrans 2005e), which demonstrates that project mitigation is feasible within Little Lake Valley. A Conceptual Mitigation Plan (CMP; Caltrans 2006) has also been prepared in consultation with the resource agencies (see Appendix L). The USACE, USEPA, and USFWS have issued written consent that the CMP, which will serve as the basis for the Final Mitigation Plan, is adequate (see Appendix C). In accordance with the 1994 Memorandum of Understanding for the implementation of the NEPA/Section 404 integration process, Caltrans will continue to work with resource agencies on refining and finalizing the habitat mitigation and monitoring plan.

6.3 Section 106 of the National Historic Preservation Act

Section 106 of the National Historic Preservation Act and its implementing regulations (36 CFR 800) require that federal agencies take into account the effects of their undertakings on historic properties, including archaeological resources, by making a reasonable good faith effort to identify and evaluate cultural resources within the project limits. The cultural resource investigation conducted for the Modified Alternative J1T alignment resulted in the identification of two historic properties. The California State Historic Preservation Officer (SHPO) issued a concurrence letter indicating that Caltrans' identification efforts are adequate and that there would be no adverse affect to historic properties (see Appendix C). The terms and conditions of the Environmentally Sensitive Area Action Plan must be implemented prior to and during construction.

6.4 Section 4(f) Resources

The proposed Willits Bypass project was evaluated for its potential Section 4(f) impacts. A local/regional park/recreation complex was identified as a Section 4(f) property on the Alternative J1T alignment. Modified Alternative J1T was developed to avoid this Section 4(f) resource. In addition, as discussed in Section 3.3.8 (Historic and Archaeological Resources), Modified Alternative J1T would not affect any historic sites in a manner that would constitute a use of lands from a Section 4(f) property. The FHWA has determined that no Section 4(f) property would be affected by the project.

6.5 Permits Required for this Project

The following table lists permits and/or consultations needed to construct Modified Alternative J1T. See also Section 1.9 of this report.

Table 6-1. Permits & Consultations Required for Willits Bypass Project

Permits/ Consultations	Reference	Permitting Agency	Resource	Status
Section 404 Individual Permit	Clean Water Act	US Army Corps of Engineers	Wetlands and other waters of the U.S.	LEDPA concurrence received from USACE & USEPA in May/June 2005; The Section 404 permit will be obtained prior to construction of the project.
Streambed Alteration Agreement	Section 1602 Fish and Game Code	California Department of Fish and Game	Streams, and associated habitat and species	Streambed Alteration Agreement to be prepared prior to construction.

Permits/ Consultations	Reference	Permitting Agency	Resource	Status
Section 401 Water Quality Certification	Clean Water Act	Regional Water Quality Control Board (RWQCB)	Water quality	The RWQCB must certify a water quality permit application submitted by Caltrans. The water quality certification is then submitted to the USACE for the 404 permit.
National Pollutant Discharge Elimination System (NPDES)	Federal Clean Water Act	Regional Water Quality Control Board	Water quality	Construction Contractor to prepare a SWPPP, which will be reviewed and approved by Caltrans in accordance with the Statewide NPDES permit.
Section 7 Consultation	Endangered Species Act (16 USC 1536)	USFWS and NMFS	Northern spotted owl, Red tree vole, listed salmonids	Biological Opinions (BOs) received from USFWS in March 2006 and from NMFS in September 2006. Must comply with terms and conditions of both BOs.
Consistency Determination	California Endangered Species Act, Fish and Game Code 2080.1	California Department of Fish and Game	Coho salmon	A Consistency Determination will be obtained prior to project construction.
NESHAP permits	National Emission Standards for Hazardous Air Pollutants (NESHAP)	Mendocino County Air Quality Management District	Demolition of any structures that have asbestos or lead-based paint.	NESHAP requirements will be satisfied after approval of the FEIS/EIR and prior to construction.
Concurrence from the State Historic Preservation Officer (SHPO)	Section 106 of the National Historic Preservation Act	California Office of Historic Preservation	Historic Properties	SHPO concurrence received December 6, 2005; Terms and conditions of ESA Action Plan must be implemented prior to and during construction.
SMARA Permit	State Mining and Reclamation Act	Mendocino County	Borrow material for project construction.	Extracting borrow material from Oil Well Hill for the proposed project may require a permit from the County of Mendocino in accordance with the Surface Mining and Reclamation Act (SMARA 1975; see DEIS/EIR, Section 5.15).

CHAPTER 7 Contributors and Reviewers

Caltrans

Sarah M. Allred, Associate Environmental Planner. B.A. Anthropology, California State University, Sacramento. 16 years experience in cultural resource management and environmental analysis. *Project Environmental Coordinator and Final EIS/EIR Preparer.*

John Bulinski, Project Manager. B.S. Environmental Resources Engineering, Humboldt State University. California Registered Professional Engineer No. 43826. 22 years experience in engineering and engineering management. *Project Manager*.

Allison Busch-Lovejoy, Assistant Project Manager. B.S. Natural Resources, Humboldt State University. Project Management Professional No. 304728. 19 years experience in natural resource and project management. *Peer review and Project analysis.*

Chris Collison, Senior Environmental Planner/Senior Resource Biologist. B.S. Environmental and Systematic Biology, California Polytechnic State University, San Luis Obispo. 15 years experience assessing transportation project impacts on natural resources, including: listed species consultation, state and federal regulatory coordination, and wetland mitigation, banking, restoration, and monitoring. *Biological studies oversight, Endangered Species consultation, Mitigation and Monitoring Plan Coordination.*

William A. Davis, Associate Transportation Planner. B.A. Geography; M.A. Rural and Town Planning, California State University, Chico. 12 years experience in planning, travel forecasting, and modeling. *Traffic Forecasting and Modeling Analyses*.

Michael L. DeWall, P.E., Hydraulics Engineer. M.S. Engineering Management, Air Force Institute of Technology; B.S. Civil Engineer, California State University, Chico. 21 years of engineering experience in construction management, design, public works, and facility operations and maintenance. *Location Hydraulic Study.*

Marsha Freese, Landscape Architect Associate. M.B.A., University of Phoenix, Fountain Valley, CA; B.S. Landscape Architecture, Iowa State University, Ames, IA. 12

years of city planning/environmental analysis experience, 12 years of landscape architecture experience, and 8 years experience conducting visual impact analyses. *Visual Impact Assessment*.

Charles Fielder, District 1 Director.

Dwayne Grandy, Hazardous Waste Coordinator. B.S. Environmental Resources Engineering, Humboldt State University. 7 years experience preparing Hazardous Waste Initial Site Assessments and oversight of Project Site Investigations. *Hazardous Waste Analyses.*

David G. Kelley, P.E., Senior Transportation Engineer. B.S. Civil Engineering, California State University, Chico. 14 years of experience in civil engineering. *Senior Project Engineer*

Jeremy Ketchum, Senior Environmental Planner. B.S. Environmental Policy Analysis and Planning, University of California, Davis, M.S. Transportation Management, San Jose State University, 7 years experience in preparing CEQA & NEPA documents. *Chief, Environmental Branch S-1*.

Frank Lortie, Associate Environmental Planner (Architectural History). Advancement to candidacy for a Ph.D. in American History, University of California at Davis; M.A. American History, San Francisco State University; B.A. American Government, University of California at Berkeley. Seven years at Caltrans performing cultural resources inventories and Section 106 compliance; 15 years recording and evaluating architectural and historical properties and CEQA (PRC Sect. 5024) compliance in the California State Park System Historic. *Architectural surveys and Historic Survey Report.*

Nancy MacKenzie, Senior Environmental Planner. M.A. Anthropology, California State University, Sacramento; B.A. English Literature, minor Archaeology, Austin College, Texas. 13 years of experience in environmental analysis and coordination. *CEQA/NEPA coordination and document preparation.*

Aaron McKeon, Community Impact Assessment Specialist. M.A. Regional Planning, Cornell University, 1999; B.A. History and Psychology, University of Rochester, 1994. Six years of experience writing community impact assessments and other

technical reports for Caltrans. *Community Impact Assessment and Farmland Impact Analysis.*

Mark Melani, Hazardous Waste Coordinator. B.S., Soil Science, California Polytechnic University, San Luis Obispo. 18 years experience reviewing and preparing Phase I and Phase II environmental assessments. *Hazardous Waste Studies.*

David Melendrez, Senior Transportation Engineer, B.S. Environmental Resources Engineering, 15 years experience in Environmental Engineering, *Water Quality Analysis.*

Darrell S. Naruto, Transportation Engineer (Civil). B.S. Civil Engineering, California Polytechnic State University, San Luis Obispo. 19 years of experience in the field of hydrology and hydraulics. *Floodplain Evaluation Report.*

Keith Pommerenck, Civil Engineer, C.T. B.S. Environmental Resources, California State University, Sacramento. 20 years of experience preparing air, noise and energy studies. *Noise Report and Energy Report.*

Sandra E. Rosas, Associate Environmental Planner. M.A. Anthropology (Ethnobotany), Northern Arizona University; B.S./B.A. Biology/Anthropology, California State University, Chico. 14 years of experience in environmental studies. *Farmland Impact Analysis.*

Donald C. Rushton, P.E., Associate Transportation Engineer. B.S. Civil Engineering, California State University, Chico. 23 years of civil engineering experience. *Project Engineer.*

Donald E. Schmoldt, Environmental Planner/Wildlife Biologist. M.A. Natural Sciences, San Jose State University; B.S. Wildlife Management, Humboldt State University. 19 years of experience as environmental consultant in Central California, specializing in special-status wildlife species issues. *Addendum to Supplemental Natural Environment Study; Section 404 Alternatives Analysis; Biological Assessments.*

Lynn Speckert, Associate Environmental Planner. B.S. Environmental Toxicology, University of California at Davis. 10 years of experience in the air quality field. *Air Quality Analysis.*

Benjamin Tam, Transportation Engineer, CT, BS Civil Engineering, San Jose State University. 15 years Caltrans experience; 8 years experience conducting noise studies. *Noise Analyses.*

Scott A. Williams, Cultural Resources Specialist. M.A. Anthropology, California State University, Sacramento, B.A. Anthropology, California State University, Sacramento. Approximately 21 years of California archaeological experience. *Archaeological surveys and Historic Properties Survey Report.*

Daniel W. Vann, Associate Engineering Geologist. B.A. Geology, University of California at Berkeley; A.A. Mathematics, De Anza Community College. 18 years of experience in engineering geological studies. *Geotechnical Report*.

Kevin Waxman, Associate Right of Way Agent. M.A Sociology, Humboldt State University, 2000; B.A. Psychology, Humboldt State University, 1997. Nearly five years experience working with property owners affected by public transportation projects. *Final Relocation Impact Statement.*

Federal Highway Administration

Lanh Phan, Senior Transportation Engineer. *Project Oversight*

Consultants

CH2M Hill, Sacramento, California. Glenn Sorensen, Project Engineer. B.S. Civil Engineering, University of New York, Buffalo, 1984. Professional Licensed Engineer. 21 years professional flood management/floodplain evaluation and highway construction experience. *Floodplain Evaluation Report*.

URS Corporation, Sacramento and Oakland Offices, California. George Strnad, Senior Landscape Architect, Restoration Ecologist, and Project Manager. M.S. Regional Planning and Landscape Architecture, Czech Technical University, 1985; B.A. Architecture, Czech Technical University, 1983. 20 years of environmental design and planning experience. *Various Biological technical studies.*