Placer 89 Environmental Improvement Project

This project is located in Placer County on State Route 89

Caltrans District 3-Placer County

EA 2A920 KP 0.0/13.8 (PM 0.0/8.6)

EA 2A921 KP 13.8/22.1 (PM 8.6/13.7)

Draft

CEQA: Initial Study [with Proposed Mitigated Negative Declaration]
NEPA: Environmental Assessment
TRPA: Programmatic Environmental Assessment

April 2006

DEPARTMENT OF TRANSPORTATION
UNITED STATES OF AMERICA

TAHOE REGIONAL PLANNING AGENCY

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General Information About This Document

What's in this document?

The California Department of Transportation (Caltrans), the Federal Highway Administration (FHWA) and the Tahoe Regional Planning Agency (TRPA) have prepared this CEQA Initial Study/ NEPA Environmental Assessment/ TRPA Programmatic Environmental Assessment, which examines the potential environmental impacts of alternatives being considered for the proposed project located in Placer County California. The document describes why the project is being proposed, alternatives for the project, the existing environment that could be affected by the project, and potential impacts from each of the alternatives, and the proposed avoidance, minimization and/or mitigation measures.

What should you do?

- Please read this Initial Study/Environmental Assessment/ Programmatic Environmental Assessment.
- Attend the public information meeting or public hearing.
  Tuesday April 25, 2006: TCPUD office at 221 Fairway Drive, Tahoe City
- We welcome your comments. If you have any concerns regarding the proposed project, [please attend the public information meeting or public hearing], or send your written comments to Caltrans by the deadline below. Submit comments via U.S. mail to Caltrans, Attn: Jody Brown, Office of Environmental Management, 2800 Gateway Oaks Drive, Sacramento, California 95833; submit comments via e-mail to jody_brown@dot.ca.gov
- Submit comments by the deadline: Friday, May 5th, 2006

What happens next?

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

For individuals with sensory disabilities, this document is available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans Division of Environmental Analysis, P.O. Box 942874, MS-27, Sacramento, CA 94274-0001, (916) 653-7757 Voice, or use the California Relay Service TTY number, 1-800-735-2929, or dial 711.

SCH# ___TBD_____
03-PLA-89
EA 2A920 KP 0.0/13.8 (PM 0.0/8.6)
EA 2A921 KP 13.8/22.1 (PM 8.6/13.7)

Placer County, State Route 89 Environmental Improvement Project
From Tahoma to Tahoe City to Squaw Valley Road

INITIAL STUDY
with Proposed Mitigated Negative Declaration, ENVIRONMENTAL ASSESSMENT and Programmatic Section 4(f) Evaluation PROGRAMMATIC ENVIRONMENTAL ASSESSMENT

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2)(C) and 49 USC 303

U.S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration

THE STATE OF CALIFORNIA
Department of Transportation

TAHOE REGIONAL PLANNING AGENCY

22 March 2006
Date of Approval

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

3-28-06
Date of Approval

Federal Highway Administration
California Division

3-29-2006
Date of Approval

Mr. John Singlaub, Executive Officer
Tahoe Regional Planning Agency

Mitigated Negative Declaration

Placer 89 Environmental Improvement Project

State of California, Department of Transportation

SCH# TBD
03-PLA-89
EA 2A920 KP 0.0/13.8 (PM 0.0/8.6)
EA 2A921 KP 13.8/22.1 (PM 8.6/13.7)

Prepared pursuant to the California Environmental Quality Act of 1970 (Division 13 of the Public Resources Code)

Project Description: The California Department of Transportation (Caltrans), and the Federal Highway Administration (FHWA) in cooperation with Tahoe Regional Planning Agency (TRPA) propose to construct water quality improvements, and operational improvements from Tahoma to Tahoe City and Tahoe City to Squaw Valley. Water quality improvements will include collection and treatment of storm water runoff from the highway by rehabilitating the existing drainage system, and constructing approved water quality treatment improvements, such as sand collection vaults, bio-swales, and infiltration and/or detention basins. Operational improvements will include constructing left-turn pockets and 2-way left-turn lanes at various locations. Shoulders will be widened to a minimum of 1.2 meters to provide for drainage conveyance capacity. An overlay will be placed in areas where the shoulder is widened.

Determination: An Initial Study has been prepared by Caltrans. It has been determined that the proposed project will not have a significant effect upon the environment, for the following reasons:

The project will not significantly impact Federal Emergency Management Agency designated floodplains, water quality, traffic, recreational areas, hazardous materials, sensitive plant/animal species, biological communities, or mineral resources. No change will occur in local and regional air quality, population, or planned land use. Seismic and soil related hazards will not increase, nor will the ambient noise in the region permanently increase. No cultural resources will be impacted by the project.

The project may have potentially significant impacts to Stream Environment Zones (SEZ) areas and scenic resources; however, project impacts to these resources will be mitigated to a level of less than significant as specified in the mitigation measures contained in the Initial Study.

_____ _____

John D.Webb, Office Chief
Office of Environmental Services - South
California Department of Transportation

Date

Summary

The California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA) in cooperation with Tahoe Regional Planning Agency (TRPA) propose a project on State Route (SR) 89 from Tahoma through Tahoe City to the Squaw Valley Road intersection. The first segment of the project, from Caltrans post mile (PM) 0.0 at the Placer / El Dorado County line to PM 8.6 at the Tahoe City "Wye" will be funded under Expenditure Authorization (EA) number 2A920. The second segment of the project, from Caltrans PM 8.6 in Tahoe City to Squaw Valley Road at PM 13.7 will be funded under EA 2A921. These projects have been programmed in the 2004 State Highway Operation Protection Plan (SHOPP) for the 2004 funding cycle in the amount of $40.8 million* for the first segment and $23.7 million* for the second segment. The primary purpose of this project is to collect and treat the storm water runoff from impervious surfaces within the State right-of-way. A secondary purpose of this project is to provide operational improvements such as, turn pockets, continuous two-way left turn lanes, and intersection lighting.

There is only one proposed build alternative to meet the purpose and need of this project. The project will meet needs identified in the Lake Tahoe Basin Environmental Improvement Program (EIP) and provide operational improvements throughout the project limits. The objective of the Tahoe EIP in respect to SR 89 is to achieve the Environmental Standards Carrying Capacity (ESCC) thresholds required by Public Law 96-551 and adopted for the Tahoe Region in 1982 by TRPA. The EIP identifies hundreds of projects that will contribute to the overall effort of meeting the thresholds in the Tahoe Basin for nine categories of resources. The project will include EIP projects 996 and 999 (Water Quality Improvements).

Water quality improvements will include collection and treatment of storm water runoff from the highway by rehabilitating the existing drainage system and constructing approved water quality treatment improvements, such as, but not limited to, sand collection vaults, bio-swales, and infiltration basins. In addition, the project will complete other operational improvements such as intersection lighting, minor superelevation corrections, construction of left turn pockets and two-way left turn lanes and shoulder widening. In some areas it will be necessary to relocate the existing bike trails to accommodate operational improvements

The project is subject to state, federal and TRPA environmental review requirements. The following tables summarize the impacts due to the project with respect to the California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA) and the

*Programmed amount shown is for construction only. Right of Way costs will be in addition to what is shown.

TRPA code. Where possible, mitigation, avoidance and/ or minimization measures will be carried out to reduce the severity of each impact. Permits from the California Department of Fish and Game (1602 Agreement), US Army Corps of Engineers (Nationwide 404 permit), TRPA, and the Lahontan Regional Water Quality Control Board (401 certification) will be required. Encroachment permits may be necessary from various agencies. Additional permits for the materials acquisition (or borrow) site and roadway excavation disposal site may be required.

CEQA Environmental Impacts Summary

Resource Area	Potential Impact	Significance	Mitigation, Avoidance and Minimization Measures	Significance after Measures
Air Quality	Dust generated by construction	Less than Significant	AQ1: Construction measures may include but not be limited to watering of disturbed areas and prompt covering and removal of dirt	Less than Significant
Biology	Potential impacts to Sensitive Amphibians and Reptiles	Less than Significant	WL2: Pre-construction amphibian surveys	Less than Significant
Biology	Potential impacts to riparian, jurisdictional wetlands (.079 acres) and waters of the U.S. (.007 acres)	Less than Significant	WQ1: Restrict timing of in-stream activities WQ2: Minimize disturbance to creek channel and adjacent areas WQ3: Containment Measures / Construction site BMPs WQ4: De-watering Activities WQ5: Restore stream and riparian onsite WQ6: Water Quality or Excess Coverage Mitigation Fees	Less than Significant
Biology	Potential impacts to stream environment zone (SEZ) habitat	Potentially Significant	WQ7: Restore disturbed SEZs at a 1.5 to 1 ratio	Less than Significant
Biology	Potential impacts to Avian Species	Less than Significant	WL3: Restrict timing of woody vegetation removal WL4: Pre-construction surveys: Nesting Birds WL5: Limit vegetation removal	Less than Significant
Biology	Potential impacts to fish passage for species such as the Brook, Rainbow and Lahontan Cutthroat Trout	Less than Significant	WL1: Ensure fish Passage	Less than Significant
Biology	Impacts to sensitive species during construction	Less than Significant	AV1: Establish Environmentally Sensitive Areas (ESAs)	Less than Significant
Hazardous Materials	Exposure to potentially hazardous materials in traffic striping, soils and groundwater	Less than Significant	HZ1: Reduce potential exposure to petroleum hydrocarbons by monitoring for methane gas, preparation of a health and safety plan, proper handling of waste products HZ2: Minimize exposure to chromium and lead from traffic striping HZ3: Lead compliance Plan HZ4: Removal of UST if necessary and Health and Safety Plan	Less than Significant
Noise	Temporary disbursed construction related noise impacts	Less than Significant	N1: Restrict construction activities with high noise levels to the daytime	Less than Significant
Transportation	Construction related traffic delays and inconvenience	Less than Significant	T1: Provide timely information on potential transportation delays, minimize the duration and frequency of work adjacent to affected properties, and maintain traffic to greatest extent feasible during construction	Less than Significant
Visual	Street Views will be altered, vegetation removed, terrain altered and manmade features introduced by the project	Potentially Significant	V1: Minimize the impact on existing views V2: Reduce, minimize and compensate for impacts to vegetation V3: Reduce impacts to the existing terrain V4: Reduce the impact of manmade structures	Less than Significant

NEPA Environmental Impacts Summary

Resource Area	Potential Impact	Measures
Air Quality	Dust generated by construction	AQ1: Measures to control fugitive dust will be implemented during construction. Dust control practices will comply with Caltrans' Standard Construction Specifications.
Biology	Potential impacts to Sensitive Amphibians and Reptiles	WL2: Pre-construction amphibian surveys
Biology	Potential impacts to riparian, jurisdictional wetlands (.087 acres) and waters of the U.S. (.112 acres)	WQ1: Restrict timing of in-stream activities WQ2: Minimize disturbance to creek channel and adjacent areas WQ3: Containment Measures / Construction site BMPs WQ4: De-watering Activities WQ5: Restore stream and riparian onsite WQ6: Water Quality or Excess Coverage Mitigation Fees WQ7: Restore disturbed SEZs at a 1.5 to 1 ratio
Biology	Potential impacts to Avian Species	WL3: Restrict timing of woody vegetation removal WL4: Pre-construction surveys: Nesting Birds WL5: Limit vegetation removal
Biology	Potential impacts to fish passage for species such as the Brook, Rainbow and Lahontan Cutthroat Trout	WL1: Ensure fish Passage
Biology	Potential spreading of weeds during construction	WC1: Weed Free Construction Equipment WC2: Equipment Staging in Weed Free Areas WC3: Weed Free Erosion Control
Biology	Impacts to sensitive species during construction	AV1: Establish ESAs
Community	Minor construction impacts to the community.	C1: Extensive public participation campaign
Hazardous Materials	Exposure to potentially hazardous materials in traffic striping, soils and groundwater	HZ1: Reduce potential exposure to petroleum hydrocarbons by monitoring for methane gas, preparation of a health and safety plan, proper handling of waste products HZ2: Minimize exposure to chromium and lead from traffic striping HZ3: Lead compliance Plan HZ4: Removal of UST if necessary and Health and Safety Plan
Noise	Temporary disbursed construction related noise impacts	N1: Restrict construction activities with high noise levels to the daytime
Transportation	Construction related traffic delays and inconvenience	T1: Provide timely information on potential transportation delays, minimize the duration and frequency of work adjacent to affected properties, and maintain traffic to greatest extent feasible during construction
Visual	Views will be altered, vegetation removed, terrain altered and manmade features introduced by the project	V1: Minimize the impact on existing views V2: Reduce, minimize and compensate for impacts to vegetation V3: Reduce impacts to the existing terrain V4: Reduce the impact of manmade structures

TRPA Environmental Impacts Summary

Resource Area	Potential Impact	Measures
Air Quality	Dust generated by construction	AQ1: Construction measures may include but not be limited to watering of disturbed areas and prompt covering and removal of dirt
Biology	Potential impacts to riparian and stream environment zone (SEZ) habitat	WQ1: Restrict timing of in-stream activities WQ2: Minimize disturbance to creek channel and adjacent areas WQ3: Containment Measures / Construction site BMPs WQ4: De-watering Activities WQ5: Restore stream and riparian onsite WQ6: Water Quality or Excess Coverage Mitigation Fees WQ7: Restore disturbed SEZs at a 1.5 to 1 ratio
Biology	Potential impacts to Avian Species	WL3: Restrict timing of woody vegetation removal WL4: Pre-construction surveys: Nesting Birds WL5: Limit vegetation removal
Biology	Potential impacts to fish passage for species such as the Brook, Rainbow and Lahontan Cutthroat Trout	WL1: Ensure fish Passage
Biology	Impacts to sensitive species during construction	AV1: Establish ESAs
Hazardous Materials	Exposure to potentially hazardous materials in traffic striping, soils and groundwater	HZ1: Reduce potential exposure to petroleum hydrocarbons by monitoring for methane gas, preparation of a health and safety plan, proper handling of waste products HZ2: Minimize exposure to chromium and lead from traffic striping HZ3: Lead compliance Plan HZ4: Removal of UST if necessary and Health and Safety Plan
Noise	Temporary disbursed construction related noise impacts	N1: Restrict construction activities with high noise levels to the daytime
Transportation	Construction related traffic delays and inconvenience	T1: Provide timely information on potential transportation delays, minimize the duration and frequency of work adjacent to affected properties, and maintain traffic to greatest extent feasible during construction. Adhere to Caltrans TMP to reduce delays and impacts to traveling public.
Visual	Views will be altered, vegetation removed, terrain altered and manmade features introduced by the project	V1: Minimize the impact on existing views V2: Reduce, minimize and compensate for impacts to vegetation V3: Reduce impacts to the existing terrain V4: Reduce the impact of manmade structures

Table of Contents

Summary v
Table of Contents x
List of Figures xii
List of Tables xii
List of Abbreviated Terms xiii
CHAPTER 1. Proposed Project 1
1.1. Introduction 1
1.2. Purpose and Need 1
1.3. Alternatives 4
1.3.1. Build Alternative 4
1.3.2. No-Build Alternative 7
1.3.3. Alternatives Considered and Withdrawn 8
1.4. Permits and Approvals Needed 8
1.5. TRPA Thresholds 9
1.6. Areas of Known Controversy 10
CHAPTER 2. Affected Environment, Impacts, and Avoidance, Minimization and/or Mitigation Measures 12
2.1. Environmental Setting 12
2.2. Human Environment 16
2.2.1. Land Use 16
2.2.2. Parks and Recreation 18
2.2.3. Community Impacts 21
2.2.4. Utilities/Emergency Services 26
2.2.5. Traffic and Transportation/Pedestrian and Bicycle Facilities 27
2.2.6. Visual/Aesthetics 31
2.2.7. Cultural Resources 40
2.3. Physical Environment 45
2.3.1. Floodplain Analysis 45
2.3.2. Water Quality and Stormwater Runoff 49
2.3.3. Soils and Soil Conservation 58
2.3.4. Hazardous Waste Materials 61
2.3.5. Air Quality 65
2.3.6. Noise and Vibration 69
2.4. Biological Environment 73
2.4.1. Regulatory Setting for the Biological Environment / TRPA Thresholds / Placer County Policies 73
2.4.2. Jurisdictional Wetlands, SEZ's and Other Waters 79
2.4.3. Common Vegetation 81
2.4.4. Wildlife Resources 81
2.4.5. Special Status Animal Species 83
2.4.6. Protected Plant Species 88
2.4.7. Invasive Species / Noxious Weeds 92

2.4.8. Avoidance, Minimization and Mitigation Measures for Biological Resources 93
CHAPTER 3. Cumulative Impacts 99
3.1. TRPA Land Use Policy 99
3.2. Summary of Past, Present, and Reasonably Foreseeable Future Actions 101
3.2.1. Summary of Caltrans Transportation Projects 101
3.2.2. Summary of Projects on Tahoe "West Shore" Area with a CEQA Action 105
3.2.3. Summary of TRPA EIP Projects 106
3.2.4. Summary of Placer County Projects 110
3.2.5. Summary of Tahoe City Public Utility District Projects 111
3.3. Assessment of Cumulative Impacts 112
CHAPTER 4. Comments and Coordination 114
CHAPTER 5. List of Preparers 114
CHAPTER 6. List of Technical Studies that are Bound Separately 116
CHAPTER 7. Distribution List 117
Appendix A CEQA Checklist 119
Appendix B Title VI Policy Statement 129
Appendix C SHPO Concurrence Letter 130
Appendix D USFWS Concurrence Letter 131
Appendix E Avoidance, Minimization and Mitigation Summary 141
Appendix F Bio-Swale and Basin Simulations 144
Appendix G Conceptual Erosion Control and Re-vegetation Plan 147
Appendix H TRPA Initial Environmental Checklist 147
Appendix I Project Features 147
Appendix J Project Maps 147

List of Figures

Figure 1-1: Project Vicinity/ Location Map; Placer 89 3
Figure 2-1: Land Capabilities in the Tahoe Basin 59

List of Tables

CEQA Environmental Impacts Summary..... vii
NEPA Environmental Impacts SummaryTRPA Environmental Impacts Summary. viii
TRPA Environmental Impacts Summary ix
Table 1.1: Permits Required from other Agencies..... 9
Table 2.1: Project Area TRPA Plan Areas..... 16
Table 2.2: Public Recreational Properties..... 19
Table 2.3: TRPA Scenic Roadway Units..... 31
Table 2.4: Noise Abatement Criteria for Activities Categories..... 70
Table 2.5: Existing Noise Levels for Highway 89 Project Limits..... 71
Table 2.6: Sensitive Animal Species Considered as Part of Environmental Review..... 84
Table 2.7: Sensitive Plant Species Considered as Part of Environmental Review.... 89
Table 3.1: Summary of EIP Projects, West Shore Area of Lake Tahoe, California 107
Table 3.2: Summary of Proposed Placer County Projects..... 110
Table 3.3: Summary of Proposed TCPUD Projects..... 111

List of Abbreviated Terms

§	Section
AC	Asphalt Concrete
Amsl	Above mean sea level
AQ	Air Quality
ASR	Archaeological Survey Report
BMPs	Best Management Practices
Caltrans	California Department of Transportation
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	Carbon Monoxide
CTWLTL or TWLTL	Continuous Two-Way Left-Turn Lane
CWA	Clean Water Act of 1972
DBH	Diameter Breast Height
EIP	Environmental Improvement Program
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
Ft	Feet
HCP	Habitat Conservation Plan
HPSR	Historic Properties Survey Report
I-80	Interstate 80
IEC	Initial Environmental Checklist
km	kilometer(s)
KP	kilometer post
Lahontan	Lahontan Regional Water Quality Control Board
LOS	Level of Service
LTBMU	Lake Tahoe Basin Management Unit
mg/l	Milligrams/Liter
mi	mile(s)
m	meter(s)
MPO	Metropolitan Planning Organization
ND/IS	Negative Declaration/Initial Study
NO_2	Nitrogen Dioxide
NO_x	Nitrous Oxides
NPDES	National Pollutant Discharge Elimination System
PM	post mile
$PM\text{-}_{10}$	Particulate Matter greater than 10 microns in size
ROG	Reactive Organic Gas
RRR	Resurfacing, Restoration, and Rehabilitation
RSP	Rock Slope Protection
RWQCB	Regional Water Quality Control Board
SCSP	Slotted Corrugated Steel Pipe
SEZ	Stream Environment Zone
SHPO	State Historic Preservation Officer
SR	State Route, document may also use term “Highway”
SWPPP	Storm Water Pollution Prevention Plan
TMP	Caltrans Traffic Management Plan
TRPA	Tahoe Regional Planning Agency
USACE	United States Army Corps of Engineers
USFS	United States Forest Service, Department of Agriculture

USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VMT	Vehicle Miles Traveled
WPCP	Water Pollution Control Plan

CHAPTER 1. Proposed Project

1.1. Introduction

The California Department of Transportation (Caltrans), in conjunction with the Federal Highway Administration (FHWA) propose a water quality and roadway rehabilitation project on State Route (SR) 89 form KP 0.0 to KP 22.1 (PM 0.0-13.7) in Placer County, California.

Federal and State funds will be used to complete this project. Therefore, the project will be reviewed for compliance with all applicable state and federal environmental laws such as the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). This Initial Study examines and determines the level of impact pursuant to CEQA, as well as serves as an Environmental Assessment pursuant to NEPA.

The majority of the project limits fall within the jurisdiction of the Tahoe Regional Planning Agency (TRPA) and is therefore subject to TRPA review and permit approval. A Programmatic Environmental Assessment has been prepared in order to begin to give TRPA a broad overview of the proposed project scope and to begin to address the requirements of the TRPA Code. Given the level of engineering design and general scope of the project at this stage in the Caltrans' process, there is not enough information to prepare an Environmental Assessment that will meet the specifications of the TRPA Code.

TRPA recognizes that this Programmatic Environmental Assessment is a "first step" in the overall process outlined in the TRPA Code and does not relieve the site specific and informational requirements of a TRPA permit. This project is an integral part of the overall Environmental Improvement Program, and TRPA's signature on this environmental document indicates knowledge and concurrence with the process to this point, but should not signify TRPA as a project proponent.

1.2. Purpose and Need

The primary purpose of this project is to collect and treat the storm water runoff from impervious surfaces within the State right of way. Secondary purpose of this project is to improve operational deficiencies along the route and to preserve the investment

in the existing highway section. The purposes of the project were developed to meet the needs identified below.

Caltrans District 3, through National Pollution Discharge Elimination System (NPDES) permit adopted July 15, 1999, with the State Water Resources Control Board, is required to collect, treat and/or infiltrate storm water runoff generated by a 20-year, one-hour design storm from all impervious surfaces. The existing drainage system does not provide collection or treatment of storm water runoff from the highway.

TRPA has established the Environmental Improvement Program (EIP) to help to achieve the environmental standards adopted for the Tahoe Basin. The EIP consists of hundreds of projects to be implemented by various organizations throughout the Tahoe Basin. Caltrans is the lead agency on dozens of EIP projects and is committed to implementing those projects. The proposed project includes EIP project numbers 996 and 999. Each project is designed to contribute to the overall effort of meeting the TRPA thresholds in the Tahoe Basin.

Motorists along State Route 89 in the two-lane sections currently experience delays when a vehicle is waiting in the traveled way to turn left at localroads, this situation is exacerbated in commercial areas. Additional left-turn lanes and continuous, two-way, left turn lanes are needed to reduce congestion.

Several county road intersections along State Route 89 do not provide adequate sight distance and width. This is especially true for those vehicles approaching State Route 89 from a county road at an odd angle (i.e., not at a right angle). Many features of State Route 89 (lighting, bicycle, and pedestrian facilities) lack consistency and do not meet current Caltrans and community plan standards.

A design exception will be prepared to address the non-standard features of this project not upgraded to current standards. Additionally, the existing drainage system upgraded in the 1960s has deteriorated and requires rehabilitation.

Figure 1-1: Project Vicinity/ Location Map; Placer 89

1.3. Alternatives

There is only one build alternative proposed that meets the purpose and need for this project. The following is a discussion of the proposed scope of work / improvements associated with this project.

1.3.1. Build Alternative

Drainage / Stormwater/ and Water Quality:

- Reconstruct the existing drainage system: replacement of culverts and drainage inlets, construction of concrete sand collection vaults and construction of drainage outfalls to the lake through variable width drainage easements.

- Installation of dike, concrete gutter, and slotted corrugated steel pipe (SCSP) to collect roadway runoff for storm water treatment. Roadway runoff will be conveyed to underground sand collection vaults, open infiltration basins, and/or bio-filtration swales for treatment. Infiltration basins are "bathtub" type features where particulates in the stormwater can settle out while the actual water flows back in to the ground within a 72 hour period; a biofiltration swale acts in the same way, except that it is a smaller linear feature that uses vegetation to trap particles rather than detainment. Sheet flows off of the roadway will be enhanced in areas where it is determined that it provides better treatment than collection.

- Infiltration basins will be used to treat roadway runoff wherever possible throughout the project limits. Infiltration basins will be constructed to blend with the existing topography. An access road will be constructed from the highway to the basin. Both the basin and the access road will be vegetated with native grasses. Infiltration basin locations were selected based on the following criteria.

    1. At or near existing discharge point of runoff from State right of way;

    2. Down gradient from discharge point;

    3. Flat or gently sloping topography;

    4. Undeveloped;

5. Not in an obvious Stream Environment Zone (SEZ);

6. Not in a floodplain;

7. Accessible by construction and maintenance equipment;

8. Greater than 30m, (100 ft) up gradient or 3m (10ft) down gradient of structural foundations; and

9. Not above a known underground hazardous waste plume.

- At sites that do not meet the preceding criteria for infiltration basins nor sand traps, bio-filtration swales (bio-swales) will be created. Because of the climate and soil conditions in the Tahoe Basin, vegetation may not fully establish in the bio-swales. However, even without vegetation, bio-swales will provide water quality improvements by decreasing runoff velocities thus encouraging sedimentation.

- Paved maintenance pullouts will be constructed at sand traps.

- As more information becomes available through the design process, a more detailed analysis of appropriate Best Management Practices (BMPs), will be prepared pursuant to the most current Caltrans Storm Water Quality Handbook- Project Planning and Design Guide (PPDG). The PPDG provides specific instructions for the deployment of Caltrans' approved BMPs. Among its requirements, the PPDG ensures that BMPs will be of adequate size to handle the design storm volume of water they are intended to treat and adequately address potential vector control issues.

Basic Roadway Design Objectives:

- Shoulders will be widened to a width of 1.2 to 2.4 meters to convey storm water and bike trail segments will be relocated as needed for drainage facilities, bio-swales, roadway and shoulder widening. Widening activities will require earthwork, the disturbance of existing slopes, and controlled blasting as needed on the Truckee River portion of the project.

- Left turn pockets and / or two-way left turn lanes will be added at various locations throughout the project.

- Retaining walls will be constructed where required to facilitate shoulder widening.

- Existing dirt pullouts and transit stops will be paved to prevent soil from being tracked onto the highway.

- Existing Metal Beam Guard Rail (MBGR) end treatments will be upgraded at various locations to comply with current standards. New MBGR may be installed if necessary.

- There will be minor corrections to super-elevations and cross-slopes.

- Existing pavement will be cold-planed up to a maximum of 12.5 mm.(.49 inches) Depending on the condition of pavement, dig-out (removal of failed areas of pavement and base) and repair may be required. The roadway will be paved with 105 mm (4.13 inches) of Dense Graded asphalt concrete (DGAC) or asphalt concrete overlay.

Erosion Control:

- Widening at several locations will require some tree removal and grading, including excavation and/ or embankment work. Tree removal will be minimized wherever possible, with special attention given to preservation of larger trees. Erosion control and vegetation enhancement will be implemented on slopes and other bare areas. Disturbed slopes will be re-vegetated using appropriate TRPA – approved native species. Erosion control measures will be incorporated on all other un-vegetated slopes within the state right of way.

- The project will incorporate design pollution prevention Best Management Practices (BMPs) to minimize impacts to water quality by preventing down stream erosion, stabilizing existing and proposed disturbed soil areas and maximizing vegetated surfaces to the extent practicable.

Right of Way:

Acquisition of new right of way will be required for some of the drainage system improvements, including infiltration basins and bioswales. Drainage easements will be required throughout the project limits for improvements to the drainage outfalls to convey storm water runoff to the lake.

Utility Relocation:

Existing utilities are found throughout the project limits. Utility relocations will be necessary where they conflict with drainage improvements. Every effort will be made to minimize utility conflicts and relocations. Relocation of utilities that are in conflict with the project, including adjustment of manholes, will be the responsibility of the utility owner. The following utility companies have facilities within the project limits:

- Tahoe City Public Utility District (sewer, water)
- AT&T (phone)
- Sierra Pacific Power Company (electric)
- Southwest Gas (gas)
- Tahoe-Truckee Sanitation Agency (sewer)
- Tahoe Park Water Co.
- Ward Well Water Co.
- Timberland Water District
- Tahoe Swiss Village (water) Co.
- Madden Creek Water Co.
- Charter Communications (cable tv)

1.3.2. No-Build Alternative

The no-build alternative would not meet the purpose and need of this project, nor will it address Caltrans responsibilities under the 1999 NPDES permit or the Lake Tahoe EIP. A no-build alternative will not address the water quality problems facing Lake Tahoe, which has lost an average of one foot of clarity each year, since the 1960s. In addition, the no-build alternative would lead to increased costs over time as the roadway ages and becomes increasingly difficult to maintain In general, the no-build alternative would have less potential to impact species and their habitats, wetlands, aesthetics, and the TCPUD bike trail. However, the no-build alternative will not provide increased safety and will lead to increased maintenance needs over time. These maintenance needs would likely result in prolonged traffic interruptions.

1.3.3. Alternatives Considered and Withdrawn

Although, no formal alternatives have been developed in contrast to the proposed project, several considerations have been made to placement of water quality improvement features throughout the project. Many potential locations for sedimentation/ infiltration basins have been rejected due to topography, conflict with Stream Environment Zones (SEZ) and wetlands.

Basin locations were selected based on the following criteria:

1. At or near discharge point of runoff from State right of way,
2. Downgradient from discharge point,
3. Flat or gently sloping topography,
4. Undeveloped,
5. Not in an obvious Stream Environment Zone (SEZ),
6. Not in a floodplain,
7. Accessible by construction and maintenance equipment,
8. Greater than 100 feet (30 meters) upgradient or 10 feet (3 meters) downgradient of structural foundations,
9. Not above a known underground hazardous waste plume.

1.4. Permits and Approvals Needed

Based on studies completed for this project, Caltrans anticipates that no significant environmental impacts will occur as a result of this project. Accordingly, a Negative Declaration will most likely be approved by Caltrans pursuant to CEQA. If a significant impact, which cannot be mitigated below a level of significance, is determined to exist, then an Environmental Impact Report will be required.

An Environmental Assessment has been prepared pursuant to the Federal Highway Administration (FHWA) NEPA regulations at 23 CFR 771.115. Based on the completed studies for this project, no significant impacts pursuant to NEPA are expected. Therefore, it is anticipated that FHWA will approve a Finding of No Significant Impact (FONSI). If significant impacts are determined to result from this project, then an Environmental Impact Statement will be prepared and submitted for approval to FHWA.

A Programmatic Environmental Assessment has been prepared pursuant to TRPA code Section 5.3 for projects that require additional information to determine the level of significance than what is identified in the Initial Environmental Checklist. TRPA will prepare their Finding based on the Programmatic Environmental Assessment

(pursuant to Code Section 5.2B) as well as additional information that will be provided by Caltrans when design information becomes more defined. TRPA's finding will either be: a) Finding of No Significant Effect; b) Mitigated Finding of No Significant Effect; or c) an Environmental Impact Statement, which will be prepared if it is found that this project will result in a significant effect. TRPA's findings and final document will be prepared during the TRPA permit process.

The following table lists the permits that will be required from other agencies for this project.

Table 1.1: Permits Required from other Agencies

Agency	Permit/Approval
United States Fish and Wildlife Service	Section 7 Consultation for Threatened and Endangered Species Review and Comment on 404 Permit
United States Army Corps of Engineers	Section 404 Permit for filling or dredging waters of the United States.
California Department of Fish and Game	Section 1602 Streambed Alteration Agreement
California Regional Water Quality Control Board, Lahontan Region	Section 401 certification of the Section 404 permit.
Tahoe Regional Planning Agency	Permit
Placer County, North Tahoe Public Utility District, California State Parks	Encroachment Permits

1.5. TRPA Thresholds

Presidential Executive Order (EO) 13057 issued on July 26, 1997, declared the Lake Tahoe Region an area of national environmental concern. EO 13057 created the federal partnership involving five Cabinet level Agency Secretaries and called for a Memorandum of Agreement (MOA) between the Federal Partnership, the States of California and Nevada, the Tahoe Regional Planning Agency (TRPA), and the Washoe Tribal Government to facilitate coordination and cooperation. The MOA was subsequently signed by the Governor of California, which affirmed the commitment to manage and protect Lake Tahoe's natural resources, to achieve and maintain the previous environmental thresholds, and to adopt, fund and implement the Lake Tahoe Environmental Improvement Program (EIP).

The objective of the Tahoe EIP is to achieve the Environmental Standards Carrying Capacity (ESCC) thresholds required by Public Law 96-551 and adopted for the Tahoe Region in 1982 by TRPA. The aforementioned thresholds are contained in the TRPA Code of Ordinances (Code). There are nine categories of thresholds programs and they are: 1) Water Quality Program, 2) Scenic Resources Program, 3) Soil Conservation/SEZ Program, 4) Recreation Program, 5) Noise Program, 6) Air Quality/Transportation Program, 7) Fisheries Program, 8) Vegetation Program, and 9) Wildlife Program. Specific TRPA thresholds are included in Chapter 3. As part of this environmental review, studies were conducted by Caltrans staff to ensure the project would not adversely impact the ability to abide by these thresholds in the Tahoe Basin.

In addition, this project will affect five of the nine TRPA environmental thresholds (water quality, air quality/transportation, scenic resources/community design, soil conservation, and vegetation). By implementing appropriate storm water Best Management Practices (BMPs), including treatment BMPs and erosion control BMPs, there will be an improvement to the water quality of flows from highway facilities, which will help in the attainment of the water quality threshold. The air quality/transportation threshold will be addressed by improving traffic flow with the addition of left turn channelization and two-way left turn lanes. The scenic resources/community design threshold will be addressed by revegetating disturbed and denuded areas, and by other aesthetic improvements. The soil conservation and vegetation thresholds will be addressed by revegetating disturbed and denuded areas, and preventing soil loss with implementation of erosion control measures. Furthermore, every effort will be made, in the development of the project, to ensure that resources that have established thresholds by TRPA are maintained.

1.6. Areas of Known Controversy

Areas where the project will have impacts outside the existing Caltrans right-of-way are expected to be the most controversial part of the project. Impacts outside the Caltrans right-of-way will mainly occur with the installation of new storm water treatment facilities such as detention and infiltration basins, outfalls, and bio-swales. Caltrans will make all efforts to blend these features in with the existing environment. In addition, Caltrans will appraise and make offers to acquire the property rights (easements, etc.) needed for project completion.

CHAPTER 2. Affected Environment, Impacts, and Avoidance, Minimization and/or Mitigation Measures

This chapter explains the impacts that the project would have on the human, physical and biological environments in the project area. It describes the existing environment that could be affected by the project and potential impacts from each of the alternatives.

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

- Growth- This project will not increase capacity on the roadways and is not expected to increase growth to the area.
- Farmlands/Timberlands- No farmlands or designated Timberlands will be affected by this project.
- Geology/ Paleontology- No paleontological resources will be affected by this project. Although there are several seismic fault zones that surround the Tahoe Basin, this project will not increase the likelihood of damage or injury to earthquakes or other geological hazards.
- Coastal Zone- The project area is not within a designated Coastal Zone
- Wild and Scenic Rivers – There are no designated Wild and Scenic Rivers within the project area.

2.1. Environmental Setting

The proposed project is located in the scenic Lake Tahoe Basin of northern California. The region is internationally known for its picturesque natural setting and year-round recreational attractions. Millions of visitors from North America and from around the world visit the basin annually. The area is also known for its sensitive ecological balance. In recent years, forest health and water quality have gained national attention from government and private interests. Clarity of the lake has been diminishing rapidly over the past several decades sparking major efforts to identify and reverse causes of clarity problems. Concerns for scenic resource protection is also gaining momentum in the basin. As the local population grows and

continues to consume developable land, local and state agencies are concerned that unmanaged growth could impair the very resource that attracts visitors to the region. As a result, strict planning, land use and design guidelines have also been adapted to direct development in the basin.

Paralleling the Truckee River and continuing south on to the northwest shore of Lake Tahoe, State Route 89 is the primary corridor connecting the Town of Truckee and Interstate 80 to Tahoe City. State Route 89 then heads south along the west shore of Lake Tahoe connecting the communities of Tahoe Pines, Homewood and Tahoma. In most cases this route acts as the "MainStreet" though each community as it parallels the shoreline of Lake Tahoe. Most commercial development occurs adjacent to state right-of-way, making the route a vital link for businesses that cater to local residents and visitors alike. Land use patterns adjacent to the roadway throughout the majority of the project limits consist of mountain rural, residential and commercial development. Only segments of roadway along the Truckee River segment north of Tahoe City are not interrupted by manufactured intrusions. Terrain and vegetation help to break-up and disguise much of the development from roadway vantage points through residential areas. At the southern extent of the project, most views of the Lake from the motorist's vantage point are blocked or interrupted by shoreline development occurring on the lakeside of the roadway. In a few select locations the roadway is located directly adjacent to the shoreline, thus affording motorists uninterrupted views of the lake and surrounding mountain ranges.

This route is heavily used throughout most of the year, both by local residents and a steady population of visitors. Summer months bring seasonal vacationers to the area increasing traffic and congestion especially in the Tahoe City vicinity. Pedestrian and bicycle activity also increase during the summer vacation season. Bicycle usage adjacent to this route is common, both recreational and commuter cyclists utilize a Class 1 bike trail that parallels the roadway on both north and south segments of this project. The Tahoe City Public Utilities District manages the trail.

The project area is located within an intermountain basin formed by faulting of the rocks of the Sierra Nevada to the west and the Carson Range on the east. Within the project area, the topography of State Route 89 varies from flat to undulating topography and ranges in elevation from approximately 6,120 feet above mean sea level (amsl) in the Truckee River Canyon near Squaw Valley to approximately 6,345 ft amsl just north of the community of Sunnyside.

The climate of the Tahoe Basin area is characterized by sunny dry weather in the summer and cold snowy winters. The valleys at high elevations are generally the coldest and the lower elevations, particularly near the lake, are the warmest. Temperatures within the basin may range from the mid-eighties to mid-nineties in the summer and from the mid-thirties to the mid-teens in the winter. Total precipitation for the year ranges from about 20 inches a year along the eastern shore in Nevada to up to 50 inches at high elevations along the western edge of the basin (average of 30.9 inches/year at Tahoe City), including an average total 100 to 130 inches of snow at the lower elevations where readings are available. The growing (28°F) season ranges from 80 to 125 days (122 days in 5 years out of 10), beginning on May 30 and ending on September 29 in 5 out of 10 years (Soil Survey of the Tahoe Basin Area California and Nevada, 1974).

Lake Tahoe occupies a down-dropped block, or graben, that is bordered by steeply dipping faults. The steep mountains on the east and west shores of Lake Tahoe are predominantly granitic rock and partly metamorphic rock. The northern end of the basin is covered in volcanic rock of Tertiary age. Much of the southern and western sections of the basin have been modified by glaciation. The southern end of the Basin, known as Lake Valley, consists of moraines and a plain of glacial outwash deposited by the Upper Truckee River, Trout Creek and other streams. Lake Tahoe's outlet, the Truckee River, has been dammed in the past by both glacial ice and volcanic flows. Moraine terrace deposits are located north of Kings Beach, and along the moraine that parallels the Upper Truckee River.

State Route -89 traverses many soil associations within the project study limits. None of the soil series available within the project study area are listed as hydric soils on the National Resources Conservation Service's List of Hydric Soils (USDA NRCS Hydric Soils of California, 1995). Soil associations available within the project area are generally alluvial (Gravelly Alluvial Land, Jabu Moderately Fine Subsoil Variant), morainal (Tallac), or upland (Jorge, Umpa) soils.

Most surface water systems within the project area located between KP 0.0 and 13.7 (PM 0.0 and 8.6) are contained within and drain into Lake Tahoe basin. Within the larger hydrologic basin, the following minor watersheds, directly feed Lake Tahoe and are located within the limits of the project area. McKinney Creek, Quail Lake Creek, Homewood Canyon Creek, Madden Creek, Eagle Rock watershed, Blackwood Creek, and Ward Creek.

Surface water systems within the project area located between KP 13.7 and 22.1 (PM 8.6 and 13.7) flow into the Truckee River, Lake Tahoe's only natural outlet stream. The following minor watersheds, which flow directly to the Truckee River, are located within the limits of the project area: Tahoe City Basin, and Truckee River "Big Chief Corridor".

Land use along State Route -89 between Squaw Valley Road and the Placer/ El Dorado County line is dominated by human development. SR-89 passes through the communities of Tahoma, Homewood, Idlewild, Tahoe Pines, Sunnyside, Tahoe Park, and Tahoe City. Businesses and residences are located adjacent to State Route -89 for most of the project length. In addition to serving residents of these communities, the roadway along the project area experiences intense usage associated with tourism throughout the year. State Route -89 in Placer County serves the year-round resort areas of Homewood (Tahoe Ski Bowl), Granlibakken, Alpine Meadows and Squaw Valley. This route also serves as a through fare for traffic to tourist locations along the north shore of Lake Tahoe and destinations in El Dorado county and the State of Nevada.

The Native American Tribe known as the Washoe are the locally indigenous people of the Lake Tahoe Basin. Euro-American settlement began in the area during the 1860s, sparked to some degree by the discovery of silver at the Comstock Lode near Virginia City, Nevada, and the need for lumber to supply the mines. This area is generally considered moderate for presence of cultural resources.

The dominant plant community in the general project area consists of Sierran mixed coniferous forest. The coniferous forest is dominated by ponderosa pine (*Pinus ponderosa*), Jeffery pine (*Pinus jefferyi*), incense cedar (*Calocedrus deccurens*), and white fir (*Abies concolor*). Common shrubs include antelope bitterbrush (*Purshia tridentata*), huckleberry oak (*Quercus vaccinifolia*), and green-leaf manzanita (*Arctostaphylos patula*).

2.2. Human Environment

2.2.1. Land Use

Regulatory Setting

The Environmental Checklist, provided as Appendix A, includes potential issues that could lead to a significant impact pursuant to CEQA. Potential issues include the division of an established community, conflicts with land use plans, policies or regulations, and conflicts with Habitat Conservation Plans. In addition, CEQA Guidelines section 15063 (d)(3) requires, "an examination of whether the project would be consistent with existing zoning, plans, and other applicable land use controls."

Under NEPA, any discrepancy with State or local plans or laws should be discussed (40 CFR 1506.2(d)).

TRPA requirements for land uses are contained in Plan Area Statements. The Plan Area Statements describe allowable uses and densities of development within the Tahoe Basin.

Affected Environment

Land uses within the project limits include a mixture of residential, commercial and recreation. Commercial operations include hotels, motels, vacation properties, restaurants, taverns, ski resorts and small specialty shops. In addition, some publicly held open space and recreational properties exist. More specific information on land uses in the project area can be found in Table 2.1 Project Area TRPA Plan Areas. Maps of the TRPA Plan Areas are located at http://www.trpa.org/PlanArea/PlanArea.htm .

Table 2.1: Project Area TRPA Plan Areas

Plan Area	Primary Use	Existing Uses	Built	Maximum Densities
Tahoma Residential (#154)	Residential	Residential	70%	SFD(1 unit per parcel), MFD (8 unit per parcel)
Chambers Landing (#156)	Residential	Residential	70%	SFD(1 unit per parcel)
McKinney Tract (#158)	Residential	Residential	70%	SFD(1 unit per parcel)

Plan Area	Primary Use	Existing Uses	Built	Maximum Densities
Homewood Commercial (#159)	Tourist	Commercial with some residential	90%	SFD (1 unit per parcel), MFD (8 units per acre), Employee housing (8 units per acre), tourist B&B (10 units per) Hotel/Motel (20units per acre)
Homewood Residential (#160)	Residential	Residential with some Commercial	70%	SFD (1 unit per parcel)
Tahoe Pines (# 161)	Residential	Residential, commercial and 2 public beaches	50%	SFD (1 unit per parcel)
Blackwood (#162)	Conservation	Recreation / Timber management	N/A	Developed Campgrounds (8 sites per acre)
Sunnyside / Skyland (#164)	Residential	Residential	N/A	SFD (1 unit per parcel)
Timberland (#165)	Residential	Residential	60%	SFD (1 unit per parcel)
Lower Ward Valley (#163)	Conservation	USFS low level dispersed recreation/ resource management	N/A	SFD (1 unit per parcel), Campsites (8 sites per acre)
Tahoe Park / Pineland (#170)	Residential	Residential with some commercial	80%	SFD (1 unit per parcel)
Sunnyside (#169)	Tourist	Restaurant, boat storage yard, marina, public USFS campground	99%	SFD (1 unit per parcel), Employee Housing(15 units per acre, hotel Motel (various)
Tavern Heights (# 171)	Residential	Residential	85%	SFD (1 unit per parcel), MFD (8 units per acre), B&B units (8 units per acre)
64 Acre Tract (#174)	Recreation	Existing 100 unit mobile home park in the process of being phased out, misc commercial	N/A	SFD (1 unit per parcel), Group Facilities (25 people per acre)
Lower Truckee (#003)	Recreation	Mostly undeveloped w/ few residential and commercial uses,	N/A	SFD(1 unit per parcel), Summer House (1 unit per parcel or lease site)

Source: Tahoe Regional Planning Agency, TRPA Plan Area Statements Note: SFD = Single-family Dwelling and MFD = Multi-family Dwelling

In addition to the Plan Area Statement above the Tahoe City Community Plan was reviewed for consistency with project plans.

Impacts

The potential exists for both temporary and permanent impacts to approximately 66 privately owned parcels. Impacts to public parcels owned by the North Tahoe Public

Utility District, Placer County, State Parks, United States Forest Service and California Tahoe Conservancy are also anticipated.

Impacts to parcels will occur as a result of planned drainage outfalls to the lake, infiltration basins, bio-swales, scenic turnouts, driveways, intersection improvements, construction staging areas, access roads and sand collection vaults. Project features and the parcels that will be impacted are included on mapping in Appendix B.

CEQA considerations:

No properties will lose their intended use because of the project. No residents or businesses will be displaced. The project will be consistent with existing zoning, plans, and other applicable land use controls. Therefore, no significant impacts to land use pursuant to CEQA are anticipated.

NEPA considerations:

No properties will lose their intended use due to the project. No residents or businesses will be displaced. Therefore, no substantial impacts to land use pursuant to NEPA are anticipated.

TRPA considerations:

The project will not change the type or concentration of land uses in the area and is therefore consistent with TRPA Plan Area Statements in regards to Land Use designations.

2.2.2. Parks and Recreation

Regulatory Setting

The Environmental Checklist, provided as Appendix A, includes potential issues that could lead to a significant impact pursuant to CEQA. Potential issues include the potential increase in the use of existing parks resulting in deterioration, and the adverse physical effects from the construction of new or altered recreational facilities.

Federal protection of recreational resources is provided under Section 4(f) of the Department of Transportation Act of 1966. Section 4(f), codified in Federal law at 49 U.S.C. 303, declares that “it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.”

There are two TRPA thresholds for recreation:

- R1-It shall be the policy of the TRPA governing body in development of the regional plan to preserve and enhance the high quality recreational experience, including preservation of high quality undeveloped shore zone and other natural areas. In developing the regional plan, the staff and governing body shall consider provisions for additional access, where lawful and feasible, to the shore zone and high quality undeveloped areas for low density recreational uses.

- R2-It shall be the policy of the TRPA governing body in development of the regional plan to establish and ensure a fair share of the total basin capacity for outdoor recreation is available to the general public.

Affected Environment

The following publicly held recreational resources were identified within the project limits. Table 2.2 below identifies each of these properties and the agency that has jurisdiction over them.

Table 2.2: Public Recreational Properties

Resource	Agency with Jurisdiction
Chambers Beach	
Kaspian Campground	
Kaspian Day Use Area	
Elizabeth Williams Park	TCPUD
Kilner Park	TCPUD
William Kent Campground	
64 Acre Park	TCPUD
Gatekeepers Park and Museum	
Squaw Valley Park	Placer County

In addition, the Tahoe City PUD Parks and Recreation Department maintains a bike trail that extends the entire length of the project limits along Highway 89. Placer County has recently (2004) completed an asphalt paved bike trail that runs throughout Squaw Valley and connects to the TCPUD Bike Trail.

Dispersed recreational activities occur throughout the project limits on additional publicly held parcels. These activities may include hiking, cross country skiing, horse back riding, and fishing.

Agencies with jurisdiction over recreational facilities were consulted and provided project mapping and description of work to determine whether or not the proposed

project would have a negative impact on the resources which they manage. Comments were received from TCPUD, California Tahoe Conservancy, State of California Departments of Parks and Recreation and Placer County Parks Department. These agencies expressed minor concerns that have been acknowledged and incorporated into the project design.

Impacts

Infiltration basins and other water quality improvement features will be located on several publicly owned parcels, however, no impacts to recreational facilities have been identified.

The Bike Trail operated by the Tahoe City Public Utilities Department will require re-location in some areas due to shoulder widening activities.

No substantial impacts to recreational resources pursuant to CEQA, NEPA or TRPA Code are anticipated.

Avoidance, Minimization and/or Mitigation Measures

PR 1: Although no significant impacts to Parks and recreational resources are expected to occur as a result of this project, cyclists and pedestrians that frequent the TCPUD bike trail could experience inconvenience while portions of the bike trail are relocated. Because trail usage is estimated to reach into the 100 thousand[*] during the summer season, Caltrans proposes to re-locate the bike trail before the existing trail is removed.

CEQA Considerations

Physical changes to the recreational areas will not reduce the recreational opportunities in the project vicinity. In addition, the project will not induce increased deterioration of recreational resources. No significant impacts are anticipated.

NEPA Considerations

No properties will lose their intended use due to the project. During construction there will be some delay in accessing some recreational facilities. In addition, construction noise may be a temporary nuisance. However, these impacts are not

[*] Per Tahoe City Public Utility District, During the summer months (April through October, trail user counts were as follows: Truckee River Portion (113,404 users); West Shore portion (56,076 users).

anticipated to substantially reduce the enjoyment of or access to recreational opportunities.

The relocation of sections of the TCPUD bike trail is considered temporary in nature and meets all five criteria for temporary occupancy as set forth in 23 C.F.R. 771.135 (p)(7) and does not constitute a "use" within the meaning of Section 4(f). No section 4(f) analysis has been prepared for this project.

TRPA Considerations

The project will not reduce recreational opportunities in the Tahoe Basin. Therefore, the project is consistent with the recreation thresholds R1 and R2.

2.2.3. Community Impacts

Caltrans staff completed a Community Impact Assessment in March 2005 to assess the impacts to the local community and identify potential Environmental Justice issues that might occur as a result of this project.

Regulatory Setting

Under CEQA, consideration of economic and/or social changes only occurs when they result in a physical change to the environment (CEQA Guidelines § 15064(f), 15382).

Under NEPA, the "human environment" encompasses social and economic impacts. Economic and social effects must be discussed if they are interrelated with natural or physical environmental effects (40 CFR § 1508.14). For example, if an economic or social effect causes a physical change to the environment or vice versa, then these economic and social effects will be discussed in the environmental document.

In addition, NEPA requires that to the fullest extent possible other laws be integrated into the NEPA process (40 CFR § 1502.25(a)). This requirement applies to Executive Order (EO) 12898 and the Civil Rights Act of 1964 both of which are applicable to community resources.

All projects with a federal action must comply with EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,* signed by President Clinton on February 11, 1994. Executive Order 12898 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. Low income is defined based on the Department of Health and Human Services poverty guidelines. For 2004, this was $18,850 for a family of four.

All considerations under Title VI of the Civil Rights Act of 1964 and related statutes have also been included in this project. Caltrans' commitment to upholding the mandates of Title VI is evidenced by its Title VI Policy Statement, signed by the Director, which can be found in Appendix C of this document.

Affected Environment

The social and economic community along the State Route 89 project area consists of resort oriented communities and a number of small unincorporated towns that occur along the west shore of Lake Tahoe. There are beachfront and lakeview properties along the west shore of the project limits that range in price from one million to 18 million dollars. Squaw Valley and Alpine Meadows are communities along the northern segment of the project area north of the Tahoe City. They are primarily known as winter sport resorts. There are residential developments at both locations.

A study prepared by Dean Runyan Associates for the North Lake Tahoe Resort Association (NLTRA) in December 2003 indicated that visitors to the West and North Lake Tahoe area spent $355 million in 2002. The study also found that tourism in the area generated more that 6,900 jobs (71% of the area's total) with $178.4 million in earnings (approximately two-thirds of the total). In addition the report stated that visitor related construction and real estate activity induced more than 1,000 jobs, with $38 million in earnings for 2002. Note that these numbers do not factor in any revenue amounts associated with the Crystal Bay and Incline Village hotel and gaming industry on the north shore in the State of Nevada.

Extrapolating from some of the other data presented in the NLTRA study the following can be hypothesized. There are 822,000 visitors per year (based on 2002 numbers) to the west and north shore areas included in the study. Each visitor spends an average of $138 a day; $469.20 average per visit (3.4 days stay). If just one percent of the visitor population (8,220) stayed away, the North Lake Tahoe revenue loss could amount to $3.9 million in one year.

Impacts

Approximately 51 parcels* will likely be affected by drainage basin placement for this proposed project. The total amount of new right of way (R/W) that the basins are estimated to occupy is roughly 21 acres. Whenever feasible, Caltrans Design has selected drainage easements (DE's) and basins for properties that have a relatively large lot size with a significant undeveloped portion so that particular property owners are less individually impacted. No full takes of any properties are expected.

There will be small sliver takes to approximately 15 privately owned parcels needed to achieve necessary road widening. These takes total roughly one acre of the new R/W needed. These acquisitions are necessary to accommodate the width for additional left hand turn lanes, wider shoulder areas, and bike path separation. This will also entail movement of the bike path at a number of locations on the west shore. There may be some impact to the scenic quality of the bike path (discussed further in Section 2.2.6 Visual/ Aesthetics). Impacts to current land use patterns and property tax revenues are expected to be far less than substantial.

Some impact to parking in the Homewood and Sunnyside areas is expected. Businesses that have parking spaces perpendicular to the highway could have their parking patterns altered. A switch to diagonal or parallel parking is under consideration as well as other impact reducing measures. No additional parking will be added. The design goal for these areas will be to achieve a no net change in parking. Any areas where this will not be possible will be discussed with TRPA during the permit stage of this project.

Traffic congestion along the State Route 89 project limits is most severe at the Tahoe City "wye." Construction activity at the "wye" could lead to congestion at the intersection and the Tahoe City center and to points north and east. Construction periods will have to conform to North Lake Tahoe Transportation Management Association standards. Strategic staging of construction and traffic control measures on all of the "related projects" will be important in reducing impacts to the economic communities and the traveling public.

Construction activity on the heavily traveled corridors of North Lake Tahoe that involves extended traffic delays is bound to have an impact on the local economy. As closures and stoppages aggravate the already heavily congested routes and as the

* Actual number of parcels affected by this project will actually be less as not all parcels will be used for basins. Actual basin locations are still pending further design revisions and refinement.

serenity of the area is adversely affected, the number of visitors is likely to be reduced.

Since the stability and the sustainability of the West and North Lake Tahoe economy has become extremely dependent on revenue from tourism, it is important to recognize some features of that economy. Any activity that substantially restricts access over an extended period of time to the hubs of commerce is likely to substantially impact local revenues, tax revenues, employment, and growth.

Based on previous Caltrans resurfacing, restoration and rehabilitation (3R) project activity on the north shore of the basin, some impact to transit service is expected. Tahoe Area Regional Transit operates throughout the project area. The system gets extensive use and runs from 6 AM to 12 Midnight. During a previous 3R project on the north shore, the transit system service experienced some delays..

Impacts to access points at some driveways at both residential and commercial locations is expected. There are a few areas where fence lines and driveways are on current Caltrans right of way. Temporary driveways and sidewalks will be utilized at some locations.

Caltrans' Traffic Management Plan for the project will require coordination with essential service providers, such as fire protection, law enforcement, school bus transportation, and emergency medical service. A detailed and intensive public information campaign and interagency coordination is expected because of the unique environmental sensitive nature of the Tahoe Basin and the length and complexity of construction activities.

The closest population of a minority community is in Kings Beach, which is approximately nine miles from Tahoe City. Other than intermittent delays and inconveniences to the transit service, this population is not expected to experience significant impacts as a result of this project.

Cumulative impacts as a result of multiple projects being constructed at the same time are expected to occur and will be discussed more in the Cumulative Impact section of this document (see Chapter 3).

Since the stability and the sustaining of the North Lake Tahoe economy is extremely dependent on revenue from tourism, it is important to recognize some features of that economy. The cumulative effects of actions that substantially restrict access to the

hubs of commerce over extended periods of time are likely to substantially impact local revenues, tax revenues, employment, and growth.

The overlapping of proposed construction projects in the immediate and greater project area will be a continuing concern. The degree of economic impact to the North Shore of the Tahoe Basin may largely depend on the way the related projects are scheduled and staged. The key element in keeping the effect of potential cumulative impacts during construction below significance (under NEPA) will be that of planning and coordination. This would include the Caltrans team responsible for the Transportation Management Plan, environmental management, public information, construction engineering, and project development Teams. Local stakeholders and other agencies, including NDOT, will also need to be worked with closely.

CEQA considerations:

No impacts to the community will cause a physical change in the environment due to this project; therefore, no significant impacts pursuant to CEQA are anticipated.

NEPA considerations:

The project will not result in the acquisition of any homes or the permanent displacement of any residents. No impacts to population or housing are anticipated.

No segment of the population will be disproportionately affected by this project. The community may experience impacts from construction such as traffic and transit service delays and increased noise and dust. Disproportionate high and adverse impacts to low-income or minority populations are not expected as a result of this project, therefore Environmental Justice and Title VI protection are not applicable.

TRPA considerations:

There are no established TRPA thresholds directly related to community impacts, population or housing. The TRPA checklist, however, addresses housing in Section 12. This project will not alter the composition of housing in the area so there will be no impact.

Avoidance, Minimization and/or Mitigation Measures

C1:Although no substantial community impacts are expected to occur as a result of this project, the local residents and tourists will experience inconvenience and delays during construction. In order to minimize the extent of the inconvenience, Caltrans in

cooperation with local agencies and organizations will engage in extensive public outreach and communication efforts in the form of a Public Awareness Campaign to keep the public informed of project events such as lane closures and delays.

2.2.4. Utilities/Emergency Services

Regulatory Setting

Not applicable.

Affected Environment

Emergency Services:

The North Tahoe Fire Protection District provides fire protection and medical services throughout State Route 89 in Placer County. Stations are located in Tahoe City and Homewood. Squaw Valley Fire Protection also provides service on the northerly portion of the project limits.

Law Enforcement is provided by Placer County Sheriff's office, which operates a substation in Tahoe City. The California Highway Patrol also provides enforcement along Highway 89. The nearest CHP office and dispatch center is located in Truckee.

Utilities:

Existing utilities are found throughout the project limits. Utility relocations will be necessary where they conflict with drainage improvements and roadway operational improvements.

The following utility companies service the project area:

- Tahoe City Public Utility District (sewer and water)
- AT&T (telephone)
- Sierra Pacific Power Company (electric)
- Southwest Gas (gas)
- Tahoe-Truckee Sanitation Agency (sewer)
- Tahoe Park Water Co.
- Ward Well Water Co.
- Timberland Water District
- Tahoe Swiss Village (water) Co.
- Madden Creek Water Co.
- Charter Communications (cable tv)

Impacts

Utilities:

All utility relocations will be within the proposed right of way. Relocations will be completed by individual utility companies and will be the responsibility of those utility companies to ensure minimal disruption in services to the community.

Emergency Services:

Some lane closures will be necessary during construction of this project, which has the potential to cause delay in emergency services provided to the community.

Avoidance, Minimization and/or Mitigation Measures

Utilities:

Caltrans will identify all existing utility facilities before construction to avoid unexpected interruptions in service during the construction phase of this project, however the ultimate responsibility for service interruptions remains with the individual utility companies.

Emergency Services:

Caltrans requires that a Transportation Management Plan (TMP) be prepared for this project. The TMP is required to allow for emergency vehicles to adequately pass through, or around a construction site.

2.2.5. Traffic and Transportation/Pedestrian and Bicycle Facilities

Regulatory Setting

The Environmental Checklist (see Appendix A) includes potential issues that could lead to a significant impact pursuant to CEQA. Potential issues include substantial increases in traffic relative to existing load and capacity, exceeding a Level of Service (LOS) standard, changes in air traffic patterns, substantially increase hazards, result in inadequate emergency access, result in inadequate parking capacity or conflict with adopted alternative transportation plans, policies, or programs.

The Federal Highway Administration (FHWA) directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of federal-aid highway projects (see 23 CFR 652). It further directs that

the special needs of the elderly and the disabled must be considered in all federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

Caltrans and FHWA are committed to carrying out the 1990 Americans with Disabilities Act (ADA) by building transportation facilities that provide equal access for all persons. The same degree of convenience, accessibility, and safety available to the general public will be provided to persons with disabilities.

The TRPA Initial Environmental Checklist aids in identifying potential significant impacts pursuant to TRPA Code. Potential impacts include the generation of additional vehicle trips, changes to parking facilities or the demand for these facilities, changes to existing transportation systems, alterations to circulation patterns, alterations of waterborne, rail or air traffic, or the increase in traffic hazards to motor vehicles, bicyclists or pedestrians.

Affected Environment

The existing facility is a conventional two-lane highway. Within the project limits, there are approximately 53 public roads and private driveways that connect to State Route 89. These connections serve a combination of year round home sites, seasonal residences and recreational sites. There are only seven existing left turn and two-way left turn lanes (TWLTL) along the portion of the project that extends from Tahoma to the Tahoe City "wye". There are four public roads and private driveways that connect to State Route 89 and five existing left turn and TWLTL sections along the portion of the project that extends from Tahoe City to Squaw Valley Road.

Tahoe Area Regional Transit (TART) operates transit service in the project area. Both buses and trolleys run along the Highway 89 corridor within the project limits. From the Sugar Pine State Park to Tahoe City there are 25 stops in each direction. From the "wye" north to the Truckee Train Depot there are 12 stops. There are also 10 stops going south from the Truckee Depot to Tahoe City. According to TART, system-wide ridership numbers are up to 280,000 annually. The west shore segment of TART gets extensive use. The system runs from 6:00 AM to 12 Midnight daily. TART has estimated that 85% of its ridership is commuter oriented, with 15% comprised of tourism-oriented travel.

The West shore of Tahoe is part of the Tahoe Truckee Unified School District. The school district has three schools in the project area: an elementary school and a middle school / high school located in Tahoe City and an elementary school located near Timberland Lane. There are 49 bus stops within the project limits, along the Highway 89 corridor. There is no alternative route connecting the neighboring communities. Adequate functioning of the school bus system requires that school children be picked up and dropped off at a place that is at, or near a regular stop, from which they may proceed safely. Careful staging of construction to help avoid impacts to the morning and afternoon school bus routes/ stops will be a consideration. Coordination with the School District's Transportation Department is expected.

As discussed earlier in the Parks and Recreation section, the TCPUD operates a bike trail system that runs the entire length of the project limits. Some sections of this bike trail will need to be re-aligned to accommodate roadway improvements.

Impacts

Temporary impacts are expected to occur as result of this project and will be experienced in the form of traffic delays and inconvenience from roadway construction.

During construction, impacts will include reduced vehicle throughput due to fewer available traffic lanes, and reduced access to properties due to lane closures and driveway adjustments. Construction on the project is expected to take place over four to five consecutive summer seasons during the period of May 1st to October 15th. One lane will be kept open in each direction, throughout the project limits, during daylight hours between July 4th and Labor Day.

Due to existing traffic volumes and the amount of seasonal activities in the area, more than routine procedures will need to be put in place to minimize potential impacts.

The local communities that rely on the transit system to arrive to their work place at a reliable time, as well as the casual users, are expected to experience some impact from delays and other disruption to the transit service.

Cyclists that use the extensive TCPUD bike trail system will experience some inconvenience due to the relocation of portions of that system.

CEQA considerations:

Impacts from this project will primarily occur during construction. Delays during construction may cause inconvenience but are not expected to be significant. In addition, minimization measure T1 is provided below to reduce the impact during construction.

The No Build Alternative will not include additional CTWLTLs or left-turn pockets (operational improvements), both of which will provide some benefit to operational improvements.

NEPA considerations:

This project will have temporary construction related impacts that will cause inconvenience and delays to motorist and cyclist during the construction season. This impact will be reduced by the measures outlined below and is not expected to be substantial.

TRPA considerations:

TWLTL and left-turn pockets will provide operational improvements therefore providing improvements to meet the TRPA transportation threshold whereas the No Build alternative would not provide any benefit. The project will not increase capacity and is not anticipated to attract additional traffic.

A Traffic Management Plan will be developed using the guidelines set forth in the Draft Lake Tahoe Basin Regional Transportation Management Plan(Caltrans, 10/26/04). This plan was developed for use as a tool for Caltrans Construction, Maintenance, Encroachment Permit and Design Offices for planning purposes. This document provides a general overview of the traffic characteristics of the highways in the Tahoe Basin and actions that may be taken to mitigate delays to the traveling public. Consideration will be given to time frame restrictions in the Tahoe Basin as well as holidays, special events and weekend times that traffic may be most effected by construction.

Avoidance, Minimization and/or Mitigation Measures

T1: The impact of construction on traffic on Highway 89 will be reduced by providing travelers/residents advanced warning of work activities and taking measures to keep facilities open during construction. Caltrans will work with the contractor on staging and coordinating construction activities in a manner that would minimize the duration and frequency of work adjacent to businesses and residences.

Whenever possible, work in front of businesses will be staged, so as to not coincide with peak hours of the business. Caltrans will work with the contractor to ensure that all businesses with multiple driveways will be allowed to have at least one unimpeded driveway during construction. In areas where sidewalk, curb, and gutter improvements are being done and only one driveway exists, efforts will be made to accomplish the work outside of normal business hours while allowing continued access whenever possible. Work on driveways greater than 3.65 meters (12 feet) can be constructed one-half width at a time, thereby maintaining access during construction. Driveways narrower than 3.65 meters (12 feet) will require closure during construction. Caltrans will attempt to keep cold planing and paving at cross streets and driveways to no greater than 30 minutes to maintain accessibility.

Advanced notice of the project may be provided through local TV stations, commercial radio stations, newspapers, public meetings, flyers, handouts, telephone, personal contact, newsletters, the California Highway Information Network (1-800-427-ROAD), Highway Advisory Radio, and Portable Changeable Message Signs. The Internet is also a source of information for Caltrans projects. Weekly road improvements and planned lane closures are listed at http://www.dot.ca.gov/dist3/d3press and at http://www.dot.ca.gov/hq/roadinfo/hi.htm. Incidents are also found on the California Highway Patrol website at http://cad.chp.ca.gov/default.asp. Current road information can also be accessed by calling "511."

2.2.6. Visual/Aesthetics

Any Visual Impact Assessment prepared for roadway projects in the Tahoe Basin must consider the Tahoe Regional Planning Agency's, Scenic Resource Inventory. TRPA has inventoried and rated roadway segments throughout the basin to determine scenic resource values from roadway vantage points. Each roadway unit is given a numerical threshold rating based on a scoring system. Generally, TRPA requires that the numerical threshold for each roadway unit be maintained or improved based on 1982 values. The following TRPA roadway units fall within the limits of the proposed project:

Table 2.3: TRPA Scenic Roadway Units

1982 Roadway Units	2001 Composite Threshold Value	Threshold Attainment	Non-Attainment Cause
Roadway Unit #9: Tahoma	14	No	Manmade features,

			Roadway distractions
Roadway Unit #10: Quail Creek	14	No	No comments given
Roadway Unit #11: Homewood	11.5	No	Loss of lake views resulting from residential and commercial development
Roadway Unit #12: Tahoe Pines	17.5	Yes	
Roadway Unit #13: Sunnyside	14	No	Loss of lake views resulting from new lakeside structures
Roadway Unit #14: Tahoe Tavern	14.4	No	Manmade features, Roadway distractions
Roadway Unit #42: Outlet	12.5	No	Manmade features, Roadway distractions
Roadway Unit #43: Lower Truckee River	16	Yes	

Note: To secure threshold attainment, all travel routes with a 1982 score of 15.5 (roadway) or greater must maintain those scores, and all travel routes with a 1982 score of 15 (roadway) or less must improve their scores until the threshold score is reached.
Caltrans roadway and drainage improvements will consider TRPA scenic thresholds and incorporate design elements that do not degrade current values. Scenic values will be enhanced to the extent possible given the scope of work. Design recommendations that address TRPA scenic thresholds are outlined in following sections.

Regulatory Setting

The National Environmental Policy Act of 1969 as amended (NEPA) establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings [42 U.S.C. 4331(b)2]. To further emphasize this point, the Federal Highway administration in its implementation of NEPA [23 U.S.C. 109(h)] directs that final decisions regarding projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

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

The California Legislature created a Scenic Highway Program in 1963. Its purpose is to preserve and protect scenic highway corridors from change, which would diminish the aesthetic value of lands adjacent to highways. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq.

The following TRPA Thresholds apply to scenic resources:

- SR-1 Travel Route Rating: The travel route rating threshold tracks long-term, cumulative changes to views seen from major roadways in urban, and natural landscapes in the region and to the views seen from Lake Tahoe looking toward shore. To secure threshold attainment, all travel routes with a 1982 score of 15.5 (for roadway units) or 7.5 (for shoreline units) or greater must maintain their scores, and all travel routes with a 1982 score of 15 (roadway) or 7 (shoreline) or less must improve their scores until the score is reached.

- SR-2 Scenic Quality Rating: The scenic quality rating threshold protects specific views of scenic features of Tahoe's natural landscape that can be seen from major roadways and from the lake. To secure threshold attainment, all 1982 scenic quality scores must be maintained.

- SR-3 Public Recreation Areas and Bike Trails: The public recreation area threshold protects the view shed from public recreation areas and certain bicycle trails. To secure threshold attainment, all 1993 scenic quality scores must be maintained.

- SR-4 Community Design: The community design threshold is a policy statement that applies to the built environment. Design standards and guidelines found in the Code, the Scenic Quality Improvement Program, and in the adopted Community Plans provide specific implementation direction. To secure threshold attainment, design standards and guidelines must be widely implemented to improve travel route ratings and produce built environments compatible with the natural, scenic, and recreational values of the region.

Additionally, TRPA has standards for Scenic Restoration within the Plan Areas Statements that exist along the project route. Project features must take these Plan Area Statements into account.

Affected Environment

The project site is located in a region characterized by mountainous alpine terrain, typical of the Tahoe Basin. The physical environment is composed of forested upland areas, small creeks and drainages, granitic rock faces and outcroppings and high elevation meadow complexes. Urban areas are characterized by retail and commercial development located on both sides of the highway. Scenic and architectural quality of development through the corridor varies from high quality to cluttered and architecturally in cohesive.

Native Vegetation- The project is located in an area characterized by "Sierra Nevada Montane" vegetative communities. Upland overstory vegetation is composed primarily of Lodgepole Pine (*Pinus contorta*), Jeffery Pine (*Pinus jefferryi*) and Red Fir (*Abies magnifica*). Understory plant species are primarily Bush Chinquapin (*Chrysolepiss semprivirens*), White Leaf Manzanita (*Archtostaphlos manzanita*) and Mountain Snowberry (*Symphoricarpus rotundifolius*). Common riparian vegetation is primarily White Alder (*Alnus Rhombifolia*), Black Cottonwood (*Populus trichocarpa*) and various Willow (*Salix spp.*) species. Many large trees exist along the roadside throughout the project limits. Native vegetation provides a critical component that ties the roadside to the surrounding landscape pattern. It also provides an important buffer that benefits both the landowner and motorist by screening undesirable views and buffering noise. Removal of large tracts of vegetation for basin design is discouraged; basins should utilize existing openings in the forested canopy to the extent possible.

Vistas and Views- As with many locations along this segment of State Route 89; the motorist is exposed to views of the Truckee River and Lake Tahoe. Uninterrupted views of the Lake from roadway vantage points are intermediate along the southern segment of highway but exhibit high visual resource value as they add to the traveling motorists experience when traveling through the basin.

Truckee River: The northern segment of the project travels along the lower Truckee River from Tahoe City to Squaw Valley Road. This segment is highly scenic, affording the motorist dramatic views of the Truckee River and surrounding canyon. Relatively few man-made features exist along this segment, minimizing roadside distractions. Many informal roadside pullouts have been created along this segment that motorists use to take in views and access recreational opportunities.

Lake Tahoe: The southern segment of the project travels along the west shore of Lake Tahoe from the El Dorado county line to Tahoe City. Roadway views of the Lake in much of this segment are obstructed by lakeside development that has erected fencing along the right-of-way line. In Homewood, Chambers Landing and at Grimsel Pass, the route travels along the lake's edge affording the motorist extensive views of the Lake.

TRPA Scenic Bikeway Units

There are 11 identified bikeway segments within the Tahoe Basin that have been evaluated for scenic quality. All bikeways were first evaluated in 1993 and then

again in 2001. TRPA requires that all bikeway scenic quality ratings maintain scores assigned in 1993. The following TRPA bikeway units fall within the limits of the proposed project:

1993 Bikeway Units within Project Limits
Bikeway Unit #1: Tahoe City to River Ranch
Bikeway Unit #3: Tahoe Tavern
Bikeway Unit #4: Sunnyside to Timberland
Bikeway Unit #5: Timberland to Tahoe Pines
Bikeway Unit #6: Tahoe Pines to Tahoma

All bikeway units are in attainment with increased values given to #1 and #3 in the 2001 evaluation for improvements to adjacent properties. Caltrans roadway and drainage improvements will consider TRPA scenic thresholds and incorporate design elements that do not degrade current values. Scenic values will be enhanced to the extent possible given the scope of work. Design recommendations that address TRPA scenic thresholds are outlined in following sections.

Granite Rock Outcroppings and Rock Faces- the northern end of the project limits is punctuated by large rock outcroppings and granite cliff faces found in the river canyon. These outcroppings and cliff faces are considered of high visual resource value as they enhance the drivers experience as one passes through the mountainous landscape.

Impacts

The following impacts to scenic resources are anticipated:

Northern Segment:

- New sediment basins, turn pockets, shoulder widening and bike path relocations will require extensive vegetation removal.
- Basins will require extensive grading and alterations to existing terrain.
- Altering drainage patterns and hydrology has the potential to kill existing vegetation adapted to xeric conditions.
- Drainage facilities such a culverts and other galvanized steel/concrete features will introduce more manmade features and roadside detractions.
- Rock scaling and excavation work on slopes will alter existing geological formations and remove vegetation.

- Introduction of retaining walls will alter natural setting by introducing manmade structures in a rural setting.
- Views to and from the Truckee River may be adversely impacted by installation of new guardrail, retaining walls or barrier.
- Any new guardrail, signage and lighting will introduce additional reflective surfaces.

This roadway segment is in TRPA threshold attainment and special attention must be given as not to degrade the current rating.

Southern Segment:

- New sediment basins, turn pockets, shoulder widening and bike path relocations will require extensive vegetation removal.
- Basins will require extensive grading and alterations to existing terrain.
- Altering drainage patterns and hydrology has the potential to kill existing vegetation adapted to xeric conditions.
- Drainage facilities such a culverts and other galvanized steel/concrete features will introduce more manmade features and roadside detractions.
- Selected sediment basins will be located near residences on private property. Views of the lake and forested land from residences may be impacted by installation of basins.
- Introduction of retaining walls will alter natural setting by introducing manmade structures in a rural setting.
- Any new guardrail, signage and lighting will introduce additional reflective surfaces.

In order to accommodate the project features, approximately1000 trees (conservative estimate) may need to be removed throughout the 13 mile stretch of the project.

CEQA considerations:

Wherever possible, project features will be designed to blend in with the natural environment, while not diminishing views of aesthetic resources in the area. With the implementation of avoidance and minimization measures impacts to aesthetic resources will be less than significant pursuant to CEQA.

Highway 89 is eligible, but not designated as a State Scenic Highway; therefore, no impacts to a designated Scenic Highway will occur.

NEPA considerations:

The existing terrain, vegetation and views within the project area will be altered by the addition of project features. These changes will not substantially diminish the existing aesthetic environment in the project area.

TRPA considerations:

The project features will not reduce a Travel Route , Shoreline Rating, Bikeway Rating nor will views of scenic resources be diminished. With the implementation of avoidance and minimization measures, impacts to existing views, vegetation, and existing terrain will be reduced. As design information progresses and becomes more defined, scenic evaluations will be completed to further identify the measures necessary to ensure non-degradation of any Scenic Thresholds or any standards of the applicable Plan Areas.

Each tree that must be removed to accommodate the project features will be reviewed with TRPA to ensure compliance with Scenic Thresholds, Plan Area Statements and to identify additional mitigation measures that will be necessary. Regulations and guidelines outlined in Chapter 71 (Tree Removal) of the TRPA code will be followed when identifying trees to be removed.

Avoidance, Minimization and/or Mitigation Measures

The following measures will be implemented in order to ensure that no permanent impact to the aesthetic environment will occur as a result of this project.

V1- Minimize the impact on existing views:

- Where RSP material is required, use indigenous materials matching local colors and textures. All rock generated during earthwork operations over 150 mm in size shall be stockpiled and used in drainage facilities and other areas where RSP is to be used. Treat newly harvested material with environmentally friendly chemical stains (such as Permeon) that give rock a weathered appearance.
- Avoid removal of vegetation in areas where narrow vegetative buffer strips separate adjacent residential properties from road edge.
- Avoid removing trees and other vegetation when relocating bike trail.
- Minimize the introduction of new roadway signage. If new signage is introduced posts shall be of wood construction and backs of signage should be painted an approved TRPA color.

- All efforts should be made to minimize disturbance of rock faces in this area, placement of rock fall drapery should be minimized.
- Water quality improvement basins shall be sited to minimize the motorist's visual exposure from elevated roadway vantage points. Basins shall be sited and designed to avoid removing existing vegetation, which screens basins from motorists view.
- Newly installed drainage features shall be designed and located to maximize integration into the surrounding landform. Facilities shall be strategically located or disguised to minimize the motorists visual exposure to them.
- Any water treatment facilities that utilize spreading water such as check dams shall be constructed of native materials (rock, soil and vegetation) and be low in profile.
- Planting areas around basins adjacent to roadway in urban settings and residences should be landscaped and irrigated in order to improve appearance.
- New signal poles, signage poles, utility cabinets and other new traffic related features shall be constructed of wood or painted a TRPA approved color to minimize visual impacts.
- Utilize and "acid-etched" or "weathering steel"* guardrail system in order to minimize the introduction of reflective surfaces that can be seen from roadway and of site vantage points.
- Denuded areas adjacent to bike trails will be contour graded to create mounds or swales in order to deter automobile parking. Boulders, logs and/or wooden auto barriers will be placed where appropriate to create greater separation of uses.
- All areas between roadway and bike trail will be revegetated with native plants where appropriate.

V2- Reduce, minimize impacts to the existing terrain:

- All disturbed areas shall utilize temporary erosion control measures during construction to minimize permanent impacts to scenic quality.
- All areas disturbed during construction shall receive permanent erosion control measures. All finished slopes and contour graded areas shall be hydro seeded with a permanent seed mix composed of native plant species indigenous to the area. In addition, a re-vegetation project will install containerized native plants to supplement seeding.

* Pending research, Caltrans has been reluctant to install "weathering steel" due to concerns over long term structural integrity. There is no guarantee that weathering steel will ever be approved for use in the Tahoe Basin.

- All small trees, tree limbs, shrubs and other woody debris generated during clearing and grubbing operations shall be chipped and stockpiled for future use as erosion control and in areas designated for revegetation. Pine needles collected from the Tahoe Basin shall be used as a final treatment over all disturbed soil areas.
- During clearing and grubbing operations, remove and stockpile existing topsoil as part of the earthwork. Replace topsoil in areas where revegetation work will be implemented. Incorporate topsoil and supplemental compost into finished slope areas in order to facilitate revegetation of slopes.
- Re-vegetate denuded areas (soft cover) adjacent to roadway and bike trial. Install barriers in the form of mounding and ditches to deter off-should parking and promote vegetation establishment.

V3- Reduce impacts to the existing terrain:

- Water quality improvement basins shall avoid the use of concrete or asphalt materials. Water quality improvement ditches shall be rock lined whenever possible. Avoid constructing features with harsh angles and steep slopes. Integrate features into surroundings through the use of curvilinear forms and contour grading. Use native boulders and logs removed during clearing and grubbing operations as landscape elements to integrate basins into surroundings. Basin side slopes should be designed with 1:3 to 1:4 slopes or flatter to promote successful re-vegetation. In locations where large basins are proposed, consider breaking basins into smaller basins units that fit into existing clearings of forest canopy.
- Locate basins in areas that are currently disturbed or denuded of vegetation when siting. Enlarge existing basin wherever possible.
- All new drainage facilities (i.e. culverts and flared end sections) shall be treated with environmentally benign stains to induce a weathered appearance that blends elements into existing landscape.
- In locations with narrow right-of-way limits or useable roadside areas, maximize the use of linear treatment facilities such as bio-swales with check dams.

V4- Reduce the impact of manufactured structures:

- Finished slopes shall reflect sensitivity to the natural topography and vegetation of the surrounding area. Newly constructed RSP slopes shall be constructed in such a way as to incorporate existing vegetation at top of slope without removal. In areas where space allows, pockets of native soil that supports vegetation shall

be incorporated into RSP slopes. These areas shall be planted with native vegetation.

Specific Design Recommendations (by segment)

Northern Segment:

- All retaining walls shall be faced with architectural treatment textures (including painting and staining) in order to integrate structures into surrounding natural or urban setting. Architectural treatment types will be determined during PS&E phase.
- Minimize the use of MBGR or concrete barrier in order to lessen adverse impacts to rivers views from roadway vantage points.
- All concrete structures (i.e. spillways, abutments, etc.) shall utilize integral coloration and/or staining in order to blend concrete into surrounding geological features.

Southern Segment:

- All linear drainage facilities crossing properties to the Lake shall designed into existing topography and use natural materials in order to minimize impacts to properties. Special attention shall be paid to views from lake-ward vantage points of drainage facilities.
- All retaining walls shall be faced with architectural treatment textures (including painting and staining) in order to integrate structures into surrounding natural or urban setting. Architectural treatment types will be determined during PS&E phase.

2.2.7. Cultural Resources

Regulatory Setting

Under California law, cultural resources are protected by the California Environmental Quality Act (CEQA), (CEQA Guidelines § 15064.5) as well as Public Resources Code Section 5024.1, which established the California Register of Historic Places.

The National Historic Preservation Act (NHPA) sets forth the national policy and procedures regarding "historic properties." Section 106 of NHPA requires federal agencies to consider the effects of their undertakings on such properties, following

Implementing Guidelines issued by the Advisory Council on Historic Preservation (36 CFR 800).

The TRPA Initial Environmental Checklist (IEC) identifies issues that may be deemed significant pursuant to TRPA Code. These issues include alteration of a significant archaeological or historic site, adverse effects to a prehistoric or historic building, structure or object, physical changes that would affect unique cultural ethnic values, or restriction of historic or pre-historic religious or sacred uses within the impacted area.

Chapter 29 of the TRPA Code sets forth provisions for the protection of cultural and historical resources. This Chapter includes protection provisions for both known and newly discovered resources.

Affected Environment

The project area runs along a 13.7 mile stretch of State Route 89, beginning at the Placer County line, running north 8.6 miles to Tahoe City, and continuing north another 5.1 miles to Squaw Valley Ski Resort. The segment of the project south of Tahoe City generally follows the shoreline and is lined with several small communities that include small commercial business, hotels, seasonal cabins, and year-round residences. The segment north of Tahoe City follows the Truckee River inland and has generally only a few scattered residences and businesses.

The project area is within the ethnographic tribal area of the Washoe. The Washoe are linguistically Hokan speakers. Archaeological evidence has suggests that the Washoe were early settlers into the Great Basin and probably predated Northern Paiute occupation. Generally the Martis and the later Kings Beach complexes are both attributed to the Washoe. It has been suggested that change to the Kings Beach material culture and settlement patterns may have been the Washoe's response to the drier climate.

Permanent settlements were generally located on high ground near springs, close to a variety of environmental zones, each seldom more than a day or two away. The permanent settlements of the Washoe were generally not abandoned during the intensive periods of hunting and gathering. Often the old and very young children might remain while other members of the family foraged farther away gathering seasonal resources. Other resources gathered in zones a distance away included pinion pine nuts on the Pinion Mountains, acorns in the oak groves located in the

Sierra Nevada foothills and the Honey Lake area, fish runs on the major rivers, and rabbit and antelope drives in the valleys.

The Washoe gathered and hunted a wide range of resources, both in adjoining environmental zones and locally. Bulb seeds, berries, pine nuts, acorns, insects, worms, and grubs were gathered. Fish such as trout, Lahontan sucker, and mountain white fish were seasonally an important food source. The Washoe also hunted for mule deer, pronghorn antelope, bear, mountain sheep, birds, snakes, porcupine, beaver, chipmunk, squirrel, woodchuck and badger.

Much of the project area appears to be situated on fill imported or re-deposited during the construction of State Route 89, often cut from the steep slope above. Based on ethnographic settlement patterns and geomorphology, the project area appears to be of moderate cultural sensitivity. Two sites were identified within the project APEand, confidence is high that significant resources have been identified. Due to intense historic disturbances such as roads, a bike path, and residence construction, the activities have provided a propensity of cut banks and re-deposited sediments to examine. It is possible that both prehistoric and historic resources were obliterated during the railroad and construction of State Route 89 or those resources may have been buried under deep deposits of fill, but it is unlikely that the project as planned would affect such resources. One pre-historic site consisting of a sparse lithic scatter of basalt and obsidian and a bedrock mortar feature near Alpine Meadows has been identified. This site shall be considered eligible for the National Register of Historic Places for the purposes of this project. A Historic site near the same location was evaluated for significance and found Not Eligible for the National Register of Historic Places.

Seven properties in the APE were evaluated for their historical significance and integrity using the National Register criteria for evaluation. The resources were also examined in accordance with Section 15064.5 (a)(2)-(3) of the CEQA Guidelines, using criteria outlined in Section 5024.1 of the California Public Resources Code.

Impacts

The prehistoric site will be treated as a resource that is eligible for the National Register of Historic Places and shall be protected using fencing to designate an Environmentally Sensitive Area (ESA).

Impacts to this site may occur as a result of placement of water quality improvements at this location. Any infiltration basins or other water quality improvement feature will be designed to avoid this resource.

The following properties were evaluated in this report and found not eligible for the National Register, nor are they historical resources under CEQA:

Resource	***Description***	***Map Ref. No.***
6820 W. Lake Boulevard	Cabin (1937)	1
5490 W. Lake Boulevard	Cabin (1916/1940)	2
5290 W. Lake Boulevard	Obexer's Boat Shop (ca. 1950)	3
5250 W. Lake Boulevard	Cabin (1945)	4
4900 W. Lake Boulevard	Cabin (1920/1966)	5
4860 W. Lake Boulevard	Cabin (1930)	6
4950 W. Lake Boulevard	Cabin (1947)	7

Six of the seven properties that were evaluated are cabins, currently used as seasonal vacation homes, that were built between 1937 and 1947. Two of cabins were originally built between 1916 and 1920, but due to modifications are no longer recognizable to that era. Most have been heavily modified over the years, and none represent ideal examples of the era from whence they came. The one other evaluated property is a small boat shop that is related to the Obexer Boat Company, a long-standing family business, which has operated in Homewood since the 1920s. The small shop, however, was built in the 1950s and has played a relatively minor role in the long history of the business. The modest commercial structure is unremarkable in its architecture. The study finds that none of the properties in the survey are eligible for listing in the National Register, and that there is no potential for a National Register-eligible historic district or historic landscape that would include any of the properties as contributing elements. The remainder of properties in the APE did not require evaluation consistent with Stipulation VIII.C.1 of the PA.

CEQA considerations:

Caltrans has also evaluated the resources in accordance with Section 15064.5 (a)(2)-(3) of the CEQA Guidelines, using criteria outlined in Section 5024.1 of the California Public Resources Code, and determined that the resources are not historical resources for purposes of CEQA.

NEPA considerations:

No adverse impacts to a resource listed on the National Register of Historic Properties will be occur as a result of this project.

TRPA considerations:

This project will not involve alteration of a significant archaeological or historic site, adverse effects to a prehistoric or historic building, structure or object, physical changes that would affect unique cultural ethnic values, or restriction of historic or pre-historic religious or sacred uses within the impacted area pursuant to Chapter 29 of the TRPA code referring to Historic Resource Protection.

Avoidance, Minimization and/or Mitigation Measures

CR-1: Although it is anticipated that the pre-historic site will not be adversely affected by this project or its related activities, measures will be implemented to ensure that the site will be protected.

- The Caltrans Archaeologist and Environmental Coordinator shall coordinate with the Project Engineer as well as construction personnel to insure the ESA plan is implemented.
- Metal "T" posts and plastic fencing will be placed along the site boundary prior to any ground disturbing activities related to this project occur in the area.
- During construction, the site will be monitored on a weekly basis by a Caltrans Archaeologist.
- All fencing will be removed at the conclusion of the project.

CR-2: In addition to the measures listed above, the following procedures shall be implemented in the event of previously unidentified resources found during construction.

If cultural materials are encountered during the project construction, Caltrans policy requires that work in the area must immediately halt until a qualified archaeologist can evaluate the nature and significance of the material and determine an appropriate course of action in consultation with the State Historic Preservation Officer (Caltrans Environmental Handbook, Volume 2, Chapter 1, Sections 1-2.2 and Chapter 7 Section 7-9).

TRPA shall also be contacted if any cultural materials are identified during construction.

2.3. Physical Environment

2.3.1. Floodplain Analysis

A Floodplain Hydraulics Study was completed for this project to determine the effects to FEMA designated floodplains.

Information for this report was obtained from Caltrans; design staff, maintenance personnel and district records; USGS topographic maps (Homewood and Tahoe City, 1955 photo-revised in 1969), Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) and the Flood Insurance Study (FIS) for Placer County, California. The FIRMs used for this evaluation were panel numbers 06061C-0203F; 0211F, 0225F, 0182F, 0184F all dated June 8, 1998.

Regulatory Setting

The Environmental Checklist, provided as Appendix A, includes potential issues that could lead to a significant impact pursuant to CEQA. Potential issues include changes in drainage patterns that would cause flooding, impede or redirect flows within a 100-year flood area, expose people or structures to flooding, or contribute to inundation by seiche, mudflow or tsunami.

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

In order to comply, the following must be analyzed:

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

The 100-year floodplain is defined as "the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year." An encroachment is defined as "an action within the limits of the 100-year floodplain."

Potential significant issues identified by the TRPA IEC include potential exposure due to the project to water related hazards such as seiches or floods.

Affected Environment

The existing highway was constructed in stages from the 1920's to the 1930's. Drainage features were constructed based on design criteria appropriate for that era. Since then there have been some highway and drainage modifications. However, the drainage facilities size and capacity closely adhere to those that were part of the original construction.

Several locations along the length of Highway 89 have experienced flooding and over-topping in recent years. Many of these occurrences are the result of localized, short duration, yet very high intensity weather systems common to the Lake Tahoe Basin. These intense storms typically result in clogged drainage systems from the transport of floating debris and solid precipitation (i.e., snow and/ or hail). Drainage systems are then overwhelmed resulting in highway flooding and in some cases, over-topping.

Some modifications have been made to accommodate traction sand collection and removal. Curb, gutter, sidewalk and drainage systems have been installed along numerous stretches of the highway, particularly in business and commercial sections.

There are two basic types of floodplain encroachment, transverse and longitudinal. A transverse encroachment typically occurs where a roadway crosses a FEMA recorded floodplain at a single location, usually by means of a bridge, box culvert or large field assembled pipe. A longitudinal encroachment is somewhat more complex. The typical longitudinal highway encroachment parallels the edge of the floodplain for a distance, effectively constricting the flow within the floodplain and substantially displacing waters, often resulting in further inundation of adjacent properties proportional to that of the displacement. Transverse encroachments are somewhat easier to control than longitudinal encroachments simply by bridging the floodplain. Furthermore, transverse encroachments typically result in minimal intrusion and impact to the biological and ecologic systems of the floodplain.

Encroachments present on the lake side segment of the project (2A920):
There are no longitudinal floodplain encroachments within the scope and limits of this segment of the project.

Within this segment of the proposed project, there are seven existing transverse encroachments into six separate FEMA designated 100-year floodplains. McKinney Creek, Homewood Canyon Creek, Madden Creek, Blackwood Creek overflow, and Blackwood Creek are all classified as Special Flood Hazard Areas – Zone A. Base Flood Elevations have not been determined for Zone A Encroachments. Flooding of Blackwood Creek results in a split flow that begins west and up-gradient of Highway 89 near the intersection of Interlaken and Tallac Avenues. This results in two separate encroachments of this floodplain. Ward Creek and Truckee River are classified as Special Flood Hazard Areas – Zone AE. Base Flood Elevations have been determined.

Encroachments present on the river side segment of the project (2A921):
There are three locations along this segment of the project in which longitudinal floodplain encroachments occur.

At approximate PM 11.2, a 100 – year longitudinal floodplain encroachment occurs along the west side of the roadway for approximately 300 feet. At this location, the water level for the 100-year event is predicted to be at an elevation of 6,201 feet (FIRM Map #06061C0182F). The roadway elevation at this location is 6,208 feet according to Caltrans as-built drawings dated April 8, 1940. Therefore, flooding of the roadway is not expected to occur for the 100-year event. There are no residences in the vicinity of this encroachment.

At approximate PM 11.3, the 100-year floodplain falls within the roadway for approximately 200-300 feet. At this location, the roadway sags to an elevation of 6,200 feet per Caltrans as-built drawings dated April 8, 1940. The water level for the 100-year flood is predicted to be at an elevation of 6,200.5 feet (FIRM Map # 06061C0182F). Flooding of the roadway may occur at this location for the 100-year event. There are no residences in the vicinity, so if the area were to flood, there would be no significant damage to private property. However, the roadway will not be safe to the traveling public if over-topping occurs.

At approximate PM 13.5, the 100-year floodplain brushes up along the east side of the roadway for approximately 100 feet. At this location, the water level for the 100-year flood is predicted to be at an elevation of 6,118 feet (FIRM Map #

06061C0182F). The roadway elevation at this location appears to be adequate; therefore, flooding of the roadway will not likely occur for the 100-year event.

One transverse encroachment into a FEMA designated 100-year floodplain occurs within this segment at the location of the Truckee River Bridge (PM 13.1, Bridge No. 19-32). The Truckee River is classified within the FEMA designation Special Flood Hazard Areas – Zone AE. Base flood elevations have been determined for this classification. After a site visit, it was determined that clearance between the river and the bridge is over 20 feet and flooding of the roadway is not expected to occur with the 100-year event.

Impacts

Although there are several existing floodplain encroachments that currently exist along the length of the proposed project limits, the scope and design of this project will not change the existing conditions or require further detailed studies.

CEQA considerations:
None of the work proposed for this project will significantly change existing floodplain conditions.

NEPA considerations:
Although encroachments will occur within the limits of a 100-year floodplain at several locations, none of these encroachments will be considered "significant" as defined in 23 CFR 650.105. This project is not anticipated to increase the risk of flooding to the public.

TRPA considerations:
No substantial change to the course or flow of 100-year floodwaters is expected

Avoidance, Minimization and/or Mitigation Measures

FP-1: Although no significant impacts are expected to occur to floodplains as a result of this project, as a precaution and to minimize increased flooding risk, the following measures shall be implemented:

- Channel and embankment repairs should be preformed in a manner that will result in the restoration of the creek channels to their original pre-project configuration and capacity.

- Work performed on the highway within the footprint of the floodplains should not result in adverse impacts to the floodplain including alteration that would extend or expand the footprint of the floodplain, cause additional backup or release to creek flows or raising the elevation of the floodplain.
- Roadway work should not result in an increase in roadway profile elevation at the highest point of the roadway in any given cross section. If any overlay is proposed, it may be necessary to grind off the existing roadway surface sufficiently so that once the overlay is placed; the highest final roadway surface profile elevation is the same as the pre-project elevation.
- Elevation at the tops of proposed curbs and dikes should not exceed the elevation of the highest point in the existing roadway profile at any given cross section.

2.3.2. Water Quality and Stormwater Runoff

Regulatory Setting

The Environmental Checklist, provided as Appendix A, includes potential issues that could lead to a significant impact pursuant to CEQA. Potential issues include violations of water quality standards (see below), waste discharge requirements or degradation of water quality.

In 1972, the Federal Water Pollution Control Act was amended making the discharge of pollutants to the waters of the United States from any point source unlawful, unless the discharge is in compliance with an NPDES permit. The Federal Water Pollution Control Act was subsequently amended in 1977 and was renamed as the Clean Water Act (CWA). The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The CWA as amended by the Water Quality Act of 1987 states that storm water discharges are point source discharges and establishes a framework for regulating municipal and industrial storm water discharges under the NPDES program. Important sections of the Act are as follows:

- Sections 303 and 304 provide for water quality standards, criteria, and guidelines.

- Section 401 requires an applicant for any federal project that proposes an activity, which may result in a discharge to waters of the United States to obtain certification from the Regional Water Quality Control Board that the discharge will comply with other provisions of the act.

- Section 402 establishes the National Pollutant Discharge Elimination System (NPDES), a permitting system for the discharge of any pollutant (except for dredge or fill material) into waters of the United States. This permitting program is administered by Regional Water Quality Control Boards (RWQCB), and is discussed in detail later.

- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the United States. This permit program is administered by USACE.

The State of California's Porter-Cologne Water Quality Act provides the basis for water quality regulation within California. The Act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or otherwise) to land or surface waters that may impair a beneficial use of surface or groundwater of the state.

The State Water Resources Control Board (SWRCB) administers water rights, water pollution control, and water quality functions throughout the state, while the RWQCB is responsible for the protection of beneficial uses of water resources within its jurisdiction and uses planning, permitting and enforcement authorities to meet this responsibility.

- **NPDES Program**: The SWRCB has issued Caltrans a Statewide NPDES Storm Water Permit (Order No. 99-06-DWQ), adopted July 15,1999, which covers all Caltrans facilities in the State. In compliance with this permit, Caltrans developed the Statewide Storm Water Management Plan (SWMP) to address storm water pollution controls related to highway planning, design, construction and maintenance activities throughout the State of California. The SWMP describes the minimum procedures and practices that Caltrans uses to reduce the pollutants it discharges from storm drainage systems owned or operated by Caltrans. It outlines procedures and responsibilities for protecting water quality at Caltrans facilities, including the selection and implementation of Best Management Practices (BMPs). The Proposed Project will be expected to follow the guidelines and procedures outlined in the SWMP.

- **Municipal Separate Storm Sewer System (MS4) Program**: The USEPA defines MS4 to include a conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, storm drains) owned or operated by a state, city, town, county or other public body having jurisdiction over disposal of storm water and designed

or used for collecting or conveying stormwater. EPA's Phase II Final Rule include permit requirements for designated small municipalities that maintain control of a separate storm sewer system. The objectives of the Phase II regulations are to (1) reduce the discharge of pollutants to the maximum extent practicable and (2) protect water quality. Caltrans is the owner of an MS4 permit that include conveyances at State Route 89 and meets or exceeds the requirements of the small municipalities within the project area.

- **Construction Activity Permitting:** Caltrans construction activity is covered by the NPDES permit (Order No. 99-06-DWQ). In addition, construction activity is subject to Tahoe Basin NPDES general construction permit (Board Order 6-00-03). A notification of construction is required for enrollment for projects that have 0.4 hectare (1 acre) of soil disturbance. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation results in soil disturbance of at least 1 acre of total land area must comply with the provisions of this NPDES Permit and develop and implement an effective Storm Water Pollution Prevention Plan (SWPPP). Implementation of the plan starts with the commencement of construction and continues through the completion of the project. Upon completion of the project, the applicant must submit a Notice of Termination to the RWQCB to indicate that construction is completed.

TRPA is also designated by California, Nevada, and the USEPA as the area wide water quality planning. agency, under Section 208 of the federal Clean Water Act. It adopted a bi-state plan, currently entitled Water Quality Management Plan for the Lake Tahoe Region (208 Plan). Most appropriate provisions of the 208 Plan, however, are incorporated into the Water Quality Control Plan for the North Lahontan Basin.

TRPA water quality thresholds are as follows:

- WQ1-Decrease sediment load as required to attain turbidity values not to exceed 3 Nephlometric Turbidity Units (NTU) in littoral Lake Tahoe. In addition, turbidity shall not exceed 1 NTU in shallow waters of Lake Tahoe not directly influenced by stream discharges.

- WQ2-Average Secchi depth, December-March, shall not be less than 33.4 meters.

- WQ3-Annual mean phytoplankton primary productivity shall not exceed 52 gC/m2/yr. California: algal productivity shall not be increased beyond levels

recorded in 1967-1971, based on a statistical comparison of seasonal and annual mean values.

- WQ4-attain a 90th percentile value for suspended sediment of 60mg/L.
- WQ5-Dissolved inorganic nitrogen, 0.5 mg/L; dissolved phosphorous, 0.1 mg/L; dissolved iron, 0.5 mg/L; suspended sediment, 250 mg/L.
- WQ6-Surface water infiltration into the groundwater shall comply with the Uniform Regional Run Off guidelines. For total nitrogen, 5 mg/L; total phosphorous, 1 mg/L; total iron, 4 mg/L; turbidity, 200 NTU; and grease and oil, 40 mg/L.
- WQ7-For other lakes in California-Nevada, the standards are the same as the tributary standards.

For Caltrans projects, a Memorandum of Understanding (MOU) between TRPA and the Lahontan Regional Water Quality Control Board acknowledges that Lahontan is the lead regulator for water quality. Lahontan water quality thresholds can be found in the Lahontan Basin Plan. The Lahontan numeric effluent limits for runoff discharged to infiltration systems mirrors TRPA Threshold WQ-6. The Lahontan numeric effluent limits for surface discharges are similar to TRPA Threshold WQ-5 but also place limits of 20 NTU for turbidity and 2.0 mg/l for grease and oil.

Affected Environment

State Route 89 crosses eight watersheds and six intervening zones along the shoreline of Lake Tahoe. Intervening zones are generally found between the individual watersheds around the lake and drain directly to the lake without first entering streams. The land within the project area is of moderate terrain, privately owned and less densely developed. The project area, however, is located within the urban areas as defined by Tahoe Regional Planning Agency (TRPA). Climate exhibits a great variety and four sharply defined seasons bring a continual round of variety and change. The summer season is dry and sunny with daytime highs rarely exceeding 80 degrees. From late November to early April, snow falls in great quantities in relatively short periods. The average winter snow pack is 225 inches and the average daily high temperatures in December, January and February are 39, 37, and 39 degrees (F) respectively.

The project area is located in hydrologic sub-area (HSA) 634.20; hydrologic sub-areas are larger than watersheds and cover a geographic area representing part of a surface drainage basin or distinct hydrologic feature such as a reservoir, lake, etc. HSA 634.20 covers an area of approximately 61415 acres with an average annual rainfall of 53.4 inches. Caltrans maintains parts of Routes 28, 89 and 267 in this HSA. The storm water runoff from this HSA, including the project area, flows into Lake Tahoe that is located in the HSA 634.3.

Tahoe is located in a sub alpine watershed dominated by nutrient-poor granitic and volcanic soils and is a complex ecosystem with 63 individual watersheds and 52 intervening zones around the lake draining directly to the lake without first entering streams. Elevations within the basin vary from about 1900 meters (m) at lake level to more than 3048 m along the crest of the mountains. Lake Tahoe is the world's tenth deepest lake at 505 m with a mean depth of 313 m. The drainage area is 812 km^2 with a lake surface of 501 km^2; two-thirds of which is located in California and one-third in Nevada. Lake Tahoe's large volume of 156 km^3 and its relatively small watershed are largely responsible for the lake's 770-year hydraulic retention time.

Increased nutrient and sediment loadings are stimulating algal growth and increasing the concentration of fine suspended particles that decrease clarity in the lake. Measurements of algal productivity and water clarity show an accelerated rate of eutrophication in Lake Tahoe since the late 1960's, although there is interannual variation, the long term trend is statistically significant; and indeed this decline in the clarity of the lake is the underlying basis for nearly all major policy decisions regarding water quality in the Tahoe basin. Some scientists have concluded that if the buildup of nutrients in the lake is not reversed within the next ten years, the costs of solving the problem will be so great and the impacts so extreme that they will exceed the currently available capacity for resolution.

Perhaps the greatest change to Lake Tahoe in the last four decades has been the enhanced transport of sediment from the watershed and the loss of about 30 cm per year of clarity in Lake Tahoe's waters. Algal growth and increased concentration of fine suspended particles, because of increased nutrient and sediment loadings, are well documented. While nitrogen (N) was the primary limiting nutrient to the lake's algal population prior to the 1980's, atmospheric deposition of N directly onto the lake surface has led to a fundamental shift from nitrogen-stimulation to an almost exclusive phosphorus-stimulation. Phosphorus (P) is a unique pollutant in that it has low solubility but may have detrimental effects on water quality at quite low

concentrations. There is considerable concern about P being lost from soils and transported to nearby streams and lakes. Several chemical properties of P have important implications for the potential loss of P to surface water.

1. Phosphorus in soil is almost entirely associated with soil particles. When soil particles are carried to a river or lake, P will be contained in this sediment. When the sediment reaches a body of water it may act as a sink or a source of P in solution. In either case, it is a potential source of P that may eventually be released.

2. Phosphorus in soil is associated more with fine particles than coarse particles. When soil erosion occurs, more fine particles are removed than coarse particles, causing sediment leaving a soil through erosion to be enriched in P.

Since phosphorus (P) is typically transported along with the suspended solids load, the importance of sediment control and erosion mitigation becomes highly evident. Major pathways through which P is transported to the lake include:

- Surface water and groundwater discharge,
- Atmospheric deposition,
- Shoreline erosion.

Highway storm water runoff contains a variety of characteristic contaminants. During storm events, rainwater first collects atmospheric pollutants and, upon impact, gathers roadway deposits. This runoff can be highly polluted and negatively impact the receiving waters including sedimentation, eutrophication, and accumulation of pollutants in sediments and benthos organisms, and destruction of native species. The Caltrans Storm Water Research and Monitoring Program have collected water quality data for the past several years from about 23 Highway runoff-monitoring sites. The majority of this data is from highways in Southern California. Description of these sites and summary of the monitoring data can be found in the Annual Data Summary (CTSW-RT-99-055) that are submitted annually to the State Water Quality Control Board by the Caltrans Storm Water Monitoring Program. The Caltrans highway runoff value is the average concentration that is calculated from the highway water quality monitoring data.

Federal water quality objectives are dictated by Section 303(d) of the Clean Water Act and EPA water quality planning and management regulations, which require States to identify waters that do not meet, or are not expected to meet, water quality

standards even after technology-based or other required controls are in place. These water bodies are considered water quality-limited and are reported by States in their 303(d) list. Lake Tahoe as well as the Truckee River are 303(d) listed bodies of water and the pollutants of concern are nutrients.

Impacts

The increased volume of storm water runoff from the added project's impervious surface area to the entire Hydrologic Sub area is very small and the project is not expected to increase the projected traffic volume; therefore, the pollutant loads from the project's traveled way would be negligible. However, due to Lake Tahoe's very long hydraulic residence time, relatively small nutrient loadings can seriously affect Lake Tahoe's water quality and storm water treatment measures are required to reduce nutrients and sediments (fine sediments) reaching Lake Tahoe. There is limited room for water quality treatment basins along State Route 89. In response to meeting the numeric effluent limits, Caltrans currently has an ongoing pilot study in the basin for evaluation of standard water treatment industry chemical media and the associated operations and maintenance cost. If proven successful, these pilots may be adopted by Caltrans as an approved permanent treatment control for use in the Lake Tahoe basin.

Although the increased volume of runoff from the added project's impervious traveled way is indeed very small, the added peak flows may cause or contribute to down stream erosion. Care must be taken to consider and incorporate appropriate infiltration and/or peak flow attenuation devices to minimize down stream erosion problems. The practices outlined in the SWMP and Statewide Storm Water Practice Guidelines ensure that certain minimum design elements be incorporated into projects to maintain or improve water quality. The key elements are as follows:

- Prevent Downstream Erosion – design of drainage facilities to avoid causing or contributing to downstream erosion. Drainage outfalls, when appropriate, will discharge to suitable control measures.
- Stabilize Disturbed Soil Areas – design would incorporate stabilization of disturbed areas (when appropriate) with seeding, vegetative or other types of cover.
- Maximize Existing Vegetative Surfaces – design would limit footprints of cuts and fills to minimize removal of existing vegetation.

The project as planned would therefore not create a substantial increase in downstream erosion or siltation.

The proposed project is not expected to increase the traffic volume in the project area and the impact of additional aerially deposited particles, due to increased shoulder and left-turn pocket surface areas, on the receiving water quality is not expected to be significant. The project as planned, will not result in the creation of significant source of additional polluted runoff.

There is an inherent water quality benefit in the wider shoulders as proposed by this project when compared to the existing conditions. Roadway runoff water quality is expected to improve since the presence wider shoulders will decrease the response time of emergency teams to accidents and spills, thereby reducing the potential for spilled material being discharged into the lake. Emergency vehicles will be able to utilize the shoulders in response to accidents and spills whereas the existing shoulders may require that traffic be cleared in order to allow access for emergency vehicles. The shoulders will also provide space for disabled vehicles to be moved such that they do not block traffic and thereby allowing highway speeds to be maintained. This reduces pollutants produced by vehicles as a result of stop-and-go traffic.

The proposed project is an EIP Water Quality project that by its nature proposes improvements to current roadway networks to reduce negative impacts on the basin's environment; more specifically the lake's water clarity which has become the primary measure of the basin's environmental health. The proposed project, when properly implemented, will 1) treat storm water runoff, 2) stabilize slopes, and 3) construct treatment BMPs all which will help achieve the pelagic Lake Tahoe clarity threshold of winter Secchi depth of 33.4 m (109 ft) (Threshold WQ-2).

The project as proposed will accomplish the following objectives:

- The project reduces loads of sediments and nutrients delivered to Lake Tahoe.
- The project includes the installation of BMPs throughout the project area.
- The project includes an effort towards restoration of existing disturbed areas beyond mitigation required to offset proposed project impacts.
- The project includes an Operation and Maintenance commitment to insure effectiveness of compliance measures over time.

CEQA considerations:

Increased impervious surfaces created by the project will have a negligible effect on water quality. The potential for increased erosion exists due to the earthwork required for the project and some increases in runoff volumes. However, the design

of the project will ensure that drainage facilities are adequately sized and lined with materials that prevent erosion to the greatest extent feasible. In addition, avoidance and minimization measures associated with this project will ensure that disturbance to existing terrain and vegetation is fully mitigated to prevent erosion. The combination of sand collection vaults, infiltration basins and bio-swales proposed by the project will improve the quality of water discharged from Caltrans facilities. No significant impact is anticipated as a result of this project.

NEPA considerations:

Project features will not substantially degrade water quality. Furthermore, the combination of sand collection vaults, infiltration basins, detention basins and bio-swales within the proposed project will improve the quality of water discharged from Caltrans facilities.

TRPA considerations:

Important factors for consideration in project design to meet TRPA standards include; 1) using source control techniques to minimize erosion, 2) hydrologic design that minimizes and separates runoff flows, 3) increased infiltration runoff , 4) deeper sumps at existing drop inlets, 5) the ability to meet the 20 yr/ 1 hour design storm, 6) the ability to meet TRPA and Lahontan's adopted water quality standards for discharge to surface waters and discharge to ground water, and [7)] the proximity of outfalls to water- intake lines. These features have been considered in the design of the project.

The project will improve storm water treatment along State Route 89. Newly installed drainage facilities will capture many pollutants before they enter the lake. These improvements will greatly outweigh any negative impacts associated with newly created impervious surfaces.

No adverse impacts are anticipated.

Avoidance, Minimization and/or Mitigation Measures

Although this project is anticipated to have an overall beneficial impact to water quality within the project limits, the avoidance, minimization and mitigation measures included in section 2.2.6 Aesthetics and section 2.4 Biological Environment in addition to the BMPs will provide further measures to protect water quality.

2.3.3. Soils and Soil Conservation

This section is included to address TRPA concerns with soil conservation.

Regulatory Setting

The Environmental Checklist, provided as Appendix A, includes potential issues that could lead to a significant impact pursuant to CEQA. Potential issues include soil erosion, location on unstable or expansive soils.

The following TRPA Thresholds apply for soil conservation:

- SC1-The TRPA threshold for soil conservation requires that impervious coverage be in compliance with the coverage coefficients defined in the Land Capability Classification of the Lake Tahoe Basin California-Nevada, a guide for planning (Bailey 1974). Additional land coverage is monitored on a project basis and recorded in square feet. Coverage may be utilized directly or by coverage transfers within a related project area. An excess coverage mitigation program is in place to gradually reduce existing land coverage.

- SC2-TRPA policy requires the preservation of existing naturally functioning Stream Environment Zone (SEZ) land in their natural hydrologic condition, the restoration of all disturbed SEZ lands in undeveloped, un-subdivided lands and the restoration of the SEZ lands that have been identified as disturbed, developed or subdivided to obtain a 5 percent total increase in the area of naturally functioning SEZ lands.

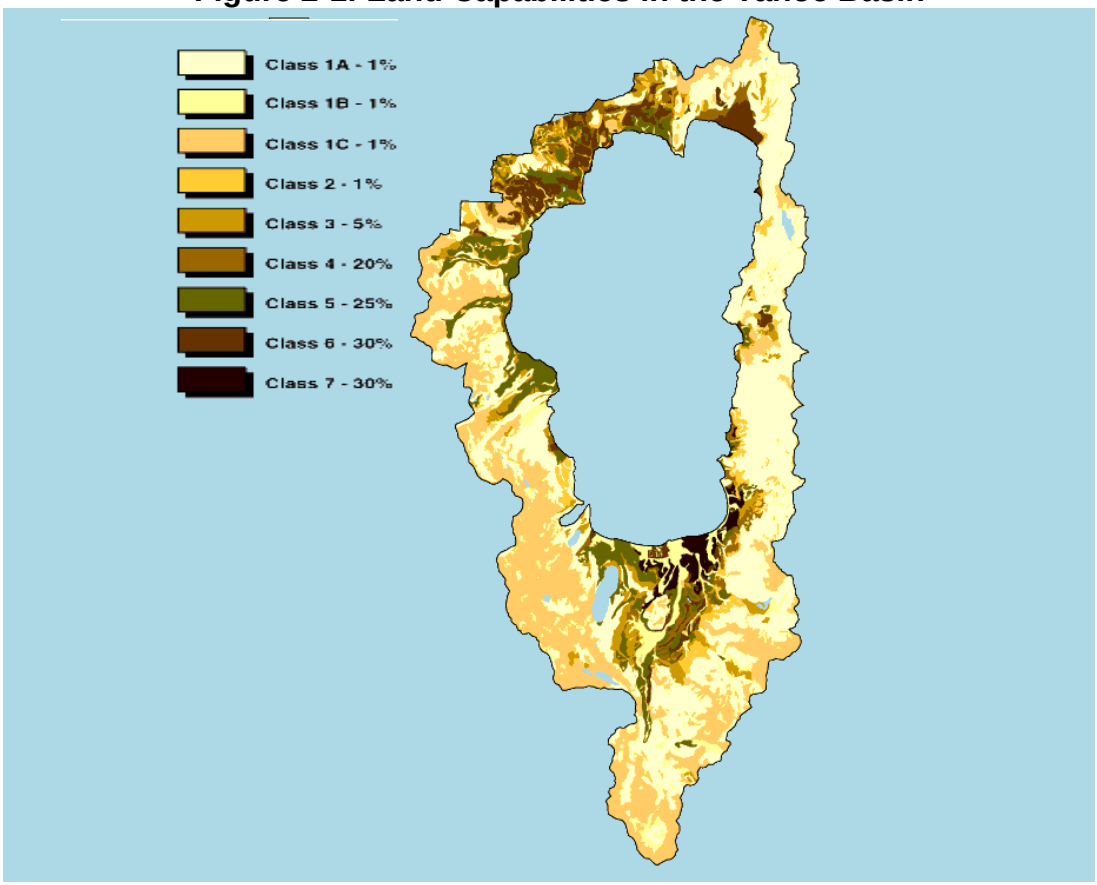
Affected Environment

State Route 89 traverses many soil associations within the project study limits. None of the soil series available within the projects study area are listed as hydric soils (a hydric soil is a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part) on the National Resources Conservation Services List of Hydric Soils (USDA NRCS Hydric Soils of California, 1995). Soil Associations available within the project area are generally alluvial (Gravelly Alluvial Land, Jabu Moderately Fine Subsoil Variant), morainal (Tallac), or upland (Jorge, Umpa) soils.

Land capability districts (LCDs) have been determined for all areas within the Tahoe Basin. A land capability is “the level of use an area can tolerate without sustaining permanent (environmental) damage through erosion or other causes.” (Land

Capability Classification of the Lake Tahoe Basin, California – Nevada; Robert G. Bailey, 1974)

Figure 2-1: Land Capabilities in the Tahoe Basin



http://www.trpa.org/land_cap.html

Impacts

New features in the form of water quality and operational improvements will lead to additional hard coverage and changes to the existing landscape. However these changes are not expected to result in substantial impacts pursuant to CEQA, NEPA or TRPA code. The existing geology has been taken into consideration during the project design process. Areas that are not suitable for water quality treatment, either due to incompatible terrain, existence of wetlands, marshes and/ or SEZ were eliminated from consideration.

CEQA considerations:

Not applicable

NEPA considerations:

Not applicable

TRPA considerations:

TRPA's primary concern regarding soils is potential creation of additional coverage.

In accordance with Chapter 20.3.B (8) of the Tahoe Regional Planning Agency (TRPA) code of ordinances the proposed infiltration/ sedimentation basins will create impervious coverage that is exempt from the Bailey land coverage limits. However, through subsequent meetings with TRPA, it was determined that the maintenance driveways that lead into these structures are not exempt.

The addition of asphalt/concrete and the placement of structures during the course of shoulder widening, intersection reconstruction, and associated drainage improvements and the construction of maintenance turnouts are expected to increase impervious land coverage within the project area. Re-vegetation of these areas may be unfeasible because these areas will be converted to "hard" impervious surfaces. In addition, areas of SEZ land, LCD 1b, will be disturbed by additional coverage (fills and structures).

Water quality infiltration basins, basin access routes, culvert outfall areas, and some areas of shoulder widening will require vegetation removal to construct, but re-vegetated with native plants and grasses upon completion. Vegetation removal and subsequent revegetation by applying appropriate (non-impervious) erosion control materials, will be determined by Caltrans Landscape Architecture branch in conjunction with TRPA approval.

Additionally, the restoration of existing soft coverage areas within the project area (typically "soft" coverage consists of compact un-vegetated soils; typically located between State Route 89 and the bike trail or between State Route 89 and adjacent developments) is proposed to be accomplished by applying appropriate (non-impervious) erosion control materials, as determined by Caltrans Landscape Architecture branch in conjunction with TRPA approval.

TRPA is concerned about how to prevent new coverage from being created after the roadway improvements are made, because there is a potential for soft coverage to increase after the roadway widening. In areas where the roadway is planned to be widened, automobiles may continue to park off pavement and create new areas of compacted dirt and disturbance to adjacent roadways. In an attempt to prevent autos from creating new areas of coverage, Caltrans has agreed to incorporate rock embedded berms, to the extent feasible, just outside of the clear recovery zone. Other

methods that will be installed closer to the edge of pavement to prevent parking will include bollards and landscaping.

Avoidance, Minimization and/or Mitigation Measures

Due to the amount of shoulder widening and left turn lanes that will be installed for this project, the purchase of land coverage credits on the project is anticipated. If needed, Caltrans will transfer land coverage credits at a 1:1 ratio for high capability lands (LCDs 4-7) and 1.5:1 ratio for low capability lands (LCDs1-3) pursuant to Chapter 20 of the TRPA code. In addition, according to TRPA Code Section 20.3 C (3) land transfers to provide coverage for low capability lands, LCDs 1-3, must be permanently retired as set forth in Section 20.3 C(7). Caltrans is not on the TRPA individual parcel system and is creating coverage within state owned right of way or within land on which highway agreements exist. Any land transfer woudl be performed under the guidance of the California Tahoe Conservancy (Conservancy), a State of California land bank administration agency. Caltrans has existing coverage credits at the conservancy's land bank via a Memorandum of Understanding dated October 18, 2000.

2.3.4. Hazardous Waste Materials

Regulatory Setting

The Environmental Checklist, provided as Appendix A, includes potential issues that could lead to a significant impact pursuant to CEQA. Potential issues include creation of a public hazard, emitting hazardous emissions, handling hazardous materials near schools, being located on a site that is listed as hazardous by the California Environmental Protection Agency, resulting in a safety hazard near an airport, impairing the implementation of an emergency evacuation plan, or exposing people or structures to wildland fires.

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

Many state and federal laws regulate hazardous materials and hazardous wastes. These include not only specific statutes governing hazardous waste, but also a variety of laws regulating air and water quality, human health and land use.

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

- Community Environmental Response Facilitation Act (CERFA) of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety & Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

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

TRPA does not maintain any thresholds for hazardous waste. The TRPA Initial Environmental Checklist asks whether or not the project will result in the creation of or increased possibility of exposure to health hazards.

Affected Environment

Soil and groundwater contaminated with petroleum hydrocarbons is known to exist within the project area. The location of the contamination is near the Sunnyside Market at Post Mile 6.36. Yellow traffic markings (thermoplastic and paint) potentially contain hazardous levels of lead chromate. Yellow traffic markings that are removed separate from the adjacent pavement may have to be managed as hazardous waste. Lead contaminated soil may exist due to the historical use of leaded gasoline, leaded airline fuels, waste incineration, etc. The areas of primary concern in relation to highway facilities are soils along routes that have had high vehicle

emissions due to large traffic volumes, congestion, or stop and go situations, during the time period when leaded gas was in use.

For practical purposes, most aerially deposited lead (ADL), due to vehicle emissions would d have been deposited prior to 1986. If the project areas was constructed or reconstructed with clean material after 1986, it is likely that the levels of ADL contaminated soil are low. Typically ADL is found within the top 0.6m (2ft) of material in unpaved areas within the highway right of way.

Results of record searches revealed that an abandoned Underground Storage Tank exists in front of the Tahoe General Store. This tank was previously used to store heating oil.

Impacts

A hazardous waste Initial Site Assessment (ISA) was completed on August 28,2002. The investigation was limited to a "VISTA" record search, regulatory files review and field reviews. Based on the ISA, the need for a site investigation was confirmed, which identified the following impacts:

1. Groundwater and soil petroleum hydrocarbon contamination exists in the vicinity of the Sunnyside market location (PM 6.36). Project activities in this area are not expected to affect / disturb contamination identified in this area.

2. Yellow thermoplastic highway striping that exists within the project limits, may contain heavy metals, such as lead and chromium.

3. Aerially Deposited Lead (ADL) is present in levels considered not hazardous.

4. No impacts to the existing Underground Storage Tank are expected as a result of this project.

CEQA considerations:

The project includes potential exposure to hazardous materials contained within traffic striping, soils and groundwater. Measures provided below, will ensure that the risk of exposure to hazardous materials is minimized. No significant impacts are anticipated.

NEPA considerations:

Adverse impacts resulting from the handling of potentially hazardous wastes on the project are not expected. However, the measures below will further ensure the safety of workers and the public from potentially hazardous substances. Therefore, the risk associated with hazards and hazardous waste is not considered substantial.

TRPA considerations:

As stated above, the IEC asks whether or not the project will result in the creation of or increased possibility of exposure to health hazards. The project will include provisions to ensure that the potential exposure to health hazards is minimal.

Avoidance, Minimization and/or Mitigation Measures

HZ-1: Petroleum Contaminated Soil and groundwater contamination

Project features in potential conflict with contaminated soil/groundwater will be eliminated or moved if possible. If conflicts cannot be eliminated, then the handling of the contaminated soil/groundwater can be handled within the contract special provisions. A Health and Safety Plan shall be prepared to address worker safety when working with potentially contaminated soils/groundwater.

HZ-2: Chromium and Lead from Traffic Striping

If striping paint is to be removed or impacted in any manner, sampling and testing of the yellow striping scheduled for removal will be performed to determine the presence of lead and the need for mitigation prior to or during construction if the lead content is above the regulatory thresholds. Due to potentially hazardous levels of chromium and lead in yellow traffic stripes, if removal is included in the project scope, the stripe may be removed and disposed in accordance with Caltrans Standard Special Provisions for removal of the yellow stripes and pavement marking. A Lead Compliance Plan and a Health and Safety Plan shall be prepared to address worker safety when working with potentially lead-bearing paint.

HZ-3: Aerially Deposited Lead

The results of soil sampling indicate that lead-impacted soil in the areas investigated does not pose a significant risk to the health of workers performing the construction activities. Further, soil materials excavated to a maximum depth of 0.6 m (2 ft) below grade surface may be reused onsite and/or disposed of without restrictions. A Lead

Compliance Plan and a Health and Safety Plan shall be prepared to address worker safety when working with lead-bearing soils.

HZ-4: Underground Storage Tank

Project features in potential conflict with the existing underground storage tank will be eliminated or moved if possible. If conflicts cannot be eliminated, then the removal of the underground storage tank and any contaminated soil can be handled within the contract special provisions. A Health and Safety Plan shall be prepared to address worker safety when working with potentially contaminated soils.

2.3.5. Air Quality

Regulatory Setting

The Environmental Checklist, provided as Appendix A, includes potential issues that could lead to a significant impact pursuant to CEQA. Potential issues include conflicts with existing air plans, violations of air standards, exposure of substantial pollutant concentrations to sensitive receptors, creation of objectionable odors, or cumulative contribution to the net increase of a criteria pollutant in a non-attainment area.

The Clean Air Act as amended in 1990 is the federal law that governs air quality. Its counterpart in California is the California Clean Air Act of 1988. These laws set standards for the quantity of pollutants that can be in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). Standards have been established for Carbon Monoxide (CO), Nitrogen Dioxide(NO_2), Ozone (O_3), Fine Particulate Matter ($PM_{2.5}$)and particulate matter that is 10 microns in diameter or smaller (PM_{10}).

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

Regional level conformity is concerned with how well the region is meeting the standards set for the pollutants listed above. At the regional level, Regional

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

Conformity at the project-level is also required. Again the pollutants of concern are: CO, NO_2, O_3, $PM_{2.5}$ and PM_{10}. If a region is meeting the standard for a given pollutant, then the region is said to be in "attainment" for that pollutant. If the region is not meeting the standard, then it is designated a "non-attainment" area for that pollutant. Areas that were previously designated as non-attainment areas but have recently met the standard are called "maintenance" areas. If a project is located in a non-attainment or maintenance area for a given pollutant, then additional air quality analysis and reduction measures in regard to that pollutant is required. This is most frequently done for CO and PM_{10}.

The following are the TRPA thresholds for Air Quality that would be applicable to the current project:

- AQ1-Carbon Monoxide levels shall not exceed the TRPA 8-hour 6.0 ppm standard.
- AQ2-Ozone levels shall not exceed the TRPA 1-hour standard of 0.08 ppm.
- AQ3-Particulate Matter concentrations shall not exceed the California and Federal standards for 24-hour concentrations and the annual average.
- AQ4-TRPA's regional and sub-regional visibility standards shall not be violated. In addition, for regional and sub-regional visibility, wood smoke concentrations shall be reduced 15 percent below the 1981 levels and for sub-regional visibility suspended soil particles shall be reduced 30 percent below the 1981 levels.

- AQ7-Vehicle Miles Traveled (VMT) shall be reduced 10 percent below the 1981 levels.

- AQ8-Dissolved Inorganic Nitrogen (DIN) load on Lake Tahoe from atmospheric sources shall be reduced by approximately 20 percent of the 1973-1981 annual average.

Affected Environment

In 1969, California and Nevada designated Lake Tahoe as its own Air Basin and stringent Basin-specific air quality standards were adopted. Additional Basin-specific air quality goals were adopted as local and regional visibility thresholds defined in the 1981 TRPA Environmental Threshold Carrying Capacities, and specific emission reduction goals were adopted for Carbon Monoxide (CO), dust and smoke.

Under National Ambient Air Quality Standards, Lake Tahoe Air Basin is classified as attainment for all transportation related criteria pollutants (CO, Ozone, PM_{10}). Under California Ambient Air Quality Standards, this area is classified as attainment for both CO and Ozone, and non-attainment for $PM_{10.}$

Air quality at Lake Tahoe is excellent when compared to that of most urban areas. Few, if any, violations of state and federal air quality standards for gases and particles have occurred in recent years. According to the California Air Resources Board Almanac, the Lake Tahoe Air Basin did not exceed State or Federal standards for CO, Nitrogen Dioxide (NO_2) or Particulate Matter (PM_{10}) in 2002. The Air Basin exceeded the State Ozone (O_3) standard on one day but did not exceed the federal standard during the year. The Air Basin also did not exceed the TRPA threshold for CO in that year. The Air Basin has routinely exceeded the TRPA ozone standard, as it did in 2002.

Tahoe Air Basin emissions of Nitrous Oxides (NOx), Reactive Organic Gases (ROG), PM_{10}, and CO have not increased in the last 25 years.

Impacts

The proposed project will not have any substantial influence on the capacity or composition of the traffic on Highway 89. Certain transportation projects have no impact on regional emissions. These “neutral” projects, because of their nature, will not affect the outcome of any regional emissions analyses and may be excluded from the regional emissions analyses that are required to determine conformity with a

Transportation Improvement Plan (TIP). On the local level, implementation of this project will not increase vehicles operating in cold start mode; it will not increase traffic volumes, nor will it worsen air quality and no local (project level) CO impacts are anticipated.

The proposed project would result in the generation of short-term construction related air emissions, including fugitive dust and exhaust emissions from construction equipment. Fugitive dust, sometimes referred to as windblown dust or $PM_{10,}$ would be the primary short-term construction impact, which is typically generated during excavation, grading and hauling activities. However, both fugitive dust and construction equipment exhaust emissions would be temporary and transitory in nature. Caltrans Standard Specifications, a required component of all contracts, should effectively reduce and control emission impacts during construction. The provisions of Section 7-1.01F, Air Pollution Control and Section 10 Dust Control require the contractor to comply with all pertinent rules, regulations, ordinances and statutes of the local air district (such as Rule #228 "Fugitive Dust Control") of the Placer County Air Pollution Control District.

Naturally Occurring Asbestos in known to exist in serpentine, a greenish greasy-looking rock, found within ultramafic rock. Although some ultramafic rocks are found in the western part of Placer County, none are found in the project area. This, construction of this project would not release any asbestos in the air. If asbestos is found, Rule #905 of the Placer County Air Pollution Control District must be adhered to when handling this material.

CEQA considerations:

The only impacts to Air Quality that are expected as a result of this project will be those related to construction. These impacts will be less than significant.

NEPA considerations:

The project will not increase highway capacity and will not result in any substantial air quality impacts.

A finding of conformity was made with respect to the Regional Transportation Plan and Program (FTIP) approved by the MPO on November 17, 2004, by Caltrans on August25, 2005 and by NDOT on August 26, 2005.

TRPA considerations:

Construction of this project will not result in the inability to meet any of the TRPA thresholds listed above in the construction year or in the years following construction.

Avoidance, Minimization and/or Mitigation Measures

AQ1: Below is a list of avoidance and minimization measures to reduce the emissions of fugitive dust. The dust control practices used will be in compliance with Caltrans' Standard Construction Specifications. They may include, but are not limited to the following:

- Covering open bodied trucks when used for transporting materials likely to give rise to airborne dust.
- The use of water or suitable chemicals for control of dust in the construction process and the grading of roads or the clearing of land.
- Water disturbed areas to form a compact surface after grading and earth working.
- Watering disturbed (graded or excavated) surfaces as necessary, increasing frequency when weather conditions require.
- The prompt removal of earth or other material from paved roadways onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water, or other means.

2.3.6. Noise and Vibration

Regulatory Setting

The Environmental Checklist, provided as Appendix A, includes potential issues that could lead to a significant impact pursuant to CEQA. Potential issues include exposing people to noise levels exceeding existing standards, exposure of people to excessive ground vibrations, or substantial increases of ambient noise levels.

For highway transportation projects with FHWA involvement, the Federal-Aid Highway Act of 1970 and the associated implementing regulations (23 CFR 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations contain noise abatement criteria (NAC) that are used to determine when a noise impact would occur. The NAC differ depending on the type of land use under analysis. For example, the NAC

for residences (67 dBA) is lower than the NAC for commercial areas (72 dBA). The following table lists the noise abatement criteria.

Table 2.4: Noise Abatement Criteria for Activities Categories

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

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

In addition, TRPA has established noise threshold in three categories. Only one applies to this project:

- N-3 Community Noise Equivalent Levels (CNELs).

TRPA has established maximum community noise equivalent levels (CNELs) measured in dBA over a 24-hour period. TRPA thresholds establish different limits for different uses. The maximum CNEL for conservation areas is generally 50 CNEL, high density residential and highway areas are 55 CNEL, and Commercial Areas is 60 CNEL. These numbers may vary slightly depending on the location. Specific noise levels are identified in location specific TRPA Plan Area Statements or Community Area Plans.

In addition, Chapter 23 of the TRPA Code states standards shall not apply to TRPA approved construction or maintenance projects, or the demolition of structures, provided such activities are limited to the hours of 8 am to 6:30 pm.

Affected Environment

According to TRPA 2002 Threshold Evaluation Report, the Tahoe Basin in not in attainment with any of the agencies three established noise thresholds. Aircraft have routinely exceeded the standards in the TRPA code. Snowmobiles and watercraft have also exceeded noise standards.

Bollard & Brennan, Inc., using the FHWA Highway Traffic Noise Prediction Model (FHWARD-77-108) collected highway noise levels in 2000. The existing noise levels on Highway 89 are listed in the table below.

Table 2.5: Existing Noise Levels for Highway 89 Project Limits

Noise measurement location	Predicted CNEL at 300 feet
El Dorado County/ Placer County Line	56.0
McKinney Creek Road	56.4
Ward Creek Bridge	57.0
Fir Avenue	56.7
Fanny Bridge	53.4
Tahoe City, Jct. Rte 28 East	54.3

The Highway 89 corridor currently exceeds the TRPA threshold of 55 CNEL at four out of six measurement sites within the project limits.

This project is not interpreted as a Type I project. A Type I project is defined by 23 CFR 772 as follows: A proposed Federal or Federal-Aid highway project for the construction of a highway on a new location, or the physical alteration of an existing highway which significantly changes either the horizontal or vertical alignment, or increases the number of through-traffic lanes. No further noise analysis, for operations, is required.

Impacts

During the construction phase of the proposed project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Construction noise is unavoidable, but is regulated by Caltrans standard specifications Section 7-1.01I, “Sound Control Requirements”. These requirements state that noise levels generated during construction shall comply with all applicable

local, state, and federal regulations and that all equipment shall be fitted with adequate mufflers according to the manufacturers' specifications

CEQA considerations:

No permanent noise impacts are anticipated as a result of the project. Temporary noise impacts during construction will be less than significant with incorporation of standard construction language requiring contractors to comply with all local noise level rules, regulations and ordinances.

NEPA considerations:

The project will not result in a permanent increase in noise levels to the project area. Temporary noise impacts will be minimal.

TRPA considerations:

The project will not permanently change existing noise levels and therefore will not reduce the ability to meet community noise equivalent levels specified in TRPA Plan Area Statements and Community Area Plans.

The project limits are currently not in compliance with existing TRPA noise Thresholds. Meeting TRPA noise thresholds is not part of the purpose and need of this project.

Construction noise between the hours of 8AM and 6:30 PM will be exempt from TRPA Code upon approval of the project.

Some construction work may need to be constructed after 6:40 PM. See avoidance measure N1 below for work after 6:30 PM.

Avoidance, Minimization and/or Noise Abatement

N1: Construction activities that are expected to generate high noise levels should be conducted between the hours of 8AM and 6:30 PM to ensure compliance with TRPA Code and minimize the impact on residents and businesses in the area. An exception from TRPA noise standards may be required for work on two-lane segments of Highway 89. Two-lane segments within the project limits will likely be staged during the evening to minimize traffic impacts.

2.4. Biological Environment

In order to comply with the provisions of various state and federal environmental statutes and executive orders, the potential impacts to natural resources of the project area were investigated and documented. The project site was field reviewed to 1) identify habitat types; 2) identify potential wetlands; 3) identify factors indicating the potential for rare species; 4) identify rare species present; 5) identify potentially sensitive water quality receptors and 6) identify potential problems for the study.

2.4.1. Regulatory Setting for the Biological Environment / TRPA Thresholds / Placer County Policies

The Environmental Checklist, provided as Appendix A, includes potential issues that could lead to a significant impact pursuant to CEQA. Potential issues include interference with the movement of native resident or migratory species, conflict with policies or ordinances protecting biological resources or with an approved biological habitat management plan, adversely affecting endangered, threatened, rare species, or their habitat, or adversely affecting wetlands protected by Section 404 of the Clean Water Act.

Executive Order 13112 (February 3, 1999) charges each federal agency whose actions may affect the status of invasive species shall, to the extent practicable and permitted by law: (1) identify such actions; (2) subject to the availability of appropriations, and within Administration budgetary limits, use relevant programs and authorities to: (i) prevent the introduction of invasive species; (ii) detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner; (iii) monitor invasive species populations accurately and reliably; (iv) provide for restoration of native species and habitat conditions in ecosystems that have been invaded; (v) conduct research on invasive species and develop technologies to prevent introduction and provide for environ-mentally sound control of invasive species; and (vi) promote public education on invasive species and the means to address them. An “invasive species” is defined as a species that is 1) non-native (or alien) to the ecosystem under consideration and 2) whose introduction causes or is likely to cause economic or environmental harm or harm to human health (Executive Order 13112).

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Clean Water Act (33 U.S.C. 1344) is the primary law regulating

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

Section 404 of the Clean Water Act establishes a regulatory program that provides that no discharge of dredged or fill material can be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers (USACE) with oversight by the Environmental Protection Agency (EPA).

The limits of jurisdiction of fish and game Code Section 1602 includes the bed, channel, and bank of any river, stream or lake in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit. The limits of this jurisdiction typically extend to the outer edge of riparian vegetation, or to the top of bank for areas with little or no riparian habitat. Work within the jurisdiction of Fish and Game Code Section 1602 will require the use of a Section 1602 "Streambed Alteration Agreement".

The federal Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-711) makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). If impacts to active nests or individual birds are expected, Caltrans shall consult with USFWS regarding appropriate action to comply with the MBTA.

Biological assessments are required under Section 7(c) of Federal Endangered Species Act (FESA) if listed species or critical habitat may be present in the area affected by any major construction activity conducted by, or subject to issuance of a permit from, a federal agency as defined in Part 404.02. Under Section 7(a)(3) of FESA every federal agency is required to consult with the United States Fish and Wildlife Service (USFWS) or National Marine Fisheries Service on a proposed action

if the agency determines that its proposed action may affect an endangered or threatened species.

Federal Endangered Species Act

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

California Endangered Species Act

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code, Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project caused losses of listed species populations and their essential habitats. The California Department of Fish and Game (CDFG) is the agency responsible for implementing CESA. Section 2081 of the Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFG. For projects requiring a Biological Opinion under Section 7 of the FESA, CDFG may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

The following are the goals, policies and environmental thresholds established within the Placer County General Plan that provide guidance for development in the County

specific to biological resources. Impacts on biological resources that do not conform to Placer County goals, policies or environmental thresholds will be considered "significant" under CEQA.

- Require the provision of sensitive habitat buffers which shall, at a minimum, be measured as follows: 100 feet from the centerline of perennial streams, 50 feet from centerline of intermittent streams, and 50 feet from the edge of sensitive habitats to be protected including riparian zones, wetlands, old growth woodlands, and the habitat of rare, threatened or endangered species.

- The County shall continue to require the use of feasible and practical best management practices (BMPs) to protect streams from the adverse effects of construction activities and urban runoff and to encourage the use of BMPs for agricultural activities.

- The County shall support the "no net loss" policy for wetland areas regulated by the U.S. Army Corps of Engineers (USACE), the USFWS, and the CDFG. Coordination with these agencies at all levels of project review shall continue to ensure that appropriate mitigation measures and the concerns of these agencies are adequately addressed.

- The County shall discourage direct runoff of pollutants and siltation into wetland areas from outfalls serving nearby urban development. Development shall be designed in such a manner that pollutants and siltation will not significantly adversely affect the value or function of wetlands.

- The County shall identify and protect significant ecological resource areas and other unique wildlife habitats critical to protecting and sustaining wildlife populations. Significant ecological resource areas include the following:

    - Wetland areas including vernal pools.

    - Stream environment zones (SEZs).

    - Any habitat for rare, threatened or endangered animals or Plants.

    - Critical deer winter ranges (winter and summer), migratory routes and fawning habitat.

    - Large areas of non-fragmented natural habitat, including Blue Oak

- Woodlands, Valley-Foothill Riparian, vernal pool habitat.

- Identifiable wildlife movement zones, including but not limited to, non-fragmented SEZs, avian and mammalian migratory routes, and known concentration areas of waterfowl within the Pacific Flyway.

- Important spawning areas for anadromous fish.

The County shall require development in areas known to have particular value for wildlife to be carefully planned and, where possible, located so that the reasonable value of the habitat for wildlife is maintained.

- The County shall support preservation of the habitats of rare, threatened, endangered, and/or other special status species. Federal and state agencies, as well as other resource conservation organizations, shall be encouraged to acquire and manage endangered species' habitats.

- The County shall encourage landowners and developers to preserve the integrity of existing terrain and natural vegetation in visually sensitive areas such as hillsides, ridges, and along important transportation corridors.

- The County shall require developers to use native and compatible non-native species, especially drought-resistant species, to the extent possible in fulfilling landscaping requirements imposed as conditions of discretionary permits or for project mitigation.

- The County shall establish procedures for identifying and preserving rare, threatened, and endangered plant species that may be adversely affected by public or private development projects.

- The County shall support the management of wetland and riparian plant communities for passive recreation, groundwater recharge, nutrient catchment, and wildlife habitats. Such communities shall be restored or expanded, where possible.

- The County shall encourage the planting of native trees, shrubs, and grasslands in order to preserve the visual integrity of the landscape, provide habitat conditions suitable for native wildlife, and ensure that a maximum number and variety of well-adapted plants are maintained.

- The County shall support the preservation of native trees and the use of native, drought-tolerant plant materials in all vegetation and landscaping projects. The County shall require that new development be designed and constructed to preserve the following types of areas and features as open space to the maximum extent feasible:

    - High erosion hazard areas;
    - Scenic and trail corridors;
    - Streams, streamside vegetation;
    - Wetlands;
    - Other significant stands of vegetation;
    - Wildlife corridors; and
    - Any areas of special ecological significance.

The following TRPA Thresholds apply to the project area:

- W1-Wildlife protection and maintenance of special interest species viability in the Lake Tahoe region. Provide a minimum number of population sites and disturbance zones for the following species: 1) Northern Goshawk (*Accipiter gentilis*); 2) Osprey (*Pandion Haliaetus*); 3) Bald Eagle (*Haliaeetus leucocephalus*); 4) Golden Eagle (*Aquila chrysaetos*); 5) Peregrine Falcon (*Falco peregrinus anatum*); 6) Waterfowl (all open water associated species); and 7) Deer (*Odocoileus hemionus*).

- W2-A non-degradation standard shall apply to wildlife habitat consisting of deciduous trees, wetlands, and meadows while providing for opportunities to increase the acreage of such riparian associations.

- F1-Maintain 75 miles of habitat rated excellent, 105 miles of good, and 38 miles of marginal stream habitat.

- F2-A non-degradation standard shall apply to fish habitat in Lake Tahoe.

- F3-Achieve the equivalent of 5,948 total acres of excellent habitat in Lake Tahoe.

- F4-Until in-stream flow standards are established in the Regional Plan to protect fishery values, a non-degradation standard shall apply to in-stream flows.

- F5-It shall be a policy of the TRPA governing board to seek transfers of existing points of water diversion from streams to Lake Tahoe.

- V1-Increase plant and structural diversity of forest communities through appropriate management practices as measured by diversity indices of species richness, relative abundance, and pattern. Provide for promotion and perpetuation of late successional/old growth forests. The goal is to increase late successional/old growth conditions across elevational ranges of the Lake Tahoe Basin forest cover types. Individual trees greater than 30-inches dbh shall also be favored for retention because of their late seral attributes.

- V2-Provide for the non-degradation of the natural qualities of any plant community that is uncommon to the region or of exceptional scientific, ecological, or scenic values. This threshold shall apply but not be limited to 1) deep-water plants of Lake Tahoe; 2) Grass Lake (sphagnum bog); 3) Osgood swamp; and 4) the Freel Peak Cushion Plant community.

- V3- Maintain a minimum number of population sites for each of five sensitive plant species: 1) Carex paucifructus; 2) Lewisia pygmaea logipetala; 3) Draba asterophora v. macrocarpa; 4) Draba asterophora v. asterophora; and 5) Rorippa subumbellata.

2.4.2. Jurisdictional Wetlands, SEZ's and Other Waters

Affected Environment

Stream Environment Zones and Jurisdictional Waters

It should be noted that areas delineated as Stream Environment Zones in the Lake Tahoe basin generally encompass jurisdictional waters of the United States (including wetlands) within them, as well as areas that would not meet the definition of jurisdictional waters.

Impacts

Jurisdictional Waters of The United States.

Including the placement of the new CMP culverts and associated fill (culvert extension, FES, RSP), approximately 37.51 yd^3 of fill will be permanently placed below the ordinary high water mark of these drainages. An area totaling 318 ft^2 (0.007 acre) will be permanently impacted below the ordinary high water mark of these drainages during construction (includes the area occupied by the culvert as well as structures at each end). Approximately 4.00 yd^3 of temporary fill covering an area of 65.28 ft^2 (0.001 acre) will be required for temporary water diversion activities.

Within these jurisdictional waters, potential fish bearing waters are located at McKinney, Quail Lake, Homewood Canyon, Madden, Blackwood, and Ward Creeks, and the Truckee River. Impacts due to culvert rehabilitation or extension proposed within potential fish bearing drainages will result in a total impact area of 119 ft^2 (0.003 acre). A total volume of 9.18 yd^3 will be permanently placed below the OHWM of potential fish bearing drainages.

Jurisdictional Wetlands

A total of 3,423 ft^2 (0.079) acre of jurisdictional wetlands are expected to be permanently directly impacted by the placement of fill or structures

Stream Environment Zones

Work that will result in direct impacts to SEZ areas will consist of drainage improvements (replace/extend, or install culverts, placement of RSP, FES, etc.), road and shoulder widening activities, and revegetation and erosion control activities.

Avoidance, Minimization and/or Mitigation Measures

It is important to note that areas delineated as Stream Environment Zones in the Lake Tahoe basin generally encompass jurisdictional waters of the United States within them (which are defined more restrictive parameters than SEZs), as well as areas that would not meet the definition of jurisdictional waters.

The following avoidance, minimization, and mitigation measures (detailed in section 2.4.8 of this document) shall be implemented in areas where jurisdictional waters of the United States, including wetlands will be affected:

AV-01: Establish ESAs
WQ-01: Restrict Timing of Instream Activities
WQ-02: Minimize Disturbance to Creek Channel and Adjacent Areas
WQ-03: Containment Measures / Construction Site Best Management Practices
WQ-04: De-Watering Activities
WQ-05: Restore Riparian and Stream Habitat Disturbed by Construction:
WQ-06: “Water Quality Fees” or “Excess Coverage” Mitigation
WQ-07: Restore Disturbed SEZs at a 1.5 to 1 Ratio

2.4.3. Common Vegetation

Affected Environment

The dominant plant community in the general project area consists of Sierran mixed coniferous forest. The coniferous forest is dominated by ponderosa pine (*Pinus ponderosa*), Jeffery pine (*Pinus jefferyi*), incense cedar (*Calocedrus deccurens*), and white fir (*Abies concolor*). Common shrubs include antelope bitterbrush (*Purshia tridentata*), huckleberry oak (*Quercus vaccinifolia*), and green-leaf manzanita (*Arctostaphylos patula*).

Montane riparian vegetation can be found within the project area primarily adjacent to the Truckee River and Blackwood, Ward Creek, Madden Creek, and McKinney Creek, and sporadically along other minor drainageways. Dominant species include alder (*Alnus incana* ssp *tenuifolia),* willow (*Salix*, sp.), and black cottonwood (*Populus trichocarpa*). Understory shrubs include twinberry (*Lonicera involucrata*), mountain maple (*Acer glabrum* var. *torreyi*), and creek dogwood (*Cornus sericea*).

Impacts

Shoulder widening and construction of water quality improvement measures will result in the removal of approximately 975 trees throughout the 13 mile length of State Route 89. The majority of the trees to be removed will occur on the segment of State Route 89 between Homewood and Tahoe City.

As discussed in Section 2.2.6 Visual/ Aesthetics section of this document, all trees removed will be evaluated with TRPA in accordance with Chapter 71 of the TRPA code of ordinances as well as other applicable sections of the Code, Plan Area Statements and Scenic Thresholds.

2.4.4. Wildlife Resources

Impacts to sensitive and common wildlife species, including migratory birds protected under the MBTA, bats and fish are possible. This section discusses impacts to non-listed species and measures to avoid negative impacts.

Research was conducted prior to field surveys to determine the vegetation communities in the project area and their potential as habitat for wildlife species. This research involved database searches for sensitive animal and habitat occurrences, reviewing published and unpublished material, and contacting

knowledgeable individuals as noted above. Emphasis was placed on the special status species and management indicator species that may occur. The project area and immediate vicinity were surveyed for signs or sighting of wildlife species. Each sign or sighting was recorded in field notes.

Affected Environment

It is anticipated that migratory birds or raptors may try to nest in vegetation within the project area between March 1st and August 15th.

In addition to bat species listed as sensitive by the resource agencies discussed below and in table 14, state laws protect bats and their occupied roosts from harassment and destruction. Protection under California Law is found in the Fish Game code Section 2000, 2002, 2014 and 4150, and under California Code of Regulations section 251.1. It is anticipated that tree roosting bats may use the forested areas within the project area.

Several species of bats require trees as daytime roosts, and several other species day roost in trees occasionally or use trees as important night roosts. The following are tree roosting bat species that may be expected to occur in the project area (Grindall, 1996; CDFG, 2002 and Zeiner et al. 1990):

Obligate Tree Roosting Species	Tree Important
Lasionycteris noctivagans	*Antrozous pallidus*
Lasiurus cinereus	*Eptesicus fuscus*
Lasiurus blossevillii	*Myotis lucifugus*
	Myotis yumanensis
	Myotis californicus
	Myotis ciliolabrum
	Myotis evotis
	Myotis thysanodes
	Myotis volans

Impacts

By observing the avoidance, minimization and mitigation measures below, no direct impacts to migratory bird species are expected to occur. Because suitable nesting and foraging habitat for these species exists within and adjacent to the project area, these species may be potentially indirectly affected, although the extent of these impacts is expected to be minor. Construction noise and activities within the project area may disrupt normal foraging, movement, or nesting patterns within the project vicinity.

Populations of migratory bird species within the Lake Tahoe Basin are not likely to adversely impacted by the proposed project.

Because no impacts to caves, mines, or man-made structures with appropriate features for bat roosts are expected, no direct or indirect impacts to cave, mine, or structure roosting bat species are expected to occur.

Although the removal of woody vegetation required for roadway improvements, shoulder widening, and drainage rehabilitation throughout the project area has the potential to directly impact bat roosts, vegetation removal is not expected to adversely impact populations of tree roosting bat species. 975 trees are proposed to be removed in the course of project construction, and range in size from 2" to 40" DBH. Smaller trees (DBH < 12") probably do not possess appropriate structures for use as bat day roosts (exfoliating bark, cavities, or fissures) for tree roosting bats, and are more likely to be used as temporary night roosts. The larger trees (DBH > 12"), are more likely to possess appropriate structures for use as bat day roosts. Because suitable roosting and foraging habitat for these species exists within and adjacent to the project area, these species may be potentially indirectly impacted, although the extent of these impacts is expected to be minor. Construction noise and activities within the project area may temporarily disrupt normal foraging, movement, or roosting patterns within the project vicinity. Populations of bat species within the Lake Tahoe Basin are not likely to be adversely affected by the proposed project.

2.4.5. Special Status Animal Species

The following summarizes Caltrans' determinations for Threatened and Endangered Species that are afforded protection under the Federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA) that may occur within the project vicinity.

Affected Environment

This section provides information on sensitive animal species that are known or may occur in the project vicinity. Table 2.6 below lists all potential sensitive animal species compiled from USFWS, USFS, and CNDDB lists, literature research, and project files. Special-status species that have been recorded in or adjacent to the Lake Tahoe Region, but for which there are no observations and no appropriate habitat within the project area are provided in this table and no further discussion of these

species is provided. An expanded discussion is provided for sensitive species for which potential habitat is present and that may be expected to occur in the project area or were detected within the project limits during field surveys.

Table 2.6: Sensitive Animal Species Considered as Part of Environmental Review

Scientific Name	Common Name	Status	Habitat	Potential within project vicinity
Accipiter genitilis	Northern Goshawk	CSC, LTBMU, MI, TRPA	Mature coniferous forests	Moderate. Goshawk territories located near project area
Anas platyrhynchos	Mallard	MI, TRPA	Shallow ponds, lakes, rivers, marshes and flooded fields. Nests in concealing vegetation.	Moderate. Potential suitable habitat is located near project area.
Aplodontia rufa	Sierra Nevada Mountain Beaver	CSC	Dense riparian-deciduous forest, preferring open and intermediate canopy cover with dense understory near water. Deep, friable soils required for burrowing	Moderate. Potential suitable habitat is located within project area.
Aquila chrysaetos	Golden Eagle	TRPA	Nest on cliffs and in large trees in open areas. Hunts in rolling foothills, mountain areas, sage-juniper flats, and deserts.	Low. Suitable nesting habitat unavailable in project vicinity
Capnia lacustra	Lake Tahoe Benthic Stonefly	MI	Deep waters of Lake Tahoe	Low. Project does not impact deep waters of lake Tahoe
Corynorhinus townsendii	Townsend's Big-Eared Bat	LTBMU	Desert and pinyon/scrub associations. Roosts in caves, mines and buildings	Low. Project area may provide foraging habitat, no breeding or roosting habitat available. Unconfirmed presence in Tahoe region
Dendroica petechia brewsteri	Yellow Warbler	CSC	Breeds in riparian deciduous habitats	Moderate. Potential suitable habitat is located within project area.
Dendropagus obscurus	Blue Grouse	MI	Open, mid- to mature-aged stands of fir, Douglas-fir, and other conifer habitats interspersed with medium to large openings, and available water	Low. Marginal habitat available within project area
Drycopus pileatus	Pileated Woodpecker	MI	Dense, mature deciduous and coniferous forests, requires large territories.	Low. Suitable nesting habitat not present in project area
Empidonax trallii	Willow Flycatcher	CE, LTBMU, MI	Nests in extensive montane willow thickets 2,000-8,000 feet elev.	Low. Extensive willow thickets not available in project area
Euderma maculatum	Spotted Bat	FSC	Occurs in a variety of habitats. Roosts in rock crevices along cliffs or caves	Low. Project area may provide foraging habitat, no breeding or roosting habitat available. Unconfirmed presence in Tahoe region
Falco peregrinus anatum	Peregrine Falcon	FD, LTBMU, TRPA	Nests and roosts on protected ledges	Low. Suitable nesting habitat unavailable in project vicinity
Gilia bicolor pectinifer	Lahontan Tui Chub	LTBMU	Large, deep lakes of the Lahontan basin. Algal beds in shallow, inshore areas seem necessary for successful spawning, egg hatching, and larval survival	None. Appropriate aquatic habitat is not available within project area.
Gulo gulo luteus	California Wolverine	CT, LTBMU	Montane conifer, subalpine conifer, alpine dwarf-shrub, wet meadow, and montane riparian habitats. Prefer areas with low human disturbance,	Low. Unlikely to enter developed project area.
Haliaeetus leucocephalus	Bald Eagle	FT, CE, MI, TRPA	Coniferous and conifer/hardwood forests near water	Moderate. Closest recorded nesting/roosting occurrence is 15 miles from project area, but has been recorded perching in project vicinity
Hydromantes platycephalus	Mount Lyell Salamander	FSC, CSC	Inhabits high elevation rock fields in mixed conifer, lodgepole pine, and subalpine areas, using rock fissures seeps, shade, and low plants	Low. Appropriate habitat not present in project area. Species not known from Tahoe Region
Hypomesus	Delta Smelt	FT	Inhabits slow waters of Sacramento-San	None. Project area is outside

transpacificus			Joaquin delta and tributaries	of known range of this species.
Lepus americnus tahoensis	Sierra Nevavda Snowshoe Hare	CSC	Early successional montane forests with brushy understory	Moderate. Potential suitable habitat is located within project area.
Martes americana	American Marten	LTBMU	Mature coniferous forests	Moderate. Marginal foraging habitat available in project area. Denning habitat not available.
Martes pennanti pacifica	Pacific Fisher	CSC, LTBMU	Mature coniferous forests	Low. Lack of recent sightings, project area within suspected gap in distribution
Myotis ciliolabrum	Small Foot Myotis	FSC	Inhabits relatively arid woody and brushy uplands near water. Colonies roost in buildings, mines, and caves	Low. Project area may provide foraging habitat, marginal breeding or roosting habitat available. Unconfirmed presence in Tahoe region
Myotis evotis	Long Eared Myotis	FSC	Inhabits a variety of wooded habitats. Roosts in buildings, crevices, under bark, and in snags	Moderate. Forest adjacent to project area may provided suitable roosting and foraging habitat
Myotis thysanodes	Fringed Myotis	FSC	Inhabits a variety of wooded habitats. Roosts in caves mines, crevices and buildings.	Moderate. Project area may provide foraging habitat, marginal breeding or roosting habitat available.
Myotis volans	Long Leg Myotis	FSC	Commonly inhabits woodlands and forests above 4,000 feet. Roosts in rock crevices, buildings, tree bark, in snags, mines, and cave.	Moderate. Forest adjacent to project area may provided suitable roosting and foraging habitat
Myotis yumanensis	Yuma myotis	FSC	Inhabits open forests and woodlands near water. Roosts in caves, mines, crevices, and buildings.	Moderate. Project area may provide foraging habitat, marginal breeding or roosting habitat available.
Odecoileus hemionus	Mule Deer	MI, TRPA	Forests, brushfields, and meadows statewide.	High. Deer may forage in project vicinity, but project area not suitable for fawning
Onochorhynchus clarki henshawi	Lahontan Cutthroat Trout	FT, MI, TRPA	Lakes and streams of the Lahontan basin.	High. Species planted in Truckee River, extirpated from Lake Tahoe proper

Onocorhynchus mykiss	Central Valley Steelhead	FT	Sacramento-San Joaquin rivers and accessible tributaries	None. Project area is outside of known range of this species.
Onocorhynchus mykiss	Rainbow Trout	MI	Cold perennial freshwater systems statewide	Moderate. Species may use drainages within project area on seasonal basis
Onocorynchus tshawyscha	Central Valley ESU Chinook Salmon (fall and spring runs)	FPE/FPT	Sacramento-San Joaquin rivers and accessible tributaries	None. Project area is outside of known range of this species.
Pandion haliaeetus	Osprey	CSC, TRPA	Conifer and conifer/hardwood forests near water	High. Species known from within 1 mile of project area
Pogonicthys macrolepidotus	Sacramento Splittail	FE	Inhabits slow waters of Sacramento-San Joaquin delta and tributaries	None. Project area is outside of known range of this species.
Rana muscosa	Mountain Yellow-Legged Frog	FC, CSC, LTBMU	Inhabits ponds, tarns, lakes, and streams at moderate to high elevations.	Low. Lack of recent detections in western Tahoe Basin
Rana pipiens	Northern Leopard Frog	LTBMU	Quiet permanent or semi-permanent aquatic habitat with emergent and submergent vegetation, and vegetated habitat with moist substrate in vicinity of aquatic habitat	Low. Presumed extirpated in Tahoe basin due to lack of detections in last 30 years
Riparia riparia	Bank Swallow	CT	Require available sandy vertical bluffs or riverbanks for digging nest burrows. Nests in colonies.	Low. Nesting habitat not available within project vicinity.
Salvelinus fontinalis	Brook Trout	MI	High mountain lakes and streams, generally above 4,000' elevation, requires	Moderate. Species may use drainages within project area

			cool oxygenated waters	on seasonal basis
Strix nebulosa	Great Grey owl	LTBMU	Breeds in old-growth red fir, mixed conifer, or lodgepole pine habitats, always in the vicinity of wet meadows	Low. Lack of recorded occurrences in Tahoe basin. Suitable nesting and foraging habitat not available within project area
Strix occidentalis occidentalis	California spotted Owl	CSC, LTBMU, MI	Mature forests with suitable nest sites	Moderate. Owl PACs located near project area
Ursus americanus	Black Bear	MI	Forested habitats statewide	High. Somewhat tolerant of human presence
Vulpes vulpes necator	Sierra Nevada red Fox	LTBMU	Coniferous forests above 5,000 feet, often associated with montane meadows	Low. Potentially suitable habitat is present within project area. Not detected during recent surveys

CE: CA Endangered **CT:** CA Threatened **CR:** CA rare; Not presently threatened with extinction, it is in such small numbers that it may become endangered if its present environment worsens. **CSC**: California Special Concern: Plants protected under native Plant protection Act (NPPA), California Environmental quality Act (CEQA), or the Natural Communities Conservation Planning Act (NCCPA) **FE:** Federal Endangered **FT**: Federal Threatened **FPE:** Federal Proposed Endangered **FPT:** Federal Proposed threatened **FC**: Candidate for Federal Listing; **FPD:** Federal Proposed Delisting; **FSC:** Federal Species of Concern-Species for which the USFWS has sufficient information to propose them as threatened or endangered under the Endangered Species Act. **TRPA**: Tahoe Regional Planning Agency Special Interest Species; **LTBMU:** Lake Tahoe Basin Management Unit Sensitive Species, **MI:** LTBMU Management Indicator Species; Land Resources Management Plan

Impacts

1. Due to the project area being outside the range of the species, the lack of suitable habitat or habitat components in the project area, the lack of detection during recent USFS, TRPA, and Caltrans surveys or because the project would not harm individuals or alter the species' habitat, it is Caltrans' determination that the proposed project will have **"no effect"** on the following Federally listed threatened or endangered, candidate, or proposed species or their critical habitat:

   Truckee Barberry (FPD), Central Valley Fall-Run Chinook Salmon (FPT), Central Valley Spring-Run Chinook Salmon (FPE), Central Valley Steelhead (FT), Delta Smelt (FT), Sacramento Splittail (FE), Lahontan Cutthroat Trout (FT), Mountain Yellow Legged Frog (FC, FSS),

2. The proposed activities would result in some loss of habitat, or reductions in the habitat quality or timing of nesting, denning, and/or foraging opportunities for the following species. The scale of this reduction and/or loss is small within the analysis area and design features and avoidance and minimization measures exist to reduce both direct and indirect impacts. Also, the proposals are consistent with conservation strategies and direction as provided in TRPA goals, policies, and ordinances, the USFS-LTBMU Land and Resource management Plan, and the

SNFP FEIS ROD. Therefore, it is Caltrans' determination that the proposed activities **"may affect but are not likely to adversely affect"** individuals of the following Federally or State listed threatened or endangered, candidate, or proposed species or their critical habitat:

Bald Eagle (FT, CE), Tahoe Yellow Cress (FC, FSS, CE)

3. Due to the project area being outside the range of the species, the lack of suitable habitat or habitat components in the project area, the probable absence of a species from historic range, the lack of detection during recent USFS-LTBMU, TRPA, and Caltrans surveys or because the project would not harm individuals or alter the species' habitat, it is Caltrans' determination that the proposed action will have **"no affect"** on the following Federal Species of Concern and Forest Service Sensitive species:
   Lake Tahoe Benthic Stonefly (FSC), Lahontan Lake Tui Chub (FSS), Mount Lyell Salamander (FSC), Northern Leopard Frog (FSS), American Peregrine Falcon (FD, FSS), Tricolor Blackbird (FSC), Oak Titmouse (FSC), American Dipper (FSC), Black Swift (FSC), Flammulated Owl (FSC), Willow Flycatcher (FSS), California Spotted Owl (FSC, FSS), Great Grey Owl (FSS), , California Wolverine (FSS), Pacific Fisher (FSC, FSS),

4. As discussed in Section 5 of this document ("Biological Resources: Direct and Indirect Impacts"), the proposed activities would result in some loss of habitat or reductions in the habitat quality or timing of nesting, denning, and/or foraging opportunities for the following species. The scale of this reduction and/or loss is small within the analysis area and design features and conservation measures exist to reduce both direct and indirect impacts. Also, the proposals are consistent with conservation strategies and direction as provided in TRPA goals, policies, and ordinances, the USFS-LTBMU Land and Resource management Plan, and the SNFP FEIS ROD. Therefore, it is Caltrans' determination that the proposed activities **"may affect but is not likely to adversely affect"** individuals of the following Federal Species of Concern and Forest Service Sensitive species:

   Northern Goshawk (FSC, FSS), Lewis Woodpecker (FSC), White Headed Woodpecker (FSC), Rufous Hummingbird (FSC), Sierra Nevada Snowshoe Hare (FSC), American Marten (FSS), Spotted Bat (FSC), Townsend's Big Eared Bat (FSS), Small Footed Myotis Bat (FSC), Long Eared Myotis Bat

(FSC), Fringed Myotis Bat (FSC), Long Legged Myotis Bat (FSC)

5. Due to the project area being outside the range of the species, the lack of suitable habitat or habitat components in the project area, the lack of detection during recent Caltrans, TRPA and USFS-LTBMU surveys, or because the project would not harm individuals or alter the species' habitat, it is Caltrans' determination that the proposed project will have **"no effect"** on the following California State listed or proposed listed threatened or endangered species:
   California Wolverine (CT), Bank Swallow (CT), Willow Flycatcher (CE),

2.4.6. Protected Plant Species

Research was conducted prior to field surveys to determine the vegetation communities in the project area and the associated specific plants. Emphasis was placed on the special status species that may occur, This research involved database searches for rare plant and habitat occurrences, reviewing published and unpublished material, field reconnaissance, and contacting knowledgeable individuals as noted above.

Field surveys followed the floristic survey protocol recommended by the California Native Plant Society (2001), Nelson (1987), and California Department of Fish and Game (1984) to locate and identify plant species located within the project study area. Field survey schedules to identify special status plants were determined based on the known blooming periods of these species. Field surveys were accomplished by walking parallel transects within the project study area. Occurrences of sensitive plant species were recorded in the field on aerial photographs of the project site, and with the use of a global positioning system (GPS), and later transferred to project plans.

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

Affected Environment

This section provides information on sensitive plant species that are known or may occur in the project vicinity. Table 2.7 below lists all potential sensitive plant species compiled from USFWS, USFS, CNPS, and CNDDB lists, literature research, and project files. Results of presence or absence of species in the project area obtained from field surveys are indicated in the last column.

Table 2.7: Sensitive Plant Species Considered as Part of Environmental Review

Scientific Name	Common Name	Status	Habitat/ Notes	Bloom Period	Potential within project vicinity
Arabis rigidissima demota	Galena Creek Rock Cress	List 1B, LTBMU	Broadleaf upland forest and upper montane coniferous forest on rocky substrate.	August	Low. Not detected during surveys.
Berebris aquifolium repens (= B. sonnei)	Truckee Barberry	FPD			Moderate. Not detected during surveys.
Botrychium ascendens	Upswept Moonwort	List 2	Lower montane coniferous forest, mesic soils.	July-August	Moderate. Not detected during surveys.
Carex limosa	Shore Sedge	List 2	Bogs, fens, montane coniferous forest, meadows, marshes	June-August	Moderate. Not detected during surveys.
Carex paucifructus (= C. mariposana)	Sierra Sedge	TRPA			Moderate.. Not detected during surveys.
Chaenactis douglasii alpina	Alpine Dusty Maidens	List 2	Granitic alpine boulder and rock fields	July-September	None. Appropriate habitat not available within project area. Not detected during surveys.
Draba asterophora asterophora	Tahoe Draba	List 1B, TRPA, LTBMU	Alpine boulder and rock fields in subalpine coniferous forest	July-August	None. Appropriate habitat not available within project area. Not detected during surveys.
Draba asterophora macrocarpa	Cup Lake Draba	List 1B, TRPA, LTBMU	Subalpine coniferous forest, rocky substrates.	July-August	None. Appropriate habitat not available within project area. Not detected during surveys.
Epilobium howelii	Subalpine Fireweed	List 1B, LTBMU	Meadows, subalpine coniferous forest, mesic sites	July-August	Low. No occurrence in Tahoe Region. Not detected during surveys.
Epilobium palustre	Marsh Willowherb	List 2			Moderate. Not detected during surveys.
Epiolobium oreganum	Oregon Fireweed	List 1B	Bogs, fens, lower mesic montane coniferous forest	June-August	Moderate.. Not detected during surveys.
Eriogonum umbellatum torreyanum	Donner Pass Buckwheat	FSC, List 1B, LTBMU	Meadows, upper montane coniferous forest, rocky volcanic.	July-September	Low. Appropriate habitat not available within project area. Not detected during surveys.
Glyceria grandis	American Manna Grass	List 2	Bogs, fens, meadows, marshes, stream and lake margins, wet places	June-August	Moderate. Not detected during surveys.
Lewisia longipetala	Log Petaled Lewisia	List 1B, TRPA, LTBMU	Alpine boulder and rock fields, subalpine coniferous forest, mesic, rocky sites	July-August	None. Appropriate habitat not available within project area. Not detected during surveys.
Rorripa subumbellata	Tahoe Yellow Cress	FC, CE, TRPA, LTBMU	Decomposed granitic beaches of Lake Tahoe	May-September	Moderate. Project will have minor impacts to lakeshore areas.
Scientific Name	**Common Name**	**Status**	**Habitat/ Notes**	**Bloom Period**	**Potential within project vicinity**

Scirpus subterminalis	Water Bullrush	List 2	Marshes, montane lake margins	July-August	Low. Not detected during surveys.
Scutellaria galericulata	Marsh Skullcap	List 2	Wet sites, mesic meadows and streambanks in coniferous forest	June-September	Moderate. Not detected during surveys.

CE: CA Endangered **CT:** CA Threatened **CR:** CA rare; Not presently threatened with extinction, it is in such small numbers that it may become endangered if its present environment worsens. **CSC**: California Special Concern: Plants protected under native Plant protection Act (NPPA), California Environmental quality Act (CEQA), or the Natural Communities Conservation Planning Act (NCCPA) **FE:** Federal Endangered **FT**: Federal Threatened **FPE:** Federal Proposed Endangered **FPT:** Federal Proposed threatened **FC**: Candidate for Federal Listing; **FPD:** Federal Proposed Delisting; **FSC:** Federal Species of Concern- Species for which the USFWS has sufficient information to propose them as threatened or endangered under the Endangered Species Act. **CNPS List 1B:** California Native Plant Society list of plants rare, threatened or endangered in California **CNPS List 2:** California native Plant Society list of plants rare, threatened or endangered in California, but more common elsewhere. **CNPS List 3:** California native Plant Society list of plants about which there is a need for more information- a review list. **CNPS List 4:** California native Plant Society list of plants of limited distribution- a watch list. **TRPA**: Tahoe Regional Planning Agency Special Interest Species; **LTBMU:** Lake Tahoe Basin Management Unit Sensitive Species

Impacts

It has determined that the proposed project will have **"no effect"** on the following plant species protected by the Native Plant Protection Act:

Alpine Dusty Maidens (CNPS List 2), American Manna Grass (CNPS List 2), Cup Lake Draba (CNPS List 1B), Donner Pass Buckwheat (CNPS List 1B), galena Rock Cress (CNPS List 1B), Long Petal Lewisia (CNPS List1B), Marsh Skullcap (CNPS List 2), Marsh Willowherb (CNPS List 2), Oregon Fireweed (CNPS List 1B), Shore Sedge (CNPS List 2), Subalpine Fireweed (CNPS List 1B), Tahoe Draba (CNPS List 1B), Upswept Moonwort (CNPS List 2), Water Bullrush (CNPS List 2)

Tahoe Yellow Cress (TYC):

Although some minor construction activities are proposed to take place within the lakeshore zone, TYC is not expected to be directly impacted. In general, disturbance within the lakeshore zone will be limited to soil stabilization and erosion control treatments at existing near-shore culvert outfalls.

Because growth of TYC appears best when surface sands are dry and moisture is visible at 5 cm depth (Pavlic, et al., 2002), indirect impacts to potential TYC habitat are possible as a result of drainage system modification, if these modifications alter the current hydrology patterns in these areas. Local hydrology patterns are not likely to be altered by drainage improvement activities (culvert replacement) for the

majority of these sites as they are proposed to be replaced in the same area as the existing, therefore indirect impacts are possible, but unlikely to occur.

A number of project drainage features (including basins, bio-swale areas and sand vaults) are designed with outfalls that require drainage easements extending down to the lakeshore zone. Drainage easements that extend down to the lakeshore zone are located in the following areas:

PM 0.32 Tahoma	PM 2.10 Near South Street
PM 0.42 Tahoma	PM 2.84 Near Oak Street
PM 0.47 Near Elm Street	PM 4.29 Near Blackwood Creek Drive
PM 1.13 Near McKinney Creek	PM 5.43 Near Timberland Lane
PM 1.83 Near Tahoe Ski Bowl	PM 6.09 Near Tamarack Lane
PM 2.05 Near South Street	PM 7.58 Near Cathedral Drive

Only minor construction activities are expected to occur along these proposed drainage easements (minor grading), and no construction activities are expected to occur within the lakeshore zone of Lake Tahoe adjacent to these drainage easements, however stormwater flows that are directed down these easements have the potential to alter the hydrologic regime of adjacent lakeshore areas.

Avoidance, Minimization and/or Mitigation Measures

Although no significant impacts to Tahoe Yellow Cress are expected as a result of this project, the following avoidance and minimization measures shall be implemented in lakeshore areas where construction activities are proposed (detailed in section 2.4.8 of this document):

AV-01: Establish ESAs
RP-01: Pre-Construction Surveys for Tahoe Yellow Cress
WQ-01: Restrict Timing of Instream Activities
WQ-02: Minimize Disturbance to Creek Channel and Adjacent Areas
WQ-03: Containment Measures / Construction Site Best Management Practices
WC-01: Weed Free Construction Equipment
WC-02: Equipment Staging in Weed Free Areas
WC-03: Weed Free Erosion Control Treatments

2.4.7. Invasive Species / Noxious Weeds

Regulatory Setting

On February 3, 1999, President Clinton signed Executive Order 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration guidance issued August 10, 1999 directs the use of the state's noxious weed list to define the invasive plants that must be considered as part of the NEPA analysis for a proposed project.

Region 5 of the USDA Forest Service has implemented the provisions of executive order 13112 specific to noxious weed species into the SNFP, and these measures shall be implemented by Caltrans. The SNFP Amendment requires a noxious weed risk assessment for any ground disturbing activities in order to prevent the spread of the weeds into the surrounding area. The assessment would determine if project activities have a low, moderate, or high risk for the spread of the weeds (the Forest Service defines noxious weeds as plants designated as noxious by Federal or State law). If noxious weeds are found in the area, the project shall include control measures to decrease the risk of spreading. These measures shall include the use of noxious weed-free hay or straw and equipment cleaning. Steps shall be taken to: 1) prevent introduction of new invaders, 2) conduct early treatment of new infestations, and 3) contain and control established infestations.

Affected Environment

Noxious weeds are plants considered as "troublesome, aggressive, intrusive, detrimental, or destructive to agriculture, silviculture, or important native species, and difficult to control or eradicate". Plant species to be considered as "noxious weeds" for this assessment were compiled from TRPA, USFS-LTBMU, California Department of Food and Agriculture (CDFA), and U.S. Department of Agriculture (USDA) lists.

No established infestations of noxious weeds were detected in the project area, however scattered individuals of noxious weeds do occur on the project site (Klamath

weed, thistles). In addition, many species of noxious weeds are known to be moderately common along the state highway system located just outside of the Tahoe Basin (including SR-89 and I-80, north of the project area), which may be potentially dispersed into the Lake Tahoe Basin by way of the highway system. Common noxious weeds in these areas include Klamath weed (*Hypericum perforatum)* spotted and sqaurrose knapweeds and yellow star thistle (*Centaurea maculosa*, C. *squarrossa*, C. *solstitialis*), white-top cress (*Cardaria draba*), quackgrass (*Elytrigia repens*), and Canada thistle (*Cirsium arvense*).

Impacts

Impacts to native vegetation, SEZs and wetlands within the project area due to an increase in noxious weed spread as a result of the proposed project are possible, but not likely given that relatively few noxious weeds are known from the project area and by implementing avoidance strategies and design features for reducing the spread of noxious weeds as described below. In general, the amount of disturbance associated with road widening and drainage improvement activities is relatively low, given the limited extent of impacts adjacent to the existing roadway, so the habitat changes due to construction activities (reduced shade and soil cover) that could increase noxious weed growth are also relatively low.

Avoidance, Minimization and/or Mitigation Measures

The potential introduction to the project site of noxious weed material from outside of the project area shall be avoided or minimized by implementing the following measures (detailed in section 2.4.8 of this document):

WC-01: Weed Free Construction Equipment

WC-02: Equipment Staging in Weed Free Areas
WC-03: Weed Free Erosion Control Treatments

2.4.8. Avoidance, Minimization and Mitigation Measures for Biological Resources

The following is a detailed listing of the avoidance, minimization and mitigation measures mentioned in the above sections.

AV-01 Establish Environmentally Sensitive Areas: Additional direct and indirect impacts to sensitive biological resources, including wetland and SEZ resources, throughout the project area will be avoided or minimized by designating these features outside of the construction impact area as “environmentally sensitive areas”

(ESAs) on project plans and in project specifications. ESA information will be shown on contract plans and discussed in the Special Provisions. ESA provisions may include, but are not limited to, the use of temporary orange fencing to delineate the proposed limit of work in areas adjacent sensitive resources, or to delineate and exclude sensitive resources from potential construction impacts. Contractor encroachment into ESAs will be restricted (including the staging/operation of heavy equipment or casting of excavation materials). ESA provisions shall be implemented as a first order of work, and remain in place until all construction activities are complete.

RP-01 Pre-Construction Surveys for Tahoe Yellow Cress: Because the project may result in effects to the shore zone where TYC may occur, surveys for this species shall be conducted prior to final design of the project. Prior to conducting surveys for TYC, The Reno Office of the USFWS shall be consulted for up to date information regarding known occurrences TYC in the project vicinity. The Reno Office of the USFWS shall be consulted after TYC surveys are complete to insure that potential impacts are avoided or minimized and that project activities do not inhibit long-term conservation efforts for the survival of TYC.

WQ-01 Restrict Timing of In-Stream Activities: To avoid direct impacts to fisheries resources, no work will be performed within fish bearing drainages within the project area until flows are at their seasonal low or have ceased and the streambed is dry (Culvert rehabilitation or extension is proposed at potential fish bearing waters located at McKinney, Quail Lake, and Homewood Canyon Creeks). Furthermore, no work will be performed in the remainder of the project's drainages until flows are at their seasonal low or have ceased and the streambed is dry in order to avoid or minimize discharges into these systems that would degrade water quality. It is predicted that in most years, the seasonal dry period of these drainages occurs between July 15th and October 15th, however work within these drainages will be subject to stream conditions and permit restrictions.

WQ-02 Minimize Disturbance to Creek Channel and Adjacent Areas: Disruption of the streambed and adjacent riparian corridor will be minimized. All stream and riparian habitat areas outside of the construction limits will be designated as ESA's as detailed in measure AV-01.

Disturbed areas within the construction limits, including temporary or permanent access routes, will be graded to minimize surface erosion and siltation into

streambeds. Any access routes will be removed after each construction season and the streambed and bank will be re-contoured back to the general angle of repose that existed post- construction. Streambanks and adjacent areas that are disturbed by construction activities will be stabilized to avoid increased erosion during subsequent storms and runoff. Bare areas will be covered with mulch and re-vegetated to pre-project conditions. Construction site BMP's will be utilized to prevent contamination of the streambank and watercourse from construction material and debris as detailed in measure WQ-03.

WQ-03 Containment Measures / Construction Site Best Management Practices:
Measures will be employed to prevent any construction material or debris from entering surface waters or their channels. BMP's for erosion control will be implemented and in place prior to during, and after construction in order to ensure that no silt or sediment enters surface waters.

Caltrans' Standard Specifications require the Contractor to submit a Storm Water Pollution Prevention Plan (SWPPP). This plan must meet the standards and objectives to minimize water pollution impacts set forth in section 7-1.01G of Caltrans' Standard Specifications. The Storm Water Pollution Prevention Plan (SWPPP) must also be in compliance with the goals and restrictions identified in the Lahontan Water Quality Control Board's Basin Plan. Any additional measures included in the 401 certification, 1602 Agreement, 404 permit, or TRPA permit will be complied with. These standards/objectives, at times referred to as "Best Management Practices" (BMP's), include but are not limited to:

- Where working areas encroach on live or dry streams, lakes, or wetlands, TRPA and Lahontan RWQCB-approved physical barriers adequate to prevent the flow or discharge of sediment into these systems shall be constructed and maintained between working areas and streams, lakes and wetlands. During construction of the barriers, discharge of sediment into streams shall be held to a minimum. Discharge will be contained through the use TRPA and Lahontan RWQCB-approved measures that will keep sediment from entering protected waters.
- Oily or greasy substances originating from the Contractor's operations shall not be allowed to enter or be placed where they will later enter a live or dry stream, pond, or wetland.
- Asphalt concrete shall not be allowed to enter a live or dry stream, pond, or wetland.

WQ-04 De-Watering Activities: Depending on seasonal flows, de-watering of the streambed or culvert course and or a temporary stream diversion may be necessary where culvert rehabilitation or replacement is proposed. All de-watering activities will observe measures WQ-1, WQ-2, and WQ-3. Any intakes that may be required for water pumps associated with wetting/ irrigation/ de-watering of sites shall be screened to RWQCB specifications to avoid the intake of fish. If de-watering of the site is deemed necessary, a temporary sediment-settling basin will be constructed downstream of the activity. All discharge waters associated with the de-watering activities will be pumped into the constructed basin before being allowed to re-enter project area drainages.

WQ-05 Restore Riparian and Stream Habitat Disturbed by Construction: Prior to vegetation removal, the area will be surveyed by a qualified biologist for a complete accounting of species and their quantities present within the construction limits. Upon completion of the construction project, streambanks will be permanently stabilized and the riparian areas will be re-planted with appropriate native species. Tree and shrub species that will be used for the restoration will include willow, alder, and cottonwood. Stream channels will be re-graded to pre-construction conditions.

A restoration and monitoring plan will be prepared by the Caltrans Landscape Architecture Branch and will be submitted for approval by the appropriate agencies prior to project permitting. The restoration plan will outline and detail all planting and erosion control activities, and all associated proposed monitoring activities (including length and timing of monitoring, success criteria, remedial actions, and documentation). A draft conceptual restoration and monitoring plan is included in Appendix A.

WQ-06 "Water Quality Fees" or "Excess Coverage" Mitigation: Any new land coverage in the Lake Tahoe basin is subject to TRPA regulation and may be assessed a "water quality mitigation fee" (for projects utilizing "allowable" potential coverage; \$1.34 per ft^2) or to perform "Excess Coverage Mitigation" (for projects utilizing "excess" coverage). Excess land coverage is defined as existing coverage beyond the total maximum allowable base coverage, the transferred coverage, and the coverage previously mitigated under this program. The Excess Coverage Mitigation program offers five options to mitigate excess land coverage:

1. Reduce coverage onsite,

2. Reduce coverage offsite,
3. Coverage mitigation fee ($6.50 per ft^2 in Placer County) used to retire land coverage within the same hydrologic zone.
4. Parcel consolidation or parcel line adjustment,
5. Projects within community plans (see TRPA Code Section 20-5).

WQ-07: Restore Disturbed SEZs at a 1.5 to 1 Ratio: Mitigation as detailed in WQ-07 shall be provided at a 1.5 to 1 ratio for direct impacts to SEZ areas according to TRPA policy.

WL-01 Ensure Fish Passage: Caltrans shall ensure that the contractor conducts work operations so as to allow free passage of all age classes of salmonids within project drainages at all times. Corrective action shall be taken immediately (when safe based on stream flows) if the culverts create a condition that obstructs fish passage (plugged by sediment and debris for example). Any intakes that may be required for water pumps associated with wetting/ irrigation/ de-watering of sites shall be screened to RWQCB specifications for to avoid fish kills.

WL-02 Pre-Construction Amphibian Surveys: A focused survey for MYLFs shall be conducted by a qualified biologist within 30 days prior to the beginning to project-related activities. In the unlikely event that MYLF is found, Caltrans shall consult with USFWS regarding appropriate action to comply with the Federal Endangered Species Act before the work can be initiated. If a lapse in project related work of thirty days or longer occurs, a focused survey and, if required, consultation with USFWS will be required before the work can be reinitiated.

WL-03 Restrict Timing of Woody Vegetation Removal: It is recommended that the removal of any woody vegetation (trees and shrubs) required for the project is completed between August 16th and February 28th prior to project construction, outside of the predicted nesting season for raptors and migratory birds in this area. Vegetation removal outside this time period may not proceed until a survey by a qualified biologist determines no nests are present or in use (see WL-04 below).

WL-04 Nesting Bird Survey: If woody vegetation removal, construction, grading, or other project-related improvements are scheduled during the nesting season of protected raptors and migratory birds (March 1st to August 15th), a focused survey for active nests of such birds shall be conducted by a qualified biologist within 30 days prior to the beginning to project-related activities. If active nests are found, Caltrans shall consult with USFWS regarding appropriate action to comply with the Migratory

Bird Treaty Act of 1918 and with CDFG to comply with provisions of the Fish and Game Code of California. If a lapse in project related work of thirty days or longer occurs, another survey and, if required, consultation with USFWS and CDFG will be required before the work can be reinitiated.

WL-05 Limit Vegetation Removal: Vegetation removal shall be limited to the absolute minimum amount required for construction.

WC-01 Weed Free Construction Equipment: All off-road construction equipment to be cleaned of potential noxious weed sources (mud, vegetation) before entry the project area (preferably before entry into the Lake Tahoe basin), and after entering a potentially infested area before moving on to another area, to help ensure noxious weeds are not introduced into the project area. The contractor shall employ whatever cleaning methods (typically with the use of a high-pressure water hose) are necessary to ensure that equipment is free of noxious weeds. Equipment shall be considered free of soil, seeds, and other such debris when a visual inspection does not disclose such material. Disassembly of equipment components or specialized inspection tools is not required. Equipment washing stations shall be placed in areas that afford easy containment and monitoring (preferably outside of the Lake Tahoe basin), and that do not drain into the forest or sensitive (riparian, SEZ, wetlands, etc.) areas.

WC-02 Equipment Staging in Weed Free Areas: Staging of equipment should only be done in weed free areas. Landings should be placed in forested areas rather than open flats to help prevent the establishment of noxious invaders such as yellow star thistle, which utilize open sunny areas.

WC-03 Weed Free Erosion Control Treatments: To further minimize the risk of introducing additional non-native species into the area, only locally TRPA-approved plant species appropriate for the project area will be used in any erosion control or revegetation seed mix or stock. No dry-farmed straw will be used, and certified weed-free straw shall be required where erosion control straw is to be used. In addition, any hydro-seed mulch used for revegetation activities must also be certified weed-free.

CHAPTER 3. Cumulative Impacts

Regulations implementing the procedural provisions of NEPA define cumulative effects as: “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or persons undertakes such other actions” (40 CFR sec 1508.7).

According to the State CEQA Guidelines, cumulative impacts refers to two or more individual effects, which, when considered together, are considerable or which compound or increase other environmental impacts. The cumulative impact from several projects is the change in the environment, which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time. (Section 15355.)

This section evaluates cumulative effects associated with the proposed project to biological resources. The study area analyzed in this evaluation is the “west shore” and the Truckee River Canyon area of Lake Tahoe in the State of California, roughly bounded by the State Route 89 and Squaw Valley Road junction on the north, the Camp Richardson area to the South, by the waters of Lake Tahoe on the east, and by the hydrographic Lake Tahoe Basin boundary on the west. This area was selected for analysis because it is cumulative development in this area that would be supported by the proposed action, although it is recognized that impacts in this area have the potential to contribute to impacts within the entire Lake Tahoe basin.

3.1. TRPA Land Use Policy

The Tahoe Regional Planning Compact calls for development of a Regional Plan that establishes a balance, or equilibrium, between the natural environment and the manmade environment. Specifically, the Compact calls for “a land use plan for the integrated arrangement and general location and extent of, and the criteria and standards for, the uses of land, water, air, space and other natural resources within the Region, including but not limited to indication or allocation of maximum densities and permitted uses". TRPA has established environmental threshold carrying capacities that define the capacity of the natural environment and set specific environmental performance standards related to land use. The thresholds, however,

do not define the maximum populations, densities, permitted uses, or other land use criteria for the manmade environment; this is the function of the Regional Plan.

In general, the Land Use Element sets forth the fundamental land use philosophies of the Regional Plan, including: the direction of development to the most suitable locations within the Region; maintenance of the environmental, social, physical, and economic well-being of the Region; and coordination of the Regional Plan with local, state, and federal requirements. The following broad land use "goals" are outlined in the Land Use element (Specific policies addressing these goals and defining the maximum populations, densities, permitted uses, and other land use criteria are also outlined in the Land Use element and community plans, but will not be reviewed in this document):

- Restore, maintain and improve the environmental quality of the Lake Tahoe Region for the visitors and residents of the region.
  – Lake Tahoe is a unique natural resource in a spectacular natural setting. The long-term economic and natural health of the Region depends on the maintenance of this unusual quality. While previous land use planning efforts have concentrated on regulating the quantity of permitted development, TRPA's regional plan emphasizes an improvement in the quality of development in the Region and in the quality of the natural environment.

- Direct the amount and location of new land uses in conformance with the environmental threshold carrying capacities and the other goals of the Tahoe Regional Planning Compact
  – Population growth in the Region will be guided by the limitations on land use set forth in the General Plan. This Plan identifies land use, densities, traffic volumes, urban boundaries, and other factors that indirectly determine the population at any given time. All of these factors have been set to ensure compliance with the environmental thresholds.
  – Since the development permitted under this Plan is generally limited to the existing urban boundaries in which uses have already been established, the concept of this land use plan is directed toward regulating in fill and redirection. The intent of this system is to provide flexibility when dealing with existing uses, continuation of acceptable land use patterns, and redirection of unacceptable land use patterns.

- All new development shall conform to coefficients of allowable land coverage as set forth in "the Land capability classification of the Lake Tahoe Basin, California/Nevada; A Guide for planning, Bailey 1974"
  – This goal calls for policies, which limit allowable impervious land coverage associated with new development. These policies set allowable land coverage by applying the recommended Bailey land coverage coefficients to

specifically defined and related areas. In some instances, provisions are made to allow additional coverage by transfer. The transfer programs shall operate by a direct offset method. In addition, land capability is one of the basic factors in determining the suitability of lands for development and appropriateness of land uses.

- To provide to the greatest possible extent, within the constraints of the environmental threshold carrying capacities, a distribution of land use that ensures the social, environmental, and economical well being of the region.
  - The Tahoe Regional Planning Compact and extensive public testimony call for TRPA, along with other governmental and private entities, to safeguard the well-being of those who live in, work in, or visit the Region.

- Coordinate the regulation of land uses with the land uses surrounding the region
  – To minimize the impacts on one another, the Tahoe Region and its surrounding communities should attempt to coordinate land use planning decisions. This goal is especially pertinent with respect to major land use decisions immediately adjacent to the Region, which may have significant impacts on the Region and affect the ability of TRPA to attain environmental thresholds.

3.2. Summary of Past, Present, and Reasonably Foreseeable Future Actions

3.2.1. Summary of Caltrans Transportation Projects

Caltrans internal files were reviewed for information about recent and current projects within the west shore Lake Tahoe area. The Tahoe Improvement Program website includes the latest information on Caltrans projects in the Basin . Additionally, Caltrans "State Route Transportation Concept Reports (TCRs)" were reviewed for information regarding future plans for state routes within the west Lake Tahoe area. Caltrans' TCRs document the planning strategies of the long range plans identified by the regional transportation planning agencies and metropolitan planning organizations within a given state highway corridor, and establish a 20-year planning concept. As state highway routes often pass through several regional planning agency jurisdictions, the TCR assimilates the regional strategies into one corridor specific planning document.

For the proposed State Route 89 Roadway Rehabilitation and Water Quality Improvement Project, TRPA is the responsible regional transportation planning agency within the Lake Tahoe basin for transportation issues and takes the lead role

in identifying transportation strategies and projects. Due to the environmentally sensitive nature of the Lake Tahoe basin, air quality, land coverage, and water quality impacts are carefully evaluated for each project. Adverse affects of soil erosion make projects requiring earthwork particularly sensitive. In addition, in order to preserve the unique character of the basin, TRPA typically does not pursue additional roadway capacity. As a result, future plans for improvements along state highways within the Lake Tahoe Basin must also comply with TRPA constraints. Actions undertaken by Caltrans within the Lake Tahoe basin are subject to TRPA review and permitting, and must conform to TRPA environmental thresholds for approval. The following is a summary of proposed Caltrans county projects within the Lake Tahoe west shore area:

State Route -89 Caltrans Programmed Projects: Currently programmed Caltrans projects proposed to be implemented along State Route 89 along the "west shore" and Truckee River Canyon includes the following:

03-2A920: PLA-89 EIP PLA/ED County Line to Junction SR-28
03-2A921: PLA-89 EIP Junction SR-28 to Squaw Valley Road
03-1A840: ELD-89 EIP ELD/PLA County Line to ELD/ALP County Line
03-3C540: PLA-89 Install Grated Line Drain

03-3C700: PLA 89 Pedestrian Signal at the south end of Fanny Bridge
03-4A480: ELD-89 Erosion Control
03-4C080: PLA-89 Install Traffic Signals at Alpine Meadows road
03-4C250: ELD-89 Upgrade Rock Retaining Wall Barrier
03-41450: PLA-89 Landscape Path Paving, Alice Richardson Vista Point

State Route -89 Caltrans Route Concepts: State Route (SR) 89 begins in Mono County, slightly north of the town of Topaz, and continues predominantly northward until reaching Interstate 5, near Mt. Shasta in Siskiyou County. Within District 3, State Route 89 is mainly a two-lane mountain highway, which runs 87.4 miles northward from the El Dorado- Alpine County line to the Sierra-Plumas County line. SR 89 passes through El Dorado, Placer, Nevada, and Sierra Counties, providing access to the Lake Tahoe and Little Truckee River Basins. Traveling north, SR 89 meets US 50 near the town of Meyers in which there is a break in the route. It continues at the South Lake Tahoe "Y" where it leaves US 50. The route continues northward serving the western shore of Lake Tahoe and providing an important link between the South and North Shore and the town of Truckee.

Within Caltrans District 3, Caltrans' "State Route 89 Transportation Concept Report (Caltrans, 2001)" breaks SR-89 into seven segments. Of these, segments 4 and 5 occur within Placer County along the Truckee River Canyon and the west shore area of Lake Tahoe. Segment 3 occurs within El Dorado County along the west shore of Lake Tahoe to near Camp Richardson.

Segment 3 is a two-lane conventional highway from West Way, just south of Camp Richardson to the El Dorado/Placer County line. Future route concept improvements identified for this segment in Caltrans' TCR include the following:

- Safety and operational improvements along with normal maintenance and rehabilitation will occur as needed.
- Widen to a 40' section to meet current standards where appropriate to accommodate safe and efficient travel for vehicles.
- Provide widening for the allowance of a bike path, as appropriate.
- Scenic turnouts should be provided and should be situated to provide convenient access and not to impede traffic flow.
- Existing turnouts should be maintained and modified to improve ease of access.
- Integrate ITS elements into an interconnected transportation system, which will help increase the safety and efficiency.

Segment 4 is a two-lane conventional highway from the El Dorado/Placer County line to Tahoe City. Future route concept improvements identified for this segment in Caltrans' TCR include the following:

- Safety and operational improvements along with normal maintenance and rehabilitation will occur as needed.
- Widen to a 40' section to meet current standards where appropriate to accommodate safe and efficient travel for vehicles.
- Provide widening of the roadway to accommodate of a bike path and or pedestrians, as appropriate.
- Support Placer County's efforts in the development of a new Intermodal Transit Center in Tahoe City.
- Scenic turnouts should be provided and should be situated to provide convenient access and not to impede traffic flow.
- Existing turnouts should be maintained and modified to improve ease of access.
- Integrate ITS elements into an interconnected transportation system.
- Replace or widen Fanny Bridge, as studies deem appropriate.
- Provide bicycle/pedestrian crossing at or near Fanny Bridge.

Placer County is taking the lead on the construction of a new Intermodal Transit Center (served primarily by the Tahoe Area Regional Transit) at the US Forest Service 64 acre site located south of the intersection of SR 89 and SR 28. The center is located west of SR 89, south of Fanny Bridge over the Truckee River. The Tahoe Public Utilities District (TPUD) is taking the lead for the Lake Side Trail, which will connect to the existing bike trail that extends through Tahoe City. The widening of Fanny Bridge, if deemed appropriate, will accommodate the new bike trail and this project is being led by TRPA. These projects will affect highway parking in that area and may require additional signalization.

Tahoe Regional Planning Agency is taking the lead on a project that includes an alternative for constructing a Tahoe City bypass between State Route 28 and State Route 89 (at the maintenance yard) which will eliminate the right angle turn and provide a straight alignment coming from the north on State Route 89. The highway (SR 89) would continue straight (instead of moving in a north easterly direction towards Tahoe City) and tie back into State Route 89 below Fanny Bridge. This plan would require the construction of a new bridge but would bypass much of the congestion associated with the SR 89/28 "Y". Other alternatives are being considered and further action on this project will be determined once feasibility studies are complete.

Segment 5 is a two-lane conventional highway that extends northward from Tahoe City to a half mile south of Interstate 80 near Truckee. This segment runs through Tahoe City and serves Alpine Meadows and Squaw Valley ski resorts. Future route concept improvements identified for this segment in Caltrans' TCR include the following:

- Support the need to increase manual traffic control at the Alpine Meadows Road that intersects SR 89
- Signalize the West River intersection in Truckee.
- Safety and operational improvements along with normal maintenance and rehabilitation will occur as needed.
- Widen to a 40' section to meet current standards where appropriate to accommodate safe and efficient travel for vehicles.
- Provide widening for the allowance of a bike path, as appropriate.
- Integrate ITS elements into an interconnected transportation system.

3.2.2. Summary of Projects on Tahoe "West Shore" Area with a CEQA Action

The Governor's Office of Planning and Research, State Clearinghouse website tracks all projects with a CEQA action. Below is a listing of all substantial projects (not including Caltrans projects) occurring on the west shore area of Lake Tahoe listed on the State Clearinghouse website between July 2001 and September 2005. Additional minor projects such as permission for recreational pier use, transfers of land coverage with no net increase, Open Space Acquisitions, and other categorically exempt projects are not included below. Some of these projects may be repeated in subsequent sections, as they are also Placer or El Dorado County or EIP projects.

Bliss Water/Sewer plant Telemetry Project- D.L. Bliss State Park

Installation of a communications line from the D.L. Bliss State Park Water plant to the D.L. Bliss State Park sewage lift station. The communications line will send essential data from the sewage lift station to the water plant office, which will house the main supervisory control and data acquisition system which then sends information to the water and sewer plant supervisors office

West Shore Restoration Projects

The projects consist of revegetating disturbed and compacted soils and installing landscape fencing to prevent further resource damage and to help restore the property to a more natural condition.

Meeks Bay Marina Dredging

Removal of 200 to 300 cubic yards of sand from the southern side of the sheet pile wall within the channel leading to the inner harbor of Meeks Bay Marina using a clamshell dredge.

Highlands Village Mixed-Use Project

Planned Development consisting of a mix of market-rate single-family homes, 78 affordable senior apartments, and 4,800 sq. ft. of commercial development on 13 +/- acres.

Papoose Chairlift Modification

Modification to the existing use permit to allow installation of a fixed-grip double chairlift, which will replace the surface lift that was permitted and installed pursuant to the Conditional Use Permit (CUP-2739).

3.2.3. Summary of TRPA EIP Projects

TRPA's Environmental Improvement Program (EIP) is a strategy to achieve the environmental goals for the Lake Tahoe Basin. The EIP strategy builds on the regulatory and capital improvement approaches that have been underway within the Region for more than ten years. This strategy is designed to accomplish, maintain or exceed multiple environmental goals and develop a more integrated, proactive approach to environmental management. Key to this strategy is reliance upon partnerships with all sectors of the community, including the private sector, local, state and federal government.

The EIP provides a regional framework for implementing restoration programs and projects. Eligibility requirements for inclusion into the EIP are found in Chapter 31 of TRPA's Code of Ordinances. In general, the project must directly relate to the respective threshold program and contribute to the attainment of that threshold. Prioritizing EIP needs is a difficult and sometimes controversial exercise because of the unknown variables that hinder the applicability of a thorough prioritization rationale. Regardless of the current prioritization scheme applied in the list, it is important to realize that these constitute "planned" priorities. Once a project or effort is underway, many other variables will affect its priority status including the political process, funding availability, feasibility of construction or permitting, etc. The development of improved prioritization schemes and tools continues as part of the EIP implementation process.

The environmental thresholds are defined as environmental standards necessary to protect the natural environment and to maintain public health and safety within the Region. The threshold categories are:

- Water Quality
- Soil Conservation
- Air Quality/Transportation
- Vegetation
- Fisheries

- Wildlife
- Scenic Resources/Community Design
- Recreation
- Noise

The following is a summary of EIP projects and programs identified from within the area evaluated for cumulative impacts for the proposed SR-89 water quality improvement and roadway rehabilitation project (The proposed project are TRPA EIP Projects #996 and #999). Project specific details for each proposed EIP project are available in TRPA's most recent 5-year EIP Update (TRPA, 2001):

Table 3.1: Summary of EIP Projects, West Shore Area of Lake Tahoe, California

Threshold Program	Project Name	EIP Project #
AIR QUALITY/TRANS	CLASS TWO: S.R. HIGHWAY 89 U.S. HIGHWAY 50 TO BASIN BOUNDARY	749
AIR QUALITY/TRANS	LAKESIDE BIKE TRAIL	763
AIR QUALITY/TRANS	CLASS THREE: S.R. HIGHWAY 89 CASCADE TO EMERALD BAY (NORTH END)	765
AIR QUALITY/TRANS	CLASS ONE: S.R. HIGHWAY 89 SPRING CREEK TO CASCADE PROPERTIES	766
AIR QUALITY/TRANS	CLASS ONE: S.R. HIGHWAY 89 15TH STREET TO CURRENT USFS CLASS ONE TRAIL	767
AIR QUALITY/TRANS	S.R. HIGHWAY 89: HOMEWOOD AREA PEDESTRIAN FACILITIES	775
AIR QUALITY/TRANS	ALPINE MEADOWS TO TAHOE CITY GONDOLA CONSTRUCTION	815
AIR QUALITY/TRANS	EMERALD BAY TROLLEY SERVICE IMPROVEMENTS	831
AIR QUALITY/TRANS	CLASS ONE: S.R. 28 CHIMNEY BEACH TO U.S. HIGHWAY 50	845
AIR QUALITY/TRANS	S.R. HIGHWAY 89 REALIGNMENT	855
AIR QUALITY/TRANS	64-ACRE TRACT TRANSIT CENTER	856
AIR QUALITY/TRANS	CLASS ONE: D.L. BLISS TO MEEKS BAY	10039
AIR QUALITY/TRANS	WEST SHORE BIKE TRAIL EXTENSION AND IMPROVEMENTS	10042
FISHERIES	MCKINNEY CREEK PHASE I - STREAM HABITAT RESTORATION	53
FISHERIES	STABILIZE MEEKS CREEK PHASE I - STREAM HABITAT RESTORE	147
FISHERIES	RUBICON CREEK MOUTH - STREAM HABITAT RESTORATION	402
FISHERIES	SUNNYSIDE SPAWNING-LAKE HABITAT RESTORATION	598
FISHERIES	HOMEWOOD/OBEXERS SPAWNING-LAKE HABITAT RESTORATION	600
FISHERIES	BLACKWOOD MORPHOLOGY PHASE II - STREAM	657

	HABITAT RESTORE	
FISHERIES	WARD CK REMOVE BARRIER & DIVER PH I-STREAM HABITAT REST	659
FISHERIES	MCKINNEY CREEK/MIDDLE PHASE II - STREAM HABITAT RESTORE	689
FISHERIES	MCKINNEY CK UPPER PHASE III - STREAM HABITAT RESTORATION	690
FISHERIES	MEEKS CREEK PHASE II - STREAM HABITAT RESTORATION	700
FISHERIES	BLACKWOOD CREEK BARRIER REMOVE PHASE I-STREAM HABITAT RESTORATION	883
FISHERIES	WARD CHANNEL MORPHOLOGY PHASE II - STREAM HABITAT RESTORATION	884
FISHERIES	MADDEN CREEK FISH HABITAT IMPROVEMENT - RESTORATION	885
FISHERIES	HABITAT RESTORATION-GENERAL CREEK IMPROVEMENTS	899
FISHERIES	HABITAT RESTORATION-EAGLE CREEK MIGRATORY (.3 MI)	900
FISHERIES	HABITAT RESTORATION-LONELY GULCH CK IMPROVEMENTS	901
FISHERIES	HABITAT RESTORATION-TALLAC CREEK IMPROVEMENTS	902
FISHERIES	HABITAT RESTORATION-TAYLOR CREEK IMPROVEMENTS	903
FISHERIES	LAKE HABITAT RESTORATION-CSLT/EL DORADO COUNTY	973
RECREATION	USFS TAYLOR CREEK STREAM PROFILE CHAMBER ENHANCEMENT	510
RECREATION	LOWER TRUCKEE RIVER (RAMPART) RAFTER IMPROVEMENTS	615
RECREATION	SKI HOMEWOOD SKI AREA MASTER PLAN	632
RECREATION	SUGAR PINE POINT STATE PARK DAY USE IMPROVEMENTS	861
RECREATION	MARINA/SITE MASTER PLAN-CAMP RICHARDSON	984
RECREATION	USFS CAMPGROUND BEARPROOF RETROFIT	10043
RECREATION	VIKINGSHOLM REHABILITATION	10089
RECREATION	NEW TAYLOR CREEK VISITOR CENTER	10094
RECREATION	BLACKWOOD CANYON CAMPGROUND	10095
RECREATION	VALHALLA PIER	10101
SCENIC RESOURCES	SCENIC ROAD UNIT #1 TAHOE VALLEY IMPROVEMENT	82
SCENIC RESOURCES	SCENIC ROAD UNIT #7 MEEKS BAY IMPROVEMENT	83
SCENIC RESOURCES	SCENIC ROAD UNIT #9 TAHOMA IMPROVEMENT	84
SCENIC RESOURCES	SCENIC ROAD UNIT #10 QUAIL CREEK IMPROVEMENT	85
SCENIC RESOURCES	SCENIC ROAD UNIT #11 HOMEWOOD IMPROVEMENT	86
SCENIC RESOURCES	SCENIC ROAD UNIT #13 SUNNYSIDE IMPROVEMENT	87
SCENIC RESOURCES	SCENIC ROAD UNIT #14 TAHOE TAVERN IMPROVEMENT	88
SCENIC RESOURCES	SCENIC SHORE UNIT #9 RUBICON BAY IMPROVEMENT	105
SCENIC RESOURCES	SCENIC ROAD UNIT #2 CAMP RICHARDSON IMPROVEMENT	503
SCENIC RESOURCES	SCENIC SHORE UNIT #14 WARD CREEK IMPROVEMENT	505
SCENIC RESOURCES	EMERALD BAY VIADUCT SCENIC RESTORATION	608

SCENIC RESOURCES	SR 89 UTILITY UNDERGROUNDING: GRANLIBAKKEN RD AREA	631
SCENIC RESOURCES	SR 89 CASCADE CREEK AREA RETAINING WALLS	873
SCENIC RESOURCES	ROADWAY UNIT # 2; CAMP RICHARDSON	10001
SCENIC RESOURCES	SHORELINE UNIT # 4; TAYLOR CREEK MEADOW PARKING LOT IMPROVEMENT SHORELINE UNIT	10013
SCENIC RESOURCES	SHORELINE UNIT #5: EBRIGHT-MINIMIZE VISIBILITY OF TRAIL BETWEEN EAGLE PT. & CASCADE PROPS.	10014
SCENIC RESOURCES	SHORELINE UNIT # 6; EMERALD BAY ROADSCAR TREATMENT	10015
SCENIC RESOURCES	SHORELINE UNIT # 8; REDESIGN RUBICON POINT PARKING AREA	10016
SCENIC RESOURCES	SHORELINE UNIT # 12; IMPROVE MARINA FACILITIES AT McKINNEY BAY	10017
SOIL CONSERVATION/SEZ	WARD CREEK SEZ RESTORATION	24
SOIL CONSERVATION/SEZ	BLACKWOOD CREEK SEZ/FISHERY RESTORATION	27
SOIL CONSERVATION/SEZ	RESTORE 40 ACRES OF SEZ - PLACER COUNTY	649
SOIL CONSERVATION/SEZ	RESTORE 40 ACRES OF SEZ - EL DORADO COUNTY	650
SOIL CONSERVATION/SEZ	GENERAL CREEK STREAM BANK STABILIZATION PROJECT	936
SOIL CONSERVATION/SEZ	WARD CREEK STATE PARK BANK STABILIZATION	938
SOIL CONSERVATION/SEZ	MEEKS BAY MARINA SEZ FILL REMOVAL & BANK STABILIZATION	953
SOIL CONSERVATION/SEZ	BLACKWOOD CANYON BRIDGE	10077
SOIL CONSERVATION/SEZ	LONLEY GULCH	10128
VEGETATION	HABITAT PROTECT-TYC BLACKWOOD/COUNTY PARK	976
VEGETATION	TYC HABITAT PROTECTION – BALDWIN BEACH	977
VEGETATION	HABITAT PROTECT - TYC MEEKS BAY	978
VEGETATION	HABITAT PROTECT - TYC D L BLISS STATE PARK	979
VEGETATION	HABITAT PROTECTION OF TAHOE YELLOW CRESS: MOUTH OF EDGEWOOD CREEK	980
WATER QUALITY	CASCADE CREEK WATERSHED BMP RETROFIT	12
WATER QUALITY	LOWER WARD VALLEY/PINELAND ECP	219
WATER QUALITY	SUNNYSIDE/SKYLAND	220
WATER QUALITY	TIMBERLAND	221
WATER QUALITY	GROVE STREET TRACT WATER QUALITY BMP	254
WATER QUALITY	HOMEWOOD SKI AREA BMP	259
WATER QUALITY	MCKINNEY TRACT	558
WATER QUALITY	FALLEN LEAF LAKE	704
WATER QUALITY	MEEKS BAY CAMPGROUND BMP RETROFIT	711

WATER QUALITY	RUBICON/MEEKS BAY RESIDENTIAL BMP	713
WATER QUALITY	HOMEWOOD RESIDENTIAL	725
WATER QUALITY	MC KINNEY II	727
WATER QUALITY	SKYLAND II	729
WATER QUALITY	CHAMBERS LODGE	731
WATER QUALITY	PARADISE FLAT BMP RETROFIT	739
WATER QUALITY	SR 89 SOUTH LAKE "Y" TO PLACER COUNTY LINE	995
WATER QUALITY	SR 89 EL DORADO/PLACER LINE TO SR 28 INTERSECTION	996
WATER QUALITY	SR 89 TAHOE CITY TO ALPINE MEADOWS RD	999
WATER QUALITY	WARD GULLIES	10048
WATER QUALITY	EAGLE FALLS	10049
WILDLIFE	GENERAL CREEK RIPARIAN HABITAT ENHANCEMENT	604
WILDLIFE	MEEKS CREEK RIPARIAN HABITAT IMPROVEMENT	605
WILDLIFE	BLACKWOOD CREEK RIPARIAN HABITAT ENHANCEMENT	606
WILDLIFE	TALLAC CREEK/MARSH RESTORATION	10044
WILDLIFE	WILDLIFE HABITAT RESTORATION AT TAHOE BASIN STATE PARKS	10083

3.2.4. Summary of Placer County Projects

The Placer County Planning and Public Works Departments were consulted regarding known projects within the project area (County of Placer, 2004). Actions undertaken by Placer County within the Lake Tahoe basin are subject to TRPA review and permitting, and must conform to TRPA environmental thresholds for approval. The following is a summary of proposed Placer county projects within the Lake Tahoe west shore area (County of Placer, 2004):

Table 3.2: Summary of Proposed Placer County Projects

PROJECT NAME	PROJECT DESCRIPTION	STATUS
FAR EAST PARKING STRUCTURE FOR THE VILLAGE AT SQUAW VALLEY (EIAQ-3707)	Proposed four-level concrete parking structure including a maximum of 775 parking stalls.	Project expired. Project applicant due to resubmit when wetlands delineation has been completed.
HOMESITES AT SQUAW CREEK #2 (EIAQ-3576)	Proposed Planned Development that includes 30 single-family residential home sites, 3-forest recreation parcels, 1 homeowner's park and hiking trails	Second Administrative Draft EIR on hold. Staff awaiting NEPA determination (EA or EIS) from USFS, related to Juniper Mountain Road site access.
PAPOOSE CHAIRLIFT USE PERMIT MODIFICATION (EIAQ-3833)	Proposal to install a short, fixed-grip double chairlift which would replace the surface lift	Approved by the Planning Commission August 12, 2004.

	that was permitted and installed previously.	
PLUMPJACK SQUAW VALLEY INN EXPANSION PROJECT (EIAQ-3598)	Proposed Major Subdivision and Conditional Use Permit in order to expand the existing PlumpJack Squaw Valley inn by constructing a new building, which will include 34 multi-family residential units, 28 lockout units, underground and street level parking, foyer/lobby area, exercise and game room.	Administrative Final EIR due from project consultant September 1, 2004.
SKYLAND TANK REPLACEMENT (PMUP-T20040075)	Proposal to replace existing 18' diameter redwood water tank with a 21' diameter steel water tank in order to provide additional water storage for fire protection.	Mitigated Negative Declaration sent to applicant for review.
SQUAW VALLEY SKI CORPORATION PARKING LOT SNOW STORAGE AREA RUNOFF TREATMENT (EIAQ-3752)	Proposal consists of an integrated approach to storm water treatment and snow melt runoff in order to comply with Lahontan Regional Board's directive.	Sixth submittal due from applicant September 10, 2004.

Additionally, Placer County Community Plans were reviewed for the Lake Tahoe west shore area (communities of Lake Tahoe, Tahoe City, Alpine Meadows, Squaw Valley and Ward Valley). The community plans are consistent with the TRPA goals and policies yet with greater specificity particular to the communities in question. Although they do not include details on specific proposed projects, the community plans set forth objectives and policies, and identifies recommended improvements and facilities recommended to implement TRPA's regional plans.

3.2.5. Summary of Tahoe City Public Utility District Projects

The Tahoe City Public Utility District (TCPUD) was consulted regarding known projects within the project area (TCPUD, 2003). The boundaries of the District extend from Emerald Bay to Dollar Hill and along the Truckee River to the Nevada County line. Actions undertaken by the TCPUD within the Lake Tahoe basin are subject to TRPA review and permitting, and must conform to TRPA environmental thresholds for approval. The following is a summary of proposed TCPUD projects within the Lake Tahoe west shore area (TCPUD, 2004):

Table 3.3: Summary of Proposed TCPUD Projects

PROJECT NAME	PROJECT DESCRIPTION	STATUS
Tahoe tavern heights – woodview to four seasons tank	Unknown	Unknown
Upper highlands water tank	Installation of new steel water tank and service lines	Tentative start in Summer 2005
West Shore Bike PathProject – Homewood Area	Replace Class 2 existing bike lanes with Class 1 bike path	Unknown

3.3. Assessment of Cumulative Impacts

A variety of quantitative and qualitative sources such as Arc View GIS files, Regional, Community and County General Plans, review of planning websites and documents and project environmental documents were used in this analysis. Quantifiable impacts were generally not yet available for the majority of the proposed projects located in the north Lake Tahoe area, as they have not yet been constructed (many TRPA EIP project descriptions provided estimates of beneficial impacts). Because of this limitation, the following analysis relies on *qualitative* assessment of impacts in the North Lake Tahoe area.

Potential impacts resulting from the project will primarily be limited to the construction phase of the project. Dust controls, noise controls, best management practices to control erosion and water resources, avoidance of special status species and their habitats, and public notifications of traffic interruptions will all occur during construction. Projects occurring simultaneously with the Placer 89 EIP Project may add to the temporary impact. Therefore, coordination with agencies that have jurisdiction over other projects in the project limits is needed. Tahoe Basin meetings have already begun with a number of agencies to ensure these cumulative construction related impacts are accounted for and minimized.

Some project features will contribute longer lasting effects. These features include a wider highway in required locations, new drainage and water treatment facilities and removed vegetation. The project is not anticipated to adversely impact any viewsheds in the area, as new features added by the project are anticipated to blend in with the existing environment. Also, the project will remove more hard coverage than it adds within its limits. Furthermore, vegetation removed by the project will be revegetated within 2-5 years. Some cumulative impact may occur, if other projects also remove vegetation prior to the reestablishment of vegetation by this project. However, this impact is speculative and is not likely to be substantial given the projects listed above.

Thus, the cumulative impact of the EIP is anticipated to provide benefits to the Tahoe Basin once completed. As shown on Table 4-1, eight of the nine TRPA resource areas have EIP projects identified for them in the North Shore Area.

CHAPTER 4. Comments and Coordination

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process to determine the scope of environmental documentation, the level of analysis, potential impacts and mitigation measures and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including project development team meetings, interagency coordination meetings, written correspondence and public information meetings held in the Lake Tahoe Area. This chapter summarizes the results of Caltrans' efforts to fully identify, address and resolve project-related issues through early and continuing coordination. After public circulation of this document, any comments will be included in this section and reflected in the Final Environmental Document.

One public workshop was held on September 23, 2003 at the Tahoe City Public Utility District building in Tahoe City. Additional meetings / workshops will be held during the public circulation period of this document.

SHPO concurrence received 11/8/05 and included in this document as Appendix C.

United States Department of Interior – Fish and Wildlife Service concurrence received on Caltrans determination of Not Likely to Adversely Affect listed Endangered or Threatened Species was received on 1/9/2005 and included in this document as Appendix D.

CHAPTER 5. List of Preparers

This document was prepared by the following Caltrans North Region staff:

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Tam, Benjamin, Transportation Engineer, BS Civil Engineering, San Jose State University, 15 years experience with Caltrans, including 8 years experience in Noise study and analysis.

Williams, Richard K., Senior Transportation Engineer. BS Civil Engineering and MBA, both from California State University, Sacramento; 16 years experience in highway design, traffic operations, and project management. Contribution: Project Manager.

CHAPTER 6. List of Technical Studies that are Bound Separately

Air Quality Report
Noise Study Report
Water Quality Report
Natural Environment Study
Location Hydraulic Study
Historical Property Survey Report

- Historic Architectural Survey Report
- Archaeological Survey Report

Hazardous Waste Reports

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

Scenic Resource Evaluation/Visual Assessment
Community Impact Assessment

The above reports are available for review by sending a written request to Jody Brown at 2800 Gateway Oaks Drive, Sacramento CA 95833

CHAPTER 7. Distribution List

In addition to the normal distribution through the Governors Office of Research and Planning , State Clearinghouse, copies of this document have been sent to the following:

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Appendix A CEQA Checklist

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

The California Environmental Quality Act requires that environmental documents determine significant or potentially significant impacts. In many cases, background studies performed in connection with the project indicate no impacts. A mark in the "no impact" column of the checklist reflects this determination. Any needed explanation of that determination is provided at the beginning of Chapter 2.

Please refer to the following for detailed discussions regarding CEQA impacts:

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

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
AESTHETICS - Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☑
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building within a state scenic highway?	☐	☑	☐	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☑	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☑	☐
AGRICULTURE RESOURCES - In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☑
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☑
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	☑
AIR QUALITY - Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☑

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☑
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	☑
d) Expose sensitive receptors to substantial pollutant concentration?	☐	☐	☑	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☑
BIOLOGICAL RESOURCES - Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☑	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☑	☐
C) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☑	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☑	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☑	☐	☐

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☑
CULTURAL RESOURCES - Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☑
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☑
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☑
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☑	☐
GEOLOGY AND SOILS - Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	☐
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☑	☐
ii) Strong seismic ground shaking?	☐	☐	☑	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☑	☐
iv) Landslides?	☐	☐	☑	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☑	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☑

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.	☐	☐	☐	☑

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☑
HAZARDS AND HAZARDOUS MATERIALS - Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☑
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☑	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous material, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☑	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☑	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☑
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☑

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
HYDROLOGY AND WATER QUALITY - Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☑
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☑
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site?	☐	☐	☑	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?	☐	☐	☑	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☑
f) Otherwise substantially degrade water quality?	☐	☐	☐	☑
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☑
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☑	☐
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☑
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☑

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
LAND USE AND PLANNING - Would the project:				
a) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☑
b) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☑
c) Physically divide an established community?	☐	☐	☐	☑
MINERAL RESOURCES - Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☑
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☑
NOISE - Would the project:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☑	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☑
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☑
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☑	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑
POPULATION AND HOUSING - Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☑
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑
PUBLIC SERVICES -				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☐	☑
Police protection?	☐	☐	☐	☑
Schools?	☐	☐	☐	☑
Parks?	☐	☐	☐	☑
Other public facilities?	☐	☐	☐	☑
RECREATION -				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of	☐	☐	☐	☑

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
facilities such that substantial physical deterioration of the facility would occur or be accelerated?				
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☑	☐
TRANSPORTATION/TRAFFIC - Would the project:				
a) Cause an increase in traffic which his substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☐	☑
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☑
c) Result in a change in air traffic patters, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☑
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incomplete uses (e.g., farm equipment)?	☐	☐	☐	☑
e) Result in inadequate emergency access?	☐	☐	☐	☑
f) Result in inadequate parking capacity?	☐	☐	☑	☐
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☑
UTILITY AND SERVICE SYSTEMS - Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☑
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☑
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☑

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☑
e) Result in determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☑
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☑
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☑

MANDATORY FINDINGS OF SIGNIFICANCE -

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, or cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☑	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☑	☐
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☑

Appendix B Title VI Policy Statement

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, Governor

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

Flex your power!
Be energy efficient!

January 14, 2005

TITLE VI
POLICY STATEMENT

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

WILL KEMPTON
Director

"Caltrans improves mobility across California"

Appendix C SHPO Concurrence Letter

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
P.O. BOX 942896
SACRAMENTO, CA 94296-0001
(916) 653-6624 Fax: (916) 653-9824
calshpo@ohp.parks.ca.gov
www.ohp.parks.ca.gov

November 8, 2005

Reply To: FHWA051026A

Jody Brown, Chief
North Region Environmental Management, Branch S3
California Department of Transportation, District 3
703 B Street
Marysville, CA 95901-0911

Re: National Register of Historic Places Determination of Eligibility for the Placer 89 Rehabilitation Project, Placer County

Dear Ms. Brown:

Thank you for consulting with me about the subject undertaking in accordance with the 1 January 2004 *Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California* (PA).

The California Department of Transportation (Department) is requesting my concurrence, pursuant to Stipulation VIII.C.5 of the PA, that the following properties are not eligible for inclusion in the National Register of Historic Places (NRHP):

- PLA89-1H (temp. no.)
- 6810 W. Lake Boulevard
- 5490 W. Lake Boulevard
- 5290 W. Lake Boulevard
- 5280 W. Lake Boulevard
- 5210 W. Lake Boulevard
- 4890 W. Lake Boulevard

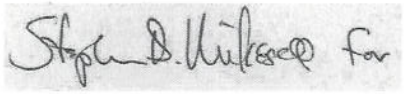
The submitted Historic Property Survey Report and Historic Resources Evaluation Report aiso include a seventh built environment property located at 4850 W. Lake Boulevard. The documentation concludes that this property is not eligible for inclusion in the NRHP. However, this property is not mentioned in the text of your letter of October 5, 2005 requesting my concurrence on your determinations. In a telephone conversation on November 8, 2005, David Byrd of my staff confirmed with Scott Williams, Caltrans Archaeologist designated in your letter as the staff contact, that your intent was to include the property in your October 5, 2005, request.

Based on my review of the submitted documentation and the above noted phone contact, I concur that the seven built environment properties and the one archaeological site are not eligible for inclusion in the NRHP.

I look forward to your notification once the Department receives the official State trinomial number for archaeological site PLA89-1H.

Thank you for seeking my comments and considering historic properties as part of your project planning. If you have any questions or concerns, please contact David Byrd, Project Review Unit historian, at (916) 653-9019 or at dbyrd@ca.parks.gov.

Sincerely,



Milford Wayne Donaldson, FAIA
State Historic Preservation Officer

MWD:db

Appendix D USFWS Concurrence Letter

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In Reply Refer To:
1-1-05-I-1956

NOV 9 2005

Ms. Jody Brown
Chief
California Department of Transportation, District 3
Post Office Box 911
Marysville, California 95901

Subject: Informal Consultation on Highway 89 Water Quality Improvement and Roadway Rehabilitation Project, 03-PLA-89-EA: 2A9200/ 2A9210 PM0.00-13.70, Placer County, California

Dear Ms. Brown:

This is in response to your letter dated August 30, 2005, requesting the U.S. Fish and Wildlife Service's (Service) concurrence with the determination that the proposed action, Highway 89 Water Quality Improvement and Roadway Rehabilitation Project, is not likely to adversely affect the threatened bald eagle (*Haliaeetus leucocuphalus*) and Lahontan cutthroat trout (*Onochorhynchus clarki henshawi*), or any other listed threatened or endangered species, pursuant to the Endangered Species Act of 1973, as amended (Act). The Service has also evaluated the effects of the proposed project on Tahoe yellow cress (*Rorippa subumbellata*), a Service candidate species, and an endangered species pursuant to the California Endangered Species Act. The California Department of Transportation (Caltrans) and Federal Highway Administration is proposing to rehabilitate the existing roadway and drainage system, to collect and treat the roadway storm-water runoff, and to widen the shoulders from the Placer/El Dorado County line to the intersection of State Route 89 (SR-89) and Squaw Valley Road.

Based on the Service's review of the August 2005, *Biological Assessment/Biological Evaluation Roadway Rehabilitation and Water Quality Improvement Project State Route 89 in Placer County, California*, subsequent phone conversations and correspondence, and information provided at the October 25, 2005 site visit attended by Amy Fesnock and Steve Caicco of the Service, Jason Meigs of Caltrans, Eric Gillies of the State Lands Commission, and Beth Brenneman of the Forest Service, we concur with your determination. There are no known nests within 6 miles of the project area; the closest eagle nests are in the vicinity of Emerald Bay and Marlette Lake. The Lake Tahoe Basin is known as a significant wintering area for bald eagle, estimated at four to ten birds. However, the closest recorded wintering bald eagle perching site along the shore of Lake Tahoe is near Sugar Pine Point, approximately 1 mile south of the project area and near Homewood, approximately 0.25 miles south east of Madden Creek and SR-89.

To ensure the project is not likely to adversely affect the bald eagle, Caltrans proposes to implement the following measures.

1. Woody vegetation removal required for the project will be completed between August 16 and February 28. Vegetation removal outside this time period may not proceed until a survey by a qualified biologist determines no nests are present or in use.

2. If a qualified biologist determines that no nests are present or in use within the proposed project, vegetation removal activities may occur between March 1 and August 15. If an active nest is found, Caltrans shall consult with the Service regarding appropriate actions prior to any vegetation removal activities.

3. Vegetation removal shall be limited to the absolute minimum required for construction.

Lahontan cutthroat trout are routinely stocked in the Truckee River. The portion of the project from Squaw Valley to the Tahoe City Area is adjacent to the Truckee River. The proposed project does not enter the Truckee River, but does include working on minor drainages that empty into the Truckee River.

To ensure the project is not likely to adversely affect the LCT, Caltrans proposes to implement the following measures.

1. No work will be performed within the project drainages until flows are at their seasonal low or have ceased and the stream bed is dry.

2. Construction activities on the "riverside" of the project will occur outside the LCT spawning period (April 1 through May 31) each year.

3. All equipment staging, maintenance and refueling will not occur within 100 yards of the river.

4. No equipment shall enter the river and all equipment shall be kept free of leaks.

5. Disruption of the drainages and associated vegetation will be minimized. All stream and riparian habitat areas outside the construction limits will be designated as Environmentally Sensitive Areas (ESA). Within construction limits, disturbed areas will be graded to minimize surface erosion and siltation into streambeds. Any access routes will be removed after each construction season and the streambed and bank recontoured back to the general angle of repose that existed pre-construction and will be stabilized. Bare areas will be covered with mulch and re-vegetated to pre-project conditions. Construction site Best Management Practices (BMP) will be utilized to prevent contamination of streambank and water course from construction material and debris.

6. BMP's for erosion control will be implemented and in place prior to, during, and after construction in order to ensure that no silt or sediment enters surface waters. A Water

Pollution Control Plan will be created and implemented to meet the standards and objectives to minimize water pollution impacts.

7. All de-watering activities will observe the above three measures. Any intakes that may be required for water pumps shall be screened. If de-watering of the site is deemed necessary, a temporary sediment-settling basin will be constructed downstream of the activity. All discharge waters associated with the de-watering activities will be pumped into the constructed basin before being allowed to re-enter the project area drainages.

8. Prior to vegetation removal adjacent to road drainages and basins, the area will be surveyed by a qualified biologist for a complete accounting of plant species and their quantities present within the construction limits. Upon completion of the construction project, drainages will be re-graded to pre-construction conditions and soil will be permanently stabilized and the area will be re-planted with appropriate native species.

9. Work will be conducted in such a manner as to allow free passage of all age classes of salmonids within project drainages at all times. If culverts create a condition that obstructs fish passage (e.g. plugged by sediment or debris), corrective action shall be taken immediately. All water pumps used for wetting, irrigation or de-watering of sites shall be screened to Regional Water Quality Control Board specifications to eliminate fish kills.

10. All aspects of the project will be monitored for a period of three years after completion of the project. Reports of monitoring activities will be submitted to the Service annually.

There are several populations of Tahoe yellow cress (TYC) along the lake shore adjacent to the project area. Seven populations were identified in the BA/BE at the following locations: Tahoma, McKinney Creek, Tahoe Pines (Cherry Street), Blackwood Creek, Ward Creek, Sunnyside, and Tahoe Tavern. Some minor construction activities are proposed to take place within the lakeshore zone, but TYC is not expected to be affected. Most disturbances will be limited to soil stabilization and erosion control treatments at existing near-shore culvert fallouts. Local hydrology patterns, the dominate feature determining presence/absence of this species, are not likely to be altered by the drainage improvement activities.

To avoid effects to the TYC, Caltrans proposes to implement the following measures.

1. ESA's outside the construction zone will be identified. These areas will be delineated with temporary orange fencing and encroachment into these areas will be restricted. Fencing will be implemented prior to other construction activities and will remain in place until all construction activities are complete.

2. Specific ESA's to be delineated for TYC are:

    a. STA 28+40 to 36+40 (McKinney Drive to just past Meadow Road), fencing placed at edge of Right of Way on east side of highway.

b. STA 54+80 to 55+80 (Oak Street), fencing shall restrict contractor's access to the lakeshore and shall not be placed below the Official high Water Mark of the lake.
c. STA 59+80 to 65+00 (Near Cherry Street to Near Vanessa Way), fencing placed at edge of Right of Way on east side of highway.
d. STA 79+50 to 92+50 (St. Michael's Court to south of Sugar Pine Road), fencing at edge of Right of Way on east side of highway. This fencing would restrict contractor's access to the beach. It may be one long contiguous piece or may be in sections to allow public access to the beach as required.

3. Prior to construction, the Nevada Natural Heritage Program and the Service's Reno Office will be contacted for up-to-date information regarding known occurrence of TYC. Surveys for this species will be conducted prior to final design of project and initiation of construction. The Nevada Natural Heritage Program and the Service's Reno Office will be consulted after surveys are complete to insure that potential effects are avoided or minimized.

4. No work will be performed in the project's drainages until flows are at the seasonal low or have ceased, generally July 15 through October 15.

5. Disruption of the streambed and adjacent riparian corridor will be minimized. All stream and riparian habitat areas outside of the construction limits will be designated as ESA's.

6. Measures will be employed to prevent any construction material or debris from entering surface waters or their channels. BMP's for erosion control will be implemented and in place prior to, during, and after construction.

7. Weeds and potential for weed contamination will be minimized by implementing the following. All construction equipment will have mud and vegetation removed before entering the project area and after entering a potentially infested area before moving on to another area. The staging of all equipment will be done only in weed free areas. Only locally approved plant species appropriate for the project area will be used in any erosion control or revegetation seed mix or stock. No dry-farmed straw will be used, only certified weed free straw shall be required where erosion control straw is to be used.

Unless new information reveals effects of the proposed action that may affect listed species in a manner or to an extent not considered, or a new species or critical habitat is designated that may be affected by the proposed action, no further action pursuant to the Act, is necessary. Please address any questions or concerns regarding this response to Amy Fesnock or Roberta Gerson, Branch Chief, at (916) 414-6600.

Sincerely,

Chris Nagano
Deputy Assistant Field Supervisor

cc:
Jason Meigs, Caltrans, District 3, Sacramento, California
Forest Supervisor, U.S. Forest Service, Lake Tahoe Basin Management Unit
District Ranger, U.S. Forest Service, Tahoe National Forest, Truckee Ranger District
Steve Caicco, U.S. Fish and Wildlife Service, Reno, Nevada
Chad Mellison, U.S. Fish and Wildlife Service, Reno, Nevada
Susan Levitsky, California Department of Fish and Game, Sacramento, California
Eric Gillies, State Lands Commission, Sacramento, California

Appendix E Avoidance, Minimization and Mitigation Summary

The Caltrans Project Development Team will be responsible for ensuring that all measures outlined in this document to reduce impacts are implemented.

Table 6-1 Summary of Mitigation, Avoidance and Minimization Commitments provides parties responsible and completion dates for all mitigation measures on the project.

Summary of Mitigation, Avoidance and Minimization Commitments

Measure	Responsible for Implementation	*Notes*	*Completion Date*
AQ1: Reduce emissions related to fugitive dust; Construction measures may include but not be limited to watering of disturbed areas and prompt covering and removal of dirt	Contractor and Caltrans Resident Engineer	Provisions will be included in the project plans and specifications specifying the options available and need to control dust during construction. The Contractor and Resident Engineer will be responsible for implementation.	Control of dust will be required throughout construction.
AV1: Establish ESAs	Contractor and Caltrans Resident Engineer	ESAs and onsite BMPs implemented as a first order of work. No work or operation of equipment will occur within ESA areas in all construction seasons	ESAs remain in field until all project construction activities are complete
C1: Extensive public outreach efforts to minimize inconveniences to traveling public and business owners as a result of construction related activities.	Caltrans Project Manager	Resident Engineer will be responsible for informing the public during the construction period	Public Participation will be required throughout construction
CR1: Establish ESA fencing to protect archaeological site. Weekly monitoring of site by a Caltrans Archaeologist	Resident Engineer, Construction Liasion, Caltrans Archaeologist	ESA fencing shall be removed at conclusion of this project.	End of Construction at this site.
CR2: Any Cultual materials discovered during construction requires the project to come to a halt until a qualified archaeologist can evaluate the material and determine a course of action.	Contractor, Resident Engineer, Caltrans Archaeologist.		TRPA must also be notified should any cultural materials be discovered during construction.
FP1: Project design features should be developed to avoid impacts to the floodplain.	Project Engineer, Project Manager		
HZ1: Reduce	Contractor and	Special Provision must be	Contractor must complete Health

Measure	Responsible for Implementation	*Notes*	*Completion Date*
potential exposure to petroleum hydrocarbons	Caltrans Resident Engineer, Design Engineer	included in the contract and contractor is responsible for implementing	and Safety Plans prior to construction; implementation of plans throughout construction
HZ2: Minimize exposure to chromium and lead from traffic striping	Contractor and Caltrans Resident Engineer, Design Engineer	Special Provision must be included in the contract and contractor is responsible for implementing	Contractor must complete Health and Safety Plans prior to construction; implementation of plans throughout construction
HZ3: Lead Compliance Plan			
HZ4: Ust removal if necessary and Health and Safety Plan			
N1: Restrict construction activities with high noise levels to the daytime	Contractor and Caltrans Resident Engineer, Design Engineer	Special Provision must be included in the contract and contractor is responsible for implementing	Noise limitations would continue throughout construction unless exception is granted by TRPA
RP 1: Pre-Construction Surveys for Tahoe Yellow Cress	Caltrans Biologist and potentially USFWS Biologist		Surveys shall be conducted prior to final design of the project. Reno office of USFWS shall be notified after surveys to insure that potential impacts are avoided or minimized.
T1: Reduce delays to traveling public by keeping the public informed of upcoming construction. Also develop TMP with consideration of time constraints, weekend, holiday and special events in mind.	Traffic Management Office, Construction Office		
V1: Minimize the impact on existing views	Caltrans Design Engineer and Landscape Architect	The final design of the project will have details on where changes will be made. Consultation with TRPA Staff is expected.	Design changes will be included prior to completion of final project plans and well before construction.
V2: Reduce, minimize and compensate for impacts to vegetation	Caltrans Biologist and Landscape Architect	Caltrans Landscape Architects and Biologists will complete detailed replanting plans as part of the project design. For more details see Appendix G.	Replanting will be carried out either by the Conservation Corps or a Contractor under direction of Caltrans Landscape Architects. Replanting should be complete 2-5 years from the end of construction.
V3: Reduce impacts to the existing terrain	Caltrans Design Engineer and Landscape Architect	The final design of the project will have details on where terrain modifications will be needed.	Design changes will be included prior to completion of final project plans and well before construction.
V4: Reduce the impact of manmade structures	Caltrans Design Engineer and Landscape Architect	Treatments will be added to the design of the project.	Design changes will be included prior to completion of final project plans and well before construction.
WQ1: Restrict timing of in-stream activities	Contractor and Caltrans Resident Engineer	Construction activities will be permitted below the OHWM of drainages only between July 15th and October 15th, (subject to stream conditions and permit restrictions) in all construction seasons.	October 15th of final construction season
WQ2: Minimize disturbance to creek channel and adjacent areas	Contractor and Caltrans Resident Engineer	Minimize disturbance to drainages in all construction seasons	Streambanks stabilized by October 15th of each construction season
WQ3: Containment	Contractor and	Methods shall be TRPA	Containment measures in place

Measure	Responsible for Implementation	*Notes*	*Completion Date*
Measures / Construction site BMPs	Caltrans Resident Engineer	and RWQCB approved	until all construction activities are complete
WQ4: De-watering Activities	Contractor and Caltrans Resident Engineer	Methods shall be TRPA, RWQCB, and ACOE approved. Require temporary downstream settling basin	Temporary de-watering structures removed by October 15th of each construction season
WQ5: Restore Riparian and Stream Habitat Disturbed by Construction (same as V2 above)	Caltrans Biologist and Landscape Architect	Caltrans Landscape Architects and Biologists will complete detailed replanting plans as part of the project design. For more details see Appendix G.	Replanting will be carried out either by the Conservation Corps or a Contractor under direction of Caltrans Landscape Architects. Replanting should be complete 2-5 years from the end of construction
WQ6: Water Quality or Excess Coverage Mitigation Fees	Caltrans Project Management	Fees to be determined by CTC during TRPA permitting	Mitigation fees paid prior to issuance of TRPA permit
WQ7: Restore disturbed SEZs at a 1.5 to 1 ratio	Caltrans Project Management	Fees to be determined by CTC during TRPA permitting	Fees paid prior to issuance of TRPA permit (see WQ6)
WL1: Ensure fish Passage	Contractor and Caltrans Resident Engineer	Drainages free of debris and obstruction except during temporary de-watering activities	October 15th of final construction season
WL2: Pre-construction amphibian surveys	Caltrans Biologist	May require temporary work stoppage	30 days prior to project related activities. Prior to July 15th (see WQ1) of each construction season
WL3: Restrict timing of woody vegetation removal	Contractor and Caltrans Resident Engineer	Remove woody vegetation between August 16th and October 15th	October 15th of first construction season
WL4: Pre-construction surveys: Nesting Birds	Caltrans Biologist	Required 30 days prior to vegetation removal if WL3 is not feasible. Requires consult with USFWS if nesting birds discovered	Prior to May 1st of each construction season requiring woody vegetation removal
WL5: Limit vegetation removal	Contractor and Caltrans Resident Engineer	Limit vegetation removal in all construction seasons	October 15th of final construction season
WC1: Weed Free Construction Equipment	Contractor and Caltrans Resident Engineer	Construction equipment cleaned of potential noxious weed before entry the project area.	Construction equipment free of weed source until all construction activities are complete
WC2: Equipment Staging in Weed Free Areas	Contractor and Caltrans Resident Engineer	Staging areas to be delineated on project plans	Construction equipment staged in weed free areas until all construction activities are complete
WC3: Weed Free Erosion Control	Contractor and Caltrans Resident Engineer (implement in field) Caltrans Landscape Engineer or Biologist (Post construction monitoring)	As per Caltrans Landscape Architecture Revegetation and Erosion Control Plan for methods and monitoring	October 15th of first construction season

Appendix F Bio-Swale and Basin Simulations

The following simulations were prepared by Caltrans staff to give a visual reference of what proposed water quality features will look like

BASIN SIMULATION- PM 10.5 RT

Existing Condition

Proposed Basin Simulation

VEGETATED SWALE SIMULATION- PM 8.2 LT

Existing Condition

Proposed Basin Simulation

BASIN SIMULATION- PM 7.95 LT

Existing Condition

Proposed Basin Simulation

.

Appendix G Conceptual Erosion Control and Re-vegetation Plan

Conceptual Erosion Control and Revegetation Plan

Roadway Rehabilitation and Water Quality Improvement Project
State Route 89 in Placer County, California
From the the Placer/El Dorado County Line
to the Intersection of SR-89 and Squaw Valley Road

03-PLA-89 KP 0.0 to 22.1 (PM 0.0 to 13.7)
03-2A9200 and 03-2A9210

California Department of Transportation
Prepared by North Region Office of Landscape Architecture and
North Region Office of Environmental Management
August 2005

Prepared By: Steve Nawrath
Landscape Architect #4562

Monica Finn
Revegetation Specialist

1. [i]INTRODUCTION

This Erosion Control/Revegetation plan is being prepared to satisfy the 401 Water Quality Certification and NPDES permit requirements of the Lahontan Regional Water Quality Control Board, Tahoe Regional Planning Agency, 404 permit conditions of U.S. Army Corps of Engineers and 1601 Streambed alteration conditions of California Department of Fish and Game. This project poses to widen shoulders, install asphalt concrete dikes, maintenance turnouts, left-turn lanes and pockets, rehabilitate existing drainage systems, and install sand traps and infiltration basins. This conceptual plan identifies commitments Caltrans is proposing to 1) protect and minimize impacts to wetlands, SEZ's and vegetated areas during construction, 2) restore, revegetate and compensate for impacts to wetlands, drainages, SEZ's and vegetated areas disturbed by construction, and 3) monitor mitigation and revegetation results to ensure success.

The goals of the revegetation effort are to successfully reestablish vegetative cover within disturbed construction areas, provide long-term sediment control and the restoration, revegetation and compensation of wetlands, "waters" and SEZ's. Effective revegetation is also intended to minimize scenic impacts and in some cases improve scenic quality throughout the project limits, addressing TRPA "Scenic Threshold" requirements.

2. EROSION CONTROL/REVEGETATION PLAN

Revegetation and Erosion Control will involve the use of several techniques to reduce erosion and promote the reestablishment of native plant communities to areas impacted by construction activity. The following general techniques will be utilized as part of the construction project and the follow-up planting project:

- Minimize the removal of established vegetation and avoidance of trees.
- Removal and collection of the top 100mm of duff material (top soil and organics on the soil surface) during clearing and grubbing operations, to be used as soil amendment.
- Incorporate compost/duff to a depth of 12-18 inches in order to promote biological activity, root penetration and water holding capacity of disturbed soils.
- Use of additional soil amendments, compost and (slow release) organic fertilizer, to improve soil condition and provide nutrients for plant growth.
- Rip or cultivate compacted areas in order to improve water infiltration and root penetration.
- Extensive use of mulch for passive erosion control, derived from pine needles and chipped trees and shrubs removed by construction activities or collected from the project vicinity.
- Install a temporary irrigation system in selected locations (to be determined) in order to promote timely establishment of vegetation prior to winter conditions.
- Develop a revegetation palette based on environmental conditions such as slope, aspect and proximity to water.
- Revegetate all disturbed areas with genetically adapted seed and plant materials.
- Contour grade and place boulders to deter off shoulder parking that negatively impacts long-term establishment of vegetation.
- Incorporate trials into the revegetation areas to test the effectiveness of alternative treatments and site preparation methods.

3. CONSTRUCTION BEST MANAGEMENT PRACTICES: (PERMANENT EROSION CONTROL)

The following erosion control related activities will occur during the roadway/drainage construction phase.

Excavation, Embankment and other Disturbed Areas

Order	Activity
1.	Vegetation (within the defined work limits) will be removed and chipped (clearing and grubbing). Trees, shrubs and other woody debris less than 300 mm in diameter will be chipped and stockpiled. Trees larger than 300 mm will be limbed and stockpiled for later use as landscape features.
2.	The top 100mm of duff material (top soil and organic layer) will be harvested from cleared and grubbed areas and stockpiled for later use a soil amendment.
3.	New slopes and other disturbed areas will be contour graded in order to facilitate revegetation, minimize erosion and integrate newly constructed areas into surrounding natural landscape.
4.	Once grading is complete, disturbed areas will be ripped and/or cultivated. 100 mm of 'Duff' material (to the extent available) and compost will be incorporated into new excavation/ embankment slopes and denuded areas to a depth of 12" to 18". All other areas will receive 50 mm layer of duff over finished grade prior to seeding.
5.	Landscape boulders and logs will be strategically placed back into roadside areas in order to maximize visual integration to the surrounding natural landscape and to prevent automobiles from accessing selected areas.
6.	Final excavation/ embankment slopes and other disturbed areas will be roughened using a tracked vehicle to create an irregular surface to minimize potential for erosion.
7.	All disturbed areas will receive an application of Erosion Control Type 'D' which includes compost, fertilizer, seed and tackifier.
8.	All disturbed areas will be mulched with pine needles and chipped vegetation to a depth of 1".

Basins

Order	Activity
1.	Existing vegetation (within the defined work limits) will be removed and chipped (clearing and grubbing). Trees, shrubs and other woody debris less than 300 mm in diameter will be chipped and stockpiled. Trees larger than 300 mm will be limbed and stockpiled for later use as landscape features.
2.	The top 100mm of duff material (top soil and organic layer) will be harvested from cleared and grubbed areas and stockpiled for later use a soil amendment.
3.	Basin side slopes, berms and other modified areas will be constructed to minimize potential erosion problems and to integrate basins into surrounding natural landscape.
4.	Landscape boulders and logs will be strategically placed back around basins in order to maximize visual integration to the surrounding natural landscape.
5.	Once grading is complete, disturbed areas will be ripped and/or cultivated(including the basin bottom). 100 mm of 'Duff' material (to the extent available) and compost will be incorporated into new excavation/ embankment slopes and denuded areas to a depth of 12" to 18".
6.	All disturbed areas will receive an application of Erosion Control Type 'D' which includes compost, fertilizer, seed and tackifier.
7.	All disturbed areas will be mulched with pine needles and chipped vegetation to a depth of 1".
8.	Newly constructed channels, spillways and side slopes will receive erosion control blanket or 'Jute' netting in order to prevent erosion.
9.	Basin bottoms shall be ripped to remove compaction and improve infiltration.

4. WETLANDS, WATERS OF THE US AND STREAM ENVIRONMENT ZONE

Other Waters of the United States

Areas temporarily impacted by construction activities will be restored and revegetated. Drainage areas will be contour graded at the completion of work to restore topography and flow patterns. Disturbed areas will be revegetated using the species present on site. Drainages will be planted primarily with native grasses and shrubs, similar to adjacent upland areas. However, where appropriate site conditions and hydrology are present, plantings will also incorporate mesic species, such as dogwood (*Cornus* sp.), wild rose (*Rosa woodsii* var. *ultramontana*), willow (*Salix* sp.), thimbleberry (*Rubus parviflorus*) and slender cinquefoil (*Potentilla gracilis*).

Projected Impacts: Waters Of The US (Source Caltrans Draft NES, August 2005)

Resource	Resource ID	Area of Permanent Direct Impact	Permanent Fill Below OHWM	Temporary Fill Below OHWM (Area ft^2/ Volume Yd^3)
Jurisdictional Waters of the U.S. (ephemeral, intermittent, and perennial drainages below OHWM)	McKinney Creek PM 0.80	0 ft^2 / 0 acre	0 yd^3	0 yd^3
	Quail Lake Creek PM 1.50	14 ft^2 / 0.0003 acre	0.26 yd^3	0 yd^3
	Homewood Canyon Creek PM 1.91	105 ft^2 / 0.002 acre	8.92 yd^3	21.78 ft^2 / 1.86 yd^3
	Madden Creek PM 2.68	0 ft^2 / 0 acre	0 yd^3	0 yd^3
	Blackwood Creek PM 3.87	0 ft^2 / 0 acre	0 yd^3	0 yd^3
	PM 5.26 (Sugar Pine SEZ)	14 ft^2 / 0.0003 acre	5.18 yd^3	0 yd^3
	PM 5.44 (Timberland SEZ)	19 ft^2 / 0.0004 acre	1.06 yd^3	0 yd^3
	Ward Creek PM 5.80	0 ft^2 / 0 acre	0 yd^3	0 yd^3
	PM 8.07 (Tahoe Tavern SEZ)	21 ft^2 / 0.0005 acre	1.55 yd^3	9.87 ft^2 / 0.65 yd^3
	PM 8.55-13.70 Truckee River	0.00ft^2 / 0.00 acre	0.00yd^3	0.00yd^3
	PM 9.53	14 ft^2 / 0.0003 acre	5.18 yd^3	5.94 ft^2 / 0.22 yd^3
	PM 9.70	14 ft^2 / 0.0003 acre	5.18 yd^3	5.94 ft^2 / 0.22 yd^3
	PM 10.68	28 ft^2 / 0.0006 acre	1.04 yd^3	5.94 ft^2 / 0.22 yd^3
	PM 11.27	14 ft^2 / 0.0003 acre	5.18 yd^3	0 yd^3
	PM 12.81	47 ft^2 / 0.001 acre	2.92 yd^3	9.87 ft^2 / 0.61 yd^3
	PM 12.94	28 ft^2 / 0.0006 acre	1.04 yd^3	5.94 ft^2 / 0.22 yd^3
Total:		**318 ft^2 / 0.007 acre**	**37.51 yd^3**	**65.28 ft^2 (0.001 acre) 4.00 yd^3**

Wetlands

Areas temporarily impacted by construction activities will be restored and revegetated. Wetland areas impacted will be contour graded at the completion of work to restore topography and ensure pre-project hydrology. Disturbed areas will be revegetated using the herbaceous wetland species currently found on-site. Wetland vegetation will also be planted in basins, throughout the project limits, where appropriate site conditions and hydrology are present. See page 9 for wetland plant species proposed.

Projected Impacts: Jurisdictional Wetlands (Source Caltrans Draft NES, August 2005)

Jurisdictional Wetlands ("adjacent" to or isolated from areas below OHWM)	Resource ID	Area of Permanent Direct Impact (excluding "Jurisdictional Waters")
	Rubicon Springs SEZ (PM 0.68)	90ft^2 / 0.002acre
	Homewood Meadow SEZ (PM 1.63)	710 ft*2* / 0.016 acre
	Tahoe Tavern SEZ (b) (PM 8.07)	1,938 ft^2 / 0.044 acre
	Truckee River Canyon SEZ 11.27	685 ft^2 / 0.016 acre
	Total	**3,423 ft^2 / 0.079 acre**

Stream Environment Zones

1 ½:1 replacement of impacted SEZ's will be implemented by restoring and revegetating disturbed areas on site at a 1:1ratio. The additional ½:1 replacement will be achieved by enhancing or enlarging existing degraded SEZ's adjacent to the project limits. On-site replacement will be accomplished by contour grading at the completion of work to restore topography and ensure pre-construction hydrology. SEZ vegetation will be restored by seeding and planting disturbed areas using the herbaceous wetland and riparian species common to SEZ's (see page 9).

Projected Impacts: Stream Environment Zones (Source Caltrans NES, November 2003)

Stream Environment Zone (Jurisdictional areas inclusive)	Resource ID	Area of Additional Impervious Coverage
	Rubicon Springs SEZ	90 ft2
	McKinney Creek SEZ (a)	0 ft2
	McKinney Creek SEZ (b)	0 ft2
	Quail Lake Creek SEZ (a)	233 ft2
	Quail Lake Creek SEZ (b)	233 ft2
	Homewood Meadow SEZ	710 ft2
	Homewood Canyon SEZ (a)	1292 ft2
	Homewood Canyon SEZ (b)	1137 ft2
	Madden Creek SEZ (a)	0 ft2
	Madden Creek SEZ (b)	0 ft2
	Madden Creek SEZ ©	0 ft2
	Grand Avenue SEZ (a)	775 ft2
	Grand Ave SEZ (b)	710 ft2
	Grand Ave SEZ ©	0 ft2
	Blackwood Creek SEZ (a)	0 ft2
	Blackwood Creek SEZ (b)	0 ft2
	Blackwood Road SEZ (a)	258 ft2
	Blackwood Road SEZ (b)	646 ft2
	Hill Street SEZ	194 ft2
	Sugar Pine SEZ (a)	155 ft2
	Sugar Pine SEZ (b)	90 ft2
	Timberland SEZ (a)	388 ft2
	Timberland SEZ (b)	517 ft2
	Timberland SEZ © and (d)	581 ft2
	Timberland SEZ (e)	517 ft2
	Timberland SEZ (f)	194 ft2

	Ward Creek SEZ (a)	0 ft2
	Ward Creek SEZ (b)	0 ft2
	Pineland SEZ (a)	840 ft2
	Pineland SEZ (b)	904 ft2
	Pineland SEZ ©	258 ft2
	Cedar Crest SEZ (a)	90 ft2
	Cedar Crest SEZ (b)	78 ft2
	Sequoia Ave SEZ (a)	129 ft2
	Sequoia Ave SEZ (b)	129 ft2
	Tahoe Tavern SEZ (a)	103 ft2
	Tahoe Tavern SEZ (b)	1938 ft2
	Truckee River SEZ 9.04	1214 ft2
	Truckee River SEZ 9.17	207 ft2
	Truckee River SEZ 9.27	1318 ft2
	Truckee River SEZ 9.38	1460 ft2
	Truckee River SEZ 9.53 (a)	1653 ft2
	Truckee River SEZ 9.53 (b)	116 ft2
	Truckee River SEZ 9.61	969 ft2
	Truckee River SEZ 9.65	607 ft2
	Truckee River SEZ 9.67	452 ft2
	Truckee River SEZ 9.70 (a)	194 ft2
	Truckee River SEZ 9.70 (b)	168 ft2
	Truckee River SEZ 9.91	2131 ft2
	Truckee River SEZ 10.10	1498 ft2
	Truckee River SEZ 10.38	1175 ft2
	Truckee River SEZ 10.46	310 ft2
	Truckee River SEZ 10.54	1473 ft2
	Truckee River SEZ 10.58	323 ft2
	Truckee River SEZ 10.68 (a)	207 ft2
	Truckee River SEZ 10.68 (b)	413 ft2
	Truckee River SEZ 10.84	2738 ft2
	Truckee River SEZ 10.87	233 ft2
	Truckee River SEZ 10.96	543 ft2
	Truckee River SEZ 11.03	1679 ft2
	Truckee River SEZ 11.13	1473 ft2
	Truckee River SEZ 11.24	2622 ft2

	Truckee River SEZ 11.27	685 ft2
	Truckee River SEZ 11.43	840 ft2
	Truckee River SEZ 11.67	310 ft2
	Truckee River SEZ 11.75	1937 ft2
	Truckee River SEZ 12.46	2970 ft2
	Truckee River SEZ 12.52	1473 ft2
	Truckee River SEZ 12.81 (a)	388 ft2
	Truckee River SEZ 12.81 (b)	3229 ft2
	Truckee River SEZ12.94 (a)	3229 ft2
	Truckee River SEZ 12.94 (b)	155 ft2
	Total	**53,581 ft^2 / 1.23 acre**

5. CONSTRUCTION MEASURES: AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES FOR WETLANDS, DRAINAGES AND SEZ'S

Restrict Timing of In-Stream Activities

To avoid direct impacts to surface water quality and fisheries, no work will be performed within a stream channel or wetland until flows are at their seasonal low or have ceased and the streambed is dry. As a guideline, no construction activities will be permitted below the OHWM between June 15th and October 15th, subject to stream conditions. No work or operation of equipment will occur in the wetted channel of any of the project drainages.

Establish Enviornmentally Sensitive Areas

Additional direct and indirect impacts to all vegetated areas, including sensitive biological resources, wetlands, streambeds, SEZ's and adjacent corridors will be avoided or minimized by designating these feature s outside the construction impacts area as "environmentally sensitive areas". ESA information will be shown on contract plans and discussed in the Special Provisions, and will be indicated as such in the field with the use of temporary orange fencing, and where appropriate silt fencing, installed as a first order of work. Contractor encroachment into ESA's will be restricted (including the staging/operation of heavy equipment or casting of excavation materials). Any damaged fencing will be repaired within one working day of discovery. ESA provisions will be implemented as a first order of work and will remain in place until construction activities are complete.

Containment Measures

Caltrans' Standard Specifications require the Contractor to submit a Water Pollution Control Plan. This plan must meet the standards and objectives to minimize water pollution impacts set forth in section 7-1.01G of Caltrans' Standard Specifications. These standards/objectives, at times referred to as Best Management Practices (BMP's). Measures will be employed to prevent any construction material, debris, or petroleum products associated with heavy machinery from entering surface waters or their channels. BMP's for erosion control will be implemented and in place prior to, during, and after construction in order to ensure that no silt, sediment or petroleum products enters surface waters.

Limit Vegetation Removal
Vegetation removal shall be limited to the absolute minimum amount required for construction.

De-Watering Activities
Depending on seasonal flows, de-watering of the streambed or culvert course and or a temporary stream diversion may be necessary where culvert rehabilitation or replacement is proposed. All de-watering activities will observe water quality measures listed above, as well as any permit-related restrictions. Any intakes that may be required for water pumps associated with wetting/ irrigation/ de-watering of sites shall be screened to RWQCB specifications to avoid the intake of fish. If de-watering of the site is deemed necessary, a temporary sediment-settling basin will be constructed downstream of the activity. All discharge waters associated with the de-watering activities will be pumped into the constructed basin before being allowed to re-enter project area drainages.

Weed Free Erosion Control Treatments
To further minimize the risk of introducing additional non-native species into the area, only locally TRPA-approved plant species appropriate for the project area will be used in any erosion control or revegetation seed mix or stock. No dry-farmed straw will be used, and certified weed-free straw shall be required where erosion control straw is to be used. In addition, any hydro-seed mulch used for revegetation activities must also be certified weed-free.

Weed Free Construction Equipment
All off-road construction equipment to be cleaned of potential noxious weed sources (mud, vegetation) before entry the project area (preferably before entry into the Lake Tahoe basin), and after entering a potentially infested area before moving on to another area, to help ensure noxious weeds are not introduced into the project area. The contractor shall employ whatever cleaning methods (typically with the use of a high-pressure water hose) are necessary to ensure that equipment is free of noxious weeds. Equipment shall be considered free of soil, seeds, and other such debris when a visual inspection does not disclose such material. Disassembly of equipment components or specialized inspection tools is not required. Equipment washing stations shall be placed in areas that afford easy containment and monitoring (preferably outside of the Lake Tahoe basin), and that do not drain into the forest or sensitive (riparian, SEZ, wetlands, etc.) areas.

Equipment Staging in Weed Free Areas
Staging of equipment should only be done in weed free areas. Landings should be placed in forested areas rather than open flats to help prevent the establishment of noxious invaders such as yellow star thistle, which utilize open sunny areas.

6. REVEGETATION PLAN

Revegetation Planting
Revegetation planting will occur simultaneously to the roadway/drainage construction project. The revegetation effort will install live container plantings of native species to supplement the erosion control seeding and aid the restoration of the project area. It will also fulfill Caltrans mitigation requirements for wetlands, drainages and SEZ's. The species proposed for planting are those indigenous in or adjacent to the project areas. The mix or composition of species will be determined based on post construction habitat conditions and will be defined by upland, wetland, drainage and SEZ. Plant layout will replicate existing vegetative patterns found in adjacent undisturbed areas. Basin side slopes and spillways will also be revegetated; these areas will be planted with species characteristic of seasonally wetter conditions.

Implementation Schedule
Revegetation activities will begin the year of construction. Container planting will be required during construction phases as areas are finished and prior to the end of each construction season. Planting will occur in late summer or early fall each year of construction, then each spring and fall in the following 1-2 seasons after construction depending on plant survival and cover. This phased planting approach is proposed to 1) ensure that areas are revegeteted in a timely manner and 2) adaptive management techniques can be employed to focus revegetation efforts at appropriate locations.

Species
Supplemental seed and container plants used on the project will be derived from genetic stock originating from the Tahoe Basin or vicinity of the same elevation and habitat conditions. The following is a list of species proposed for use in revegetation:

Proposed Container Material

Upland Vegetation Species

Botanical Name	Common Name
Achnatherum occidentalis var. californica	Mountain Needlegrass
Amelanchier alnifolia	Service Berry
Arctostaphylos patula	Greenleaf Manzanita
Artemesia tridenta	Sagebrush
Chrysothamnus nauseosus	Rabbit Brush
Elymus elymoides	Squirreltail
Pinus contorta var. murrayana	Lodgepole Pine
Pinus jeffreyi	Jeffrey Pine
Purshia tridenta	Antelope Bush
Ribes nevadense	Sierra Currant
Wyethia mollis	Mules Ears
Symphoricarpos mollis	Snow Berry

Drainages and Wetlands Species

Botanical Name	Common Name
Agrostis idahoensis	**Idaho Bentgrass**
Carex amplifolia	**Sedge**
Carex utrculata	Sedge
Carex nebrascensis	Nebraska Sedge
Cornus sericea	Dogwood
Dechampsia cespitosa	Tufted Hairgrass
Geum macrophylum	Geum
Hordeum brachyantherum	Meadow Barley
Juncus balticus	Rush
Juncus effuses	Rush
Potenilla gracilis	Slender Cinquefoil
Rosa woodsii var. ultramontane	Mountain Rose
Salix sp.	Willow
Sidalcea oregona	Spicate Checker Broom

Erosion Control Seed Mix

Botanical Name	Common Name
Achnatherum occidentalis var. californica	Mountain Needlegrass
Agrostis idahoensis	**Idaho Bentgrass**
Elymus elymoides	Squirreltail
Elymus glaucus	Blue Wildrye
Bromus carinatus	California Brome
Lotus purshianus	Purshings Lotus
Lupinus grayii	Gray Lupine
Lupinus breweri	Brewer's Lupine
Achillea millifolium	Yarrow

Mulch

Mulch material will be generated from two sources. From vegetation removed and chipped during clearing and grubbing operations and from pine needles collected in the Tahoe Basin. The goal is to have a 50% pine needle to 50% chipped vegetation blend. If mulch generated from chipping woody debris is not adequate to fulfill the specifications, then additional pine needle material will be purchased. No straw mulch will be used on the project in the erosion control seeding.

Planting Densities

Grass, forb and wetland plugs will be clustered in groups on 1-foot centers, either alone or associated with shrub and tree plantings. Shrubs and trees will be planted on 1-2m centers. The planting design proposes to group plantings, within disturbed areas based on existing vegetation patterns found in the surrounding landscape. In general groupings will be composed of 60% grass and forb plugs, 30% shrubs, and 10% trees.

Watering

Plants will be watered in at planting and will be watered until the onset of rains or winter dormancy. Supplemental watering will be provided over the first summer and fall (after each planting) using a combination of remote temporary irrigation system and /or truck watering. Regular monitoring will be performed to ensure plants have adequate moisture.

Success Criteria

Prior to construction, vegetation composition, and cover will be characterized from reference sites outside the limits of the work area. The results will serve as the success criteria or goal for the mitigation project for each of the 4 habitat types (upland, wetland, drainage and SEZ).

First year success criteria will be achieved if the following conditions are met:

1. Soil surface is stabilized. No observed slope failures, soil movement or drainage erosion.
2. Total cover (cover from seed, plantings and mulch) is 95% or greater.
3. No areas greater than 3 x 3 meters without established plants.

Second through five year success criteria are met if :

1. Continual increases in plant cover are documented.
2. All target species are present on-site.

Monitoring Plan and Schedule

Qualitative and quantitative monitoring will be performed. Qualitative monitoring will involve visually inspecting the project for plant establishment and growth, as well as, for problems, such as erosion, drainage, weeds or plant mortality. Inspections will occur numerous times over the first year (minimum of 8 visits during the growing season), with a minimum of 2 visits years 2 - 5 (as long as no problems arise). Results will be documented on aerials or project plans. Permanent photo points will be set up to document the revegetation effort. Quantitative monitoring will occur once each year between April and August, for a period of five years. Quantitative sampling will be performed to estimate species richness, and plant cover.

Remedial Actions

If success criteria are not met, an additional planting effort will be implemented to meet requirements. However, prior to initiating any new planting, soil data, site preparation, planting techniques and materials will be evaluated. Caltrans will coordinate with the permitting agencies to determine appropriate remedial actions.

Appendix H TRPA Initial Environmental Checklist

TRPA INITIAL ENVIRONMENTAL CHECK LIST

For

The Initial Determination of Environmental Impact

Assessor Parcel Number(s): **State Route (SR) 89 in Placer County**

I. PROJECT NAME AND DESCRIPTION: (use additional sheets, if necessary)

Placer 89 : Rehabilitation and Drainage Improvement Project; (Post Mile 0.0-13.7)

The California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA) propose to construct water quality improvements, and operational improvements from Tahoma through Tahoe City to Squaw Valley. Water quality improvements will include collection and treatment of storm water runoff from the highway by rehabilitating the existing drainage system, and constructing approved water quality treatment improvements, such as sand collection vaults, bio-swales, and infiltration and/or detention basins. Operational improvements will include constructing left-turn pockets and 2-way left-turn lanes at various locations. Shoulders will be widened to a minimum of 1.2 meters to provide for drainage conveyance capacity. An overlay will be placed in areas where the shoulder is widened.

Please see prepared IS/EA/PEA for more detailed project information.

II. ENVIRONMENTAL IMPACTS:

The following questionnaire will be completed by the applicant based on evidence submitted with the application. **All "yes" and "no, with mitigation" answers will require further written comments.**

1. Land

Will the proposal result in?

a. Compaction or covering of the soil beyond the limits allowed in the land capability or Individual Parcel Evaluation System (IPES)?

Yes	No	No, with Mitigation	Data Insufficient
			X

b. A change in the topography or ground surface relief features of site inconsistent with the natural surrounding conditions?

Yes	No	No, with Mitigation	Data Insufficient
		X	

c. Unstable soil conditions during or after completion of the proposal?

Yes	No	No, with Mitigation	Data Insufficient
		X	

d. Changes in the undisturbed soil or native geologic substructures or grading in excess of 5 feet?

Yes	No	No, with Mitigation	Data Insufficient
X			

e. The continuation of or increase in wind or water erosion of soils, either on or off the site?

Yes	No	No, with Mitigation	Data Insufficient
	X		

f. Changes in deposition or erosion of beach sand, or changes in siltation, deposition or erosion, including natural littoral processes, which may modify the channel of a river or stream or the bed of a lake?

Yes	No	No, with Mitigation	Data Insufficient
	X		

g. Exposure of people or property to geologic hazards such as earthquakes, landslides, backshore erosion, avalanches, mud slides, ground failure, or similar hazards?

Yes	No	No, with Mitigation	Data Insufficient
	X		

2. Air Quality

Will the proposal result in?

a. Substantial air pollutant emissions?

Yes	No	No, with Mitigation	Data Insufficient
	X		

b. Deterioration of ambient (existing) air quality?

Yes	No	No, with Mitigation	Data Insufficient
	X		

c. The creation of objectionable odors?

Yes	No	No, with Mitigation	Data Insufficient
	X		

d. Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally?

Yes	No	No, with Mitigation	Data Insufficient
	X		

e. Increased use of diesel fuel?

Yes	No	No, with Mitigation	Data Insufficient
	X		

3. Water Quality

Will the proposal result in?

a. Changes in currents, or the course or direction of water movements?

Yes	No	No, with Mitigation	Data Insufficient
	X		

b. Changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff so that a 20 yr. 1 hr. storm runoff (approximately 1 inch per hour) cannot be contained on the site?

Yes	No	No, with Mitigation	Data Insufficient
	X		

c. Alterations to the course or flow of 100-year flood waters?

Yes	No	No, with Mitigation	Data Insufficient
	X		

d. Change in the amount of surface water in any water body?

Yes	No	No, with Mitigation	Data Insufficient
	X		

e. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity?

Yes	No	No, with Mitigation	Data Insufficient
	X		

f. Alteration of the direction or rate of flow of groundwater?

Yes	No	No, with Mitigation	Data Insufficient
	X		

g. Change in the quantity of groundwater, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?

Yes	No	No, with Mitigation	Data Insufficient
	X		

h. Substantial reduction in the amount of water otherwise available for public water supplies?

Yes	No	No, with Mitigation	Data Insufficient
	X		

i. Exposure of people or property to water related hazards such as flooding and/or wave action from 100-year storm occurrence or seiches?

Yes	No	No, with Mitigation	Data Insufficient
	X		

j. The potential discharge of contaminants to the groundwater or any alteration of groundwater quality?

Yes	No	No, with Mitigation	Data Insufficient
	X		

4. Vegetation

Will the proposal result in?

a. Removal of native vegetation in excess of the area utilized for the actual development permitted by the land capability/IPES system?

Yes	No	No, with Mitigation	Data Insufficient
			X

b. Removal of riparian vegetation or other vegetation associated with critical wildlife habitat, either through direct removal or indirect lowering of the groundwater table?

Yes	No	No, with Mitigation	Data Insufficient
	X		

c. Introduction of new vegetation that will require excessive fertilizer or water, or will provide a barrier to the normal replenishment of existing species?

Yes	No	No, with Mitigation	Data Insufficient
	X		

d. Change in the diversity or distribution of species, or number of any species of plants (including trees, shrubs, grass, crops, micro flora and aquatic plants?

Yes	No	No, with Mitigation	Data Insufficient
	X		

e. Reduction of the numbers of any unique, rare or endangered species of plants?

Yes	No	No, with Mitigation	Data Insufficient
	X		

f. Removal of stream-bank and/or backshore vegetation, including woody vegetation such as willows?

Yes	No	No, with Mitigation	Data Insufficient
			X

g. Removal of any native live, dead or dying trees 30 inches or greater in diameter at breast height (dbh) within TRPA's Conservation or Recreation land use classifications?

Yes	No	No, with Mitigation	Data Insufficient
			X

h. A change in the natural functioning of an old growth ecosystem?

Yes	No	No, with Mitigation	Data Insufficient
	X		

5. Wildlife

Will the proposal result in?

a. Change in the diversity or distribution of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects, mammals, amphibians or microfauna)?

Yes	No	No, with Mitigation	Data Insufficient
	X		

b. Reduction of the number of any unique, rare or endangered species of animals?

Yes	No	No, with Mitigation	Data Insufficient
	X		

c. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals?

Yes	No	No, with Mitigation	Data Insufficient
	X		

d. Deterioration of existing fish or wildlife habitat quantity or quality?

Yes	No	No, with Mitigation	Data Insufficient
	X		

6. Noise

Will the proposal result in?

a. Increases in existing Community Noise Equivalency Levels (CNEL) beyond those permitted in the applicable Plan Area Statement, Community Plan or Master Plan?

Yes	No	No, with Mitigation	Data Insufficient
	X		

b. Exposure of people to severe noise levels?

Yes	No	No, with Mitigation	Data Insufficient
	X		

c. Single event noise levels greater than those set forth in the TRPA Noise Environmental Threshold?

Yes	No	No, with Mitigation	Data Insufficient
		X	

7. Light and Glare

Will the proposal:

a. Include new or modified sources of exterior lighting?

Yes	No	No, with Mitigation	Data Insufficient
X			

b. Create new illumination which is more substantial than other lighting, if any, within the surrounding area?

Yes	No	No, with Mitigation	Data Insufficient
	X		

c. Cause light from exterior sources to be cast off site or onto public lands?

Yes	No	No, with Mitigation	Data Insufficient
	X		

d. Create new sources of glare through the siting of the improvements or through the use of reflective materials?

Yes	No	No, with Mitigation	Data Insufficient
	X		

8. Land Use

Will the proposal:

a. Include uses that are not listed as permissible uses in the applicable Plan Area Statement, adopted Community Plan, or Master Plan?

Yes	No	No, with Mitigation	Data Insufficient
	X		

b. Expand or intensify an existing non-conforming use?

Yes	No	No, with Mitigation	Data Insufficient
	X		

9. Natural Resources

Will the proposal result in?

a. A substantial increase in the rate of use of any natural resources?

Yes	No	No, with Mitigation	Data Insufficient
	X		

b. Substantial depletion of any non-renewable natural resource?

Yes	No	No, with Mitigation	Data Insufficient
	X		

10. Risk of Upset

a. Does the proposal involve a risk of an explosion or the release of hazardous substances including, but not limited to, oil, pesticides, chemicals, or radiation in the event of an accident or upset conditions?

Yes	No	No, with Mitigation	Data Insufficient
		X	

b. Will the proposal involve possible interference with an emergency evacuation plan?

Yes	No	No, with Mitigation	Data Insufficient
	X		

11. Population

Will the proposal:

a. Alter the location, distribution, density, or growth rate of the human population planned for the Region?

Yes	No	No, with Mitigation	Data Insufficient
	X		

b. Include or result in the temporary or permanent displacement of residents?

Yes	No	No, with Mitigation	Data Insufficient
	X		

12. Housing

Will the Proposal:

a. Affect existing housing or create a demand for additional housing?

To determine if the proposal will affect existing housing or create a demand for additional housing, please answer the following questions:

1) Will the proposal decrease the amount of housing in the Tahoe Region?

Yes	No	No, with Mitigation	Data Insufficient
	X		

2) Will the proposal decrease the amount of housing in the Tahoe Region historically or currently being rented at rates affordable by lower and very- low income households?

Yes	No	No, with Mitigation	Data Insufficient
	X		

b. Will the proposal result in the loss of housing for lower income and very- low income households?

Yes	No	No, with Mitigation	Data Insufficient
	X		

13. Transportation/ Circulation

Will the proposal result in:

a. Generation of 100 or more new daily vehicle trip ends (DVTE)?

Yes	No	No, with Mitigation	Data Insufficient
	X		

b. Changes to existing parking facilities, or demand for new parking?

Yes	No	No, with Mitigation	Data Insufficient
		X	

c. Substantial impact upon existing transportation systems, including highway, transit, bicycle or pedestrian facilities?

Yes	No	No, with Mitigation	Data Insufficient
	X		

d. Alterations to present patterns of circulation or movement of people and/or goods?

Yes	No	No, with Mitigation	Data Insufficient
	X		

e. Alterations to waterborne, rail or air traffic?

Yes	No	No, with Mitigation	Data Insufficient
	X		

f. Increase in traffic hazards to motor vehicles, bicyclists, or pedestrians?

Yes	No	No, with Mitigation	Data Insufficient
	X		

14. Public Services

Will the proposal have an unplanned effect upon, or result in a need for new or altered governmental services in any of the following areas?

a. Fire protection?

Yes	No	No, with Mitigation	Data Insufficient
	X		

b. Police protection?

Yes	No	No, with Mitigation	Data Insufficient
	X		

c. Schools?

Yes	No	No, with Mitigation	Data Insufficient
	X		

d. Parks or other recreational facilities?

Yes	No	No, with Mitigation	Data Insufficient
	X		

e. Maintenance of public facilities, including roads?

Yes	No	No, with Mitigation	Data Insufficient
	X		

f. Other governmental services?

Yes	No	No, with Mitigation	Data Insufficient
	X		

15. Energy

Will the proposal result in?

a. Use of substantial amounts of fuel or energy?

Yes	No	No, with Mitigation	Data Insufficient
	X		

b. Substantial increase in demand upon existing sources of energy, or require the development of new sources of energy?

Yes	No	No, with Mitigation	Data Insufficient
	X		

16. Utilities

Except for planned improvements, will the proposal result in a need for new systems, or substantial alterations to the following utilities:

a. Power or natural gas?

Yes	No	No, with Mitigation	Data Insufficient
	X		

b. Communication systems?

Yes	No	No, with Mitigation	Data Insufficient
	X		

c. Utilize additional water which amount will exceed the maximum permitted capacity of the service provider?

Yes	No	No, with Mitigation	Data Insufficient
	X		

d. Utilize additional sewage treatment capacity which amount will exceed the maximum permitted capacity of the sewage treatment provider?

Yes	No	No, with Mitigation	Data Insufficient
	X		

e. Storm water drainage?

Yes	No	No, with Mitigation	Data Insufficient
	X		

f. Solid waste and disposal?

Yes	No	No, with Mitigation	Data Insufficient
	X		

17. Human Health

Will the proposal result in?

a. Creation of any health hazard or potential health hazard (excluding mental health)?

Yes	No	No, with Mitigation	Data Insufficient
	X		

b. Exposure of people to potential health hazards?

Yes	No	No, with Mitigation	Data Insufficient
	X		

18. Scenic Resources/Community Design

Will the proposal:

a. Be visible from any state or federal highway, Pioneer Trail or from Lake Tahoe?

Yes	No	No, with Mitigation	Data Insufficient
X			

b. Be visible from any public recreation area or TRPA designated bicycle trail?

Yes	No	No, with Mitigation	Data Insufficient
X			

c. Block or modify an existing view of Lake Tahoe or other scenic vista seen from a public road or other public area?

Yes	No	No, with Mitigation	Data Insufficient
	X		

d. Be inconsistent with the height and design standards required by the applicable ordinance or Community Plan?

Yes	No	No, with Mitigation	Data Insufficient
	X		

e. Be inconsistent with the TRPA Scenic Quality Improvement Program (SQIP) or Design Review Guidelines?

Yes	No	No, with Mitigation	Data Insufficient
	X		

19. Recreation:

Does the proposal:

a. Create additional demand for recreation facilities?

Yes	No	No, with Mitigation	Data Insufficient
	X		

b. Create additional recreation capacity?

Yes	No	No, with Mitigation	Data Insufficient
	X		

c. Have the potential to create conflicts between recreation uses, either existing or proposed?

Yes	No	No, with Mitigation	Data Insufficient
	X		

d. Result in a decrease or loss of public access to any lake, waterway, or public lands?

Yes	No	No, with Mitigation	Data Insufficient
	X		

20. Archaeological/Historical

a. Will the proposal result in an alteration of or adverse physical or aesthetic effect to a significant archaeological or historic site, structure, object or building?

Yes	No	No, with Mitigation	Data Insufficient
	X		

b. Is the proposed project located on a property with any known cultural, historical, and/or archeological resources, including resources on TRPA or other regulatory official maps or records?

Yes	No	No, with Mitigation	Data Insufficient
X			

c. Is the property associated with any historically significant events and/ or sites or persons?

Yes	No	No, with Mitigation	Data Insufficient
	X		

d. Does the proposal have the potential to cause a physical change which would affect unique ethnic cultural values?

Yes	No	No, with Mitigation	Data Insufficient
	X		

e. Will the proposal restrict historic or pre-historic religious or sacred uses within the potential impact area?

Yes	No	No, with Mitigation	Data Insufficient
	X		

21. Findings of Significance.

a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California or Nevada history or prehistory?

Yes	No	No, with Mitigation	Data Insufficient
	X		

b. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time, while long-term impacts will endure well into the future.)

Yes	No	No, with Mitigation	Data Insufficient
	X		

c. Does the project have impacts that are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environment is significant?)

Yes	No	No, with Mitigation	Data Insufficient
	X		

d. Does the project have environmental impacts which will cause substantial adverse effects on human being, either directly or indirectly?

Yes	No	No, with Mitigation	Data Insufficient
	X		

III CERTIFICATION

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this initial evaluation to the best of my ability, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Brenda Breed-Jones 3/16/06

Signature of Person Completing this Form *Date*

WRITTEN COMMENTS: use additional sheets as necessary

1(a) – *The project will install several detention/ infiltration basins. Compaction and covering of soil as would occur with building developments is not expected with this project. Data is said to be insufficient due to the lack of availability of the IPES scores for parcels that will be affected.*

1(b) – *The project will change topography slightly in order to install detention/ infiltration basins. The basins will be created to blend in with the existing environment to the extent feasible.*

1(c) – *The project will incorporate Best Management Practices (BMPs) to prevent erosion or unstable soils.*

1(d) – *Soils will be disturbed to install water quality related detention / infiltration basins. There will not be grading in excess of 5 feet in depth at any of these locations.*

4(a) – *Currently design information for this project is still in the process of finalization. It is not known exactly how much vegetation will be removed or from where. Measures are in place to re-vegetate disturbed soils and to replace lost native vegetation.*

4(f) – *See comment 4(a) above. All backshore vegetation removed will be evaluated and measures will be in place to mitigate as necessary.*

4(g) – *The exact location, size and species of trees to be removed is not known at this time. Scenic Impact studies will be conducted in the Summer of 2006 in order to make this determination. Caltrans will work closely with TRPA to ensure compliance with scenic thresholds and tree removal ordinances.*

6(c) –*During the construction phase of this project, noise form construction activities may intermittently dominate the noise environment in the immediate area of construction. Construction noise is unavoidable, but is regulated by Caltrans standard specifications Section 7-1.01I, "Sound Control Requirements"/ These requirements state that noise levels generated during construction shall comply with all applicable state, local and federal regulations and that all equipment shall be fitted with adequate mufflers according to manufacturers specifications.*

Construction activities that are expected to generate high noise levels should be conducted between the hours of 8AM and 6:30 PM to ensure compliance with TRPA Code and minimize the impact on residents and businesses in the area. An exception from TRPA noise standards may be required for work on two-lane segments of Highway 89. Two-lane segments within the project limits will likely staged during the evening to minimize traffic impacts.

7(a) – *Caltrans traffic operations unit identified a need for new lighting to improve safety and site distances at 25 locations along the 13 mile project length. These areas include bus stops, bike path crossings and areas of high pedestrian activity. Caltrans will work with TRPA to ensure that all lighting meets TRPA codes and standards.*

10(a) – *Please refer to the Caltrans IS/EA/PEA section on Hazardous Waste. Potential for hazardous waste during the construction of this project is minimal.* 13(b) –

18(a) – *Water Quality treatment features will be visible from State Route 89 at various locations throughout the project limits. Each basin will be designed to blend in*

with the natural surroundings as much as possible / feasible to do so.

18(b) – *Some water quality features may be visible from the existing bike trail. Basins will be designed to blend in with the natural surroundings as much as feasible / possible to do so.*

20(b) – *An archaeological site is located near one of the planned basins. Measures will be implemented to protect and monitor the site during construction so as not to have a negative impact.*

IV Determination (To Be Completed By TRPA)

On the basis of this evaluation:

a. The proposed project could not have a significant effect on the environment and a finding of no significant effect shall be prepared in accordance with TRPA's Rules of Procedure.

Yes	No

b. The proposed project could have a significant effect on the environment, but due to the listed mitigation measures that have been added to the project, could have no significant effect on the environment and a mitigated finding of no significant effect shall be prepared in accordance with TRPA's Rules and Procedures.

Yes	No

c. The proposed project may have a significant effect on the environment and an environmental impact statement shall be prepared in accordance with this chapter and TRPA's Rules of Procedure.

Yes	No

Signature of Evaluator *Date*

Title of Evaluator

Appendix I Project Features

PROJECT FEATURES FOR EA:2A9200 & 2A9210							
Begin Sta	**End Sta**	**Begin PM**	**End PM**	**Side of Road**	**Feature**	**Proposed/ Existing**	**Notes**
EA: 03-2A9200 (PLA 89, PM 0.0/8.6)							
960	1180	ED 27.3	0.08	West	Widen Shoulder to 1.2m (4ft)	P	
960	1050	ED 27.3	0.00	East and West	Install Left Turn Lane	P	
960	1180	ED 27.3	0.08	East	Widen Shoulder to 1.2m (4ft)	P	
1025	1075	ED 27.3	0.01	West	Relocate Bike Path	P	
1050	1180	0.00	0.08	East and West	Install Center Two Way Left Turn Lane	P	
1180	1620	0.08	0.35	West	Widen Shoulder to 2.4m (8ft)	P	
1180	1620	0.08	0.35	East	Widen Shoulder to 2.4m (8ft)	P	
1545	1580	0.30	0.32	East	Basin	P	5200 ft^2
1620	2220	0.35	0.72	West	Widen Shoulder to 1.2m (4ft)	P	
1620	3220	0.35	1.34	East	Widen Shoulder to 1.2m (4ft)	P	
1620	2220	0.35	0.72	East and West	Install Center Two Way Left Turn Lane	P	
1640	1785	0.36	0.45	West	Relocate Bike Path	P	
1710	1885	0.41	0.51	East	Basins	P	42200 ft^2
1845	1900	0.49	0.52	West	Relocate Bike Path	P	
1925	1940	0.54	0.55	West	Basins	P	3400 ft^2
2040	2080	0.61	0.64	West	Relocate Bike Path	P	
2110	2155	0.65	0.68	West	Basin	P	10400 ft^2

2180	2240	0.70	0.74	West	Relocate Bike Path	P	
Begin Sta	**End Sta**	**Begin PM**	**End PM**	**Side of Road**	**Feature**	**Proposed/ Existing**	**Notes**
2200	2330	0.71	0.79	West	Basins	P	5800 ft^2
2220	2540	0.72	0.92	West	Widen Shoulder to 2.4m (8ft)	P	
2260	2290	0.75	0.77	East	Basin	P	3100 ft^2
2360	2390	0.81	0.83	East	Basin	P	10700 ft^2
2380	2400	0.82	0.83	East	Basin	P	2000 ft^2
2540	4440	0.92	2.10	West	Widen Shoulder to 1.2m (4ft)	P	
2865	N/A	1.12	N/A	West	Sand Vault	P	
3020	N/A	1.22	N/A	West	Sand Vault	P	
3220	3700	1.34	1.64	East	Widen Shoulder to 2.4m (8ft)	P	
3220	N/A	1.34	N/A	East	Sand Vault	P	
3470	N/A	1.50	N/A	Left	Sand Vault	P	
3630	3650	1.60	1.61	West	Basin	P	2200 ft^2
3650	3855	1.61	1.74	West	Bioswale	P	
3700	4440	1.64	2.10	East	Widen Shoulder to 1.2m (4ft)	P	
3700	4130	1.64	1.91	East and West	Install Center Two Way Left Turn Lane	P	
3880	3910	1.75	1.77	West	Relocate Bike Path	P	
3980	4000	1.82	1.83	West	Relocate Bike Path	P	
4010	N/A	1.83	N/A	East	Sand Vault	P	
4140	4440	1.92	2.10	East and West	Install Center Two Way Left Turn Lane	P	
4180	4335	1.94	2.04	East and West	2.4 m Parking	P	Paved Parking for local businesses
4210	N/A	1.96	N/A	West	Sand Vault	P	
4235	N/A	1.97	N/A	West	Sand Vault	P	
4355	N/A	2.05	N/A	East	Sand Vault	P	

Begin Sta	End Sta	Begin PM	End PM	Side of Road	Feature	Proposed/ Existing	Notes
4415	4460	2.09	2.11	East	Basin	P	6700 ft^2
4440	5335	2.10	2.66	West	Widen Shoulder to 2.4m (8ft)	P	
4440	5335	2.10	2.66	East	Widen Shoulder to 2.4m (8ft)	P	
4630	N/A	2.22	N/A	East	Sand Vault	P	
4900	N/A	2.39	N/A	East	Sand Vault	P	
5160	N/A	2.58	N/A	East	Sand Vault	P	
5215	N/A	2.58	N/A	East	Sand Vault	P	
5335	5405	2.66	2.70	East and West	Widen Shoulder to 1.2m (4ft)	P	Madden Creek Bridge
5350	5395	2.67	2.70	East and West	MBGR	E	Upgrade or replace MBGR
5405	5655	2.70	2.86	West	Widen Shoulder to 2.4m (8ft)	P	
5405	5655	2.70	2.86	East	Widen Shoulder to 2.4m (8ft)	P	
5490	5560	2.75	2.80	East	Basins	P	10800 ft^2
5625	N/A	2.84	N/A	East	Sand Vault	P	
5655	6460	2.86	3.36	West	Widen Shoulder to 1.2m (4ft)	P	
5655	5840	2.86	2.97	East	Widen Shoulder to 1.2m (4ft)	P	
5655	5840	2.86	2.97	East and West	Install Left Turn Lane	P	
5840	6140	2.97	3.16	East	Widen Shoulder to 2.4m (8ft)	P	
6025	N/A	3.09	N/A	Eaat	Sand Vault	P	
6090	N/A	3.13	N/A	East	Sand Vault	P	
6140	6390	3.16	3.31	East	Widen Shoulder to 1.2m (4ft)	P	
6165	N/A	3.17	N/A	East	Sand Vault	P	
6190	N/A	3.19	N/A	East	Sand Vault	P	
6275	N/A	3.24	N/A	East	Sand Vault	P	

Begin Sta	End Sta	Begin PM	End PM	Side of Road	Feature	Proposed/ Existing	Notes
6390	6515	3.31	3.39	East	Widen Shoulder to 2.4m (8ft)	P	
6415	N/A	3.33	N/A	West	Sand Vault	P	
6445	N/A	3.35	N/A	West	Sand Vault	P	
6460	6600	3.36	3.44	West	Widen Shoulder to 2.4m (8ft)	P	
6480	6700	3.37	N/A	West	Bioswale	P	Bioswale area shall be stabilized and revegetated.
6515	7040	3.39	3.72	East	Widen Shoulder to 1.2m (4ft)	P	
6600	6860	3.44	3.61	East and West	Install Center Two Way Left Turn Lane	P	
6600	7040	3.44	3.72	West	Widen Shoulder to 1.2m (4ft)	P	
6610	6680	3.45	3.49	West	Relocate Bike Path	P	
6780	N/A	3.56	N/A	East	Sand Vault	P	
6860	7040	3.61	3.72	East and West	Install Center Two Way Left Turn Lane	P	
6965	N/A	3.67	N/A	West	Sand Vault	P	
7030	N/A	3.71	N/A	East	Sand Vault	P	
7040	7250	3.72	3.85	West	Widen Shoulder to 2.4m (8ft)	P	
7040	7250	3.72	3.85	East	Widen Shoulder to 2.4m (8ft)	P	
7060	7090	3.73	3.75	East	Basin	P	7400 ft^2
7100	7280	3.76	3.87	West	Relocate Bike Path	P	
7250	7305	3.85	3.88	East	Widen Shoulder to 1.2m (4ft)	P	Blackwood Creek Bridge
7250	9300	3.85	5.12	West	Widen Shoulder to 1.2m (4ft)	P	Blackwood Creek Bridge
7295	7340	3.88	3.90	West	Basin	P	4800 ft^2

Begin Sta	End Sta	Begin PM	End PM	Side of Road	Feature	Proposed/ Existing	Notes
7305	7375	3.88	3.93	East	Widen Shoulder to 2.4m (8ft)	P	
7375	7415	3.93	3.95	East	Widen Shoulder to 1.2m (4ft)	P	
7415	7420	3.95	3.95	East	Widen Shoulder to 0.3m (1ft)	P	Preserve Boulder on Shoulder
7420	7750	3.95	4.16	East	Widen Shoulder to 1.2m (4ft)	P	
7705	7750	4.13	4.16	East	Relocate Bike Path	P	
7750	8250	4.16	4.47	East	Widen Shoulder to 2.4m (8ft)	P	
7940	8060	4.28	4.35	East and West	Install Left Turn Lane	P	
7955	8015	4.29	4.32	West	Basins	P	22000 ft^2
8120	N/A	4.39	N/A	West	Sand Vault	P	
8145	8195	4.40	4.44	East	Relocate Bike Path	P	
8250	9180	4.47	5.05	East	Widen Shoulder to 1.2m (4ft)	P	
8258	N/A	4.47	N/A	East	Sand Vault	P	
8325	8400	4.52	4.56	East	Relocate Bike Path	P	
8365	N/A	4.54	N/A	East	Sand Vault	P	
8610	N/A	4.69	N/A	West	Sand Vault	P	
8820	8900	4.82	4.87	East	2.4 m Parking	P	Paved Parking for beach access
8965	N/A	4.91	N/A	East	Sand Vault	P	
8980	9040	4.92	4.96	East	2.4 m Parking	P	Paved Parking for beach access
9125	N/A	5.01	N/A	East	Sand Vault	P	
9135	9175	5.02	5.04	East	2.4 m Parking	P	Paved Parking for beach access
9180	9275	5.05	5.11	East	Widen Shoulder to 2.4m (8ft)	P	
9275	9520	5.11	5.26	East	Widen Shoulder to 1.2m (4ft)	P	
9300	9480	5.12	5.23	West	Widen Shoulder to 2.4m (8ft)	P	

Begin Sta	End Sta	Begin PM	End PM	Side of Road	Feature	Proposed/ Existing	Notes
9300	9370	5.12	5.17	West	Basin	P	7200 ft^2
9480	9790	5.23	5.43	West	Widen Shoulder to 1.2m (4ft)	P	
9520	9660	5.26	5.35	East	Widen Shoulder to 2.4m (8ft)	P	
9660	9790	5.35	5.43	East and West	Install Left Turn Lane	P	
9660	10740	5.35	6.02	East	Widen Shoulder to 1.2m (4ft)	P	
9715	N/A	5.38		West	Sand Vault	P	
9745	N/A	5.40	N/A	West	Sand Vault	P	
9745	9820	5.40	5.45	West	Relocate Bike Path	P	
9770	9805	5.41	5.44	East	Basin	P	3900 ft^2
9790	9950	5.43	5.53	West	Widen Shoulder to 2.4m (8ft)	P	
9875	N/A	5.48	N/A	East	Sand Vault	P	
9950	12380	5.53	7.04	West	Widen Shoulder to 1.2m (4ft)	P	
9890	10210	5.49	5.69	West	Basin	P	76600 ft^2
9990	N/A	5.55	N/A	East	Sand Vault	P	
10090	10135	5.61	5.64	East	Basin	P	1600 ft^2
10370	10415	5.79	5.82	East and West	MBGR	E	Upgrade or replace MBGR
10430	10680	5.82	5.98	East and West	Install Center Two Way Left Turn Lane	P	
10430	N/A	5.82	N/A	West	Sand Vault	P	
10440	10510	5.83	5.87	East	Basin	P	22400 ft^2
10470	N/A	5.85	N/A	West	Sand Vault	P	
10505	10565	5.87	5.91	West	Relocate Bike Path	P	
10720	N/A	6.00	N/A	West	Sand Vault	P	
10740	10780	6.02	6.04	East	Widen Shoulder to 2.4m (8ft)	P	
10780	12875	6.04	7.34	East	Widen Shoulder to 1.2m (4ft)	P	

Begin Sta	End Sta	Begin PM	End PM	Side of Road	Feature	Proposed/ Existing	Notes
10780	11740	6.04	6.64	East and West	Install Center Two Way Left Turn Lane	P	
10805	10900	6.06	6.12	East	Basin	P	22000 ft^2
10855	N/A	6.09	N/A	West	Sand Vault	P	
11020	11080	6.19	6.23	West	Basins	P	17400 ft^2
11155	11175	6.27	6.29	East	Relocate Bike Path	P	
11160	11260	6.28	6.34	West	2.4 m Parking	P	Paved Parking for local businesses
11615	N/A	6.56	N/A	East	Sand Vault	P	
12380	12820	7.04	7.31	West	Widen Shoulder to 2.4m (8ft)	P	
12820	13250	7.31	7.58	West	Widen Shoulder to 1.2m (4ft)	P	
12875	13020	7.34	7.43	East	Widen Shoulder to 2.4m (8ft)	P	
12920	N/A	7.37	N/A	West	Sand Vault	P	
13020	13250	7.43	7.58	East and West	Install Center Two Way Left Turn Lane	P	
13020	14530	7.43	8.37	East	Widen Shoulder to 1.2m (4ft)	P	
13165	13220	7.52	7.56	West	Relocate Bike Path	P	
13245	13265	7.57	7.59	East	Basin	P	9000 ft^2
13250	13380	7.58	7.66	West	Widen Shoulder to 2.4m (8ft)	P	
13250	N/A	7.58	N/A	East	Sand Vault	P	
13265	N/A	7.60	N/A	West	Sand Vault	P	
13380	14420	7.66	8.30	East and West	Install Center Two Way Left Turn Lane	P	
13380	14430	7.66	8.31	East and West	Install Center Two Way Left Turn Lane	P	
13380	14530	7.66	8.37	West	Widen Shoulder to 1.2m (4ft)	P	
13775	13840	7.90	7.94	West	Basin	P	9000 ft^2

Begin Sta	End Sta	Begin PM	End PM	Side of Road	Feature	Proposed/ Existing	Notes
13830	N/A	7.95	N/A	West	Sand Vault	P	
14000	N/A	7.95	N/A	West	Sand Vault	P	
14055	N/A	7.95	N/A	West	Sand Vault	P	
14065	14070	8.08	8.09	West	Bioswale	P	
14080	14150	8.09	8.14	West	Relocate Bike Path	P	
14220	14380	8.18	8.28	West	Basins	P	23200 ft^2
14400	N/A	8.20	N/A	East	Sand Vault	P	
14410	N/A	8.20	N/A	West	Sand Vault	P	
14485	N/A	8.20	N/A	East	Sand Vault	P	
14490	N/A	8.20	N/A	West	Sand Vault	P	
14530	14650	8.37	8.45	East and West	Maintain Existing	E	
14650	14680	8.45	8.47	East and West	Maintain Existing	E	
14680	14720	8.47	8.49	East and West	Fanny Bridge	E	
14680	14685	8.47	8.47	East	MBGR	E	Upgrade or replace MBGR
14720	14810	8.49	8.55	East and West	Maintain Existing	E	
14725	14730	8.49	8.50	West	MBGR	E	Upgrade or replace MBGR
14725	14735	8.49	8.50	East	MBGR	E	Upgrade or replace MBGR

EA: 03-2A9210 (PLA 89, PM 8.6/13.7)							
905	N/A	8.73	N/A	West	Sand Vault	P	
995	N/A	8.79	N/A	East	Sand Vault	P	
1060	5960	8.83	11.87	West	Widen Shoulder to 1.2m (4ft)	P	
1060	5960	8.83	11.87	East	Widen Shoulder to 1.2m (4ft)	P	
1300	1500	8.98	9.10	East and West	Install Center Two Way Left Turn Lane	P	
1540	N/A	9.13	N/A	West	Sand Vault	P	
2090	N/A	9.47	N/A	East	Sand Vault	P	
2585	N/A	9.78	N/A	West	Sand Vault	P	
2820	N/A	9.92	N/A	East	Sand Vault	P	
2820	2860	9.92	9.95	East	Basin	P	7600 ft^2
3050	N/A	10.06	N/A	West	Sand Vault	P	
3305	N/A	10.22	N/A	East	Sand Vault	P	
3585	N/A	10.40	N/A	West	Sand Vault	P	
3730	3850	10.49	10.56	East	Basin	P	47200 ft^2

Begin Sta	End Sta	Begin PM	End PM	Side of Road	Feature	Proposed/ Existing	Notes
3755	N/A	10.50	N/A	East	Sand Vault	P	
3875	N/A	10.58	N/A	East	Sand Vault	P	
3880	3920	10.58	10.61	East	Basin	P	11100 ft^2
4040	4340	10.68	10.87	East and West	Install Center Two Way Left Turn Lane	P	
4370	N/A	10.89	N/A	East	Sand Vault	P	
4505	N/A	10.97	N/A	East	Sand Vault	P	
4965	N/A	11.25	N/A	East	Sand Vault	P	
5005	5090	11.28	11.33	East	Basin	P	14100 ft^2
5690	N/A	11.71	N/A	West	Sand Vault	P	
5930	6200	11.85	12.02	West	MBGR	E	Upgrade or replace MBGR
6060	N/A	11.94	N/A	East	Sand Vault	P	
6065	6125	11.94	11.98	East	MBGR	E	Upgrade or replace MBGR
6060	6090	11.94	11.95	East	Basin	P	2200 ft^2
6380	6475	12.13	12.19	West	MBGR	E	Upgrade or replace MBGR
6430	6455	12.17	12.18	East	MBGR	E	Upgrade or replace MBGR
6455	N/A	12.18	N/A	East	Sand Vault	P	
6465	6470	12.19	12.19	East	MBGR	E	Upgrade or replace MBGR
6565	N/A	12.25	N/A	West	Sand Vault	E	
6605	6615	12.27	12.28	East	MBGR	E	Upgrade or replace MBGR
6625	6645	12.29	12.30	East	MBGR	E	Upgrade or replace MBGR
6710	6730	12.34	12.35	East	MBGR	E	Upgrade or replace MBGR
6810	N/A	12.40	N/A	West	Sand Vault	P	
6945	N/A	12.49	N/A	West	Sand Vault	P	
6880	7030	12.44	12.54	East	Basin	P	11000 ft^2
7445	7550	12.80	12.86	East	MBGR	E	Upgrade or replace MBGR
7560	7580	12.87	12.88	West	MBGR	E	Upgrade or replace MBGR
7650	7720	12.92	12.97	East	MBGR	E	Upgrade or replace MBGR
7800	N/A	13.02	N/A	West	Sand Vault	P	
7820	7840	13.03	13.04	West	MBGR	E	Upgrade or replace MBGR
7825	7845	13.03	13.04	East	MBGR	E	Upgrade or replace MBGR
7900	7915	13.08	13.09	West	MBGR	E	Upgrade or replace MBGR

Begin Sta	End Sta	Begin PM	End PM	Side of Road	Feature	Proposed/ Existing	Notes
7920	8015	13.09	13.15	East	MBGR	E	Upgrade or replace MBGR
8075	8095	13.19	13.20	East	MBGR	E	Upgrade or replace MBGR
8170	8274	13.25	13.31	East	MBGR	E	Upgrade or replace MBGR
8315	8335	13.34	13.35	East	MBGR	E	Upgrade or replace MBGR
8405	8430	13.39	13.41	East	MBGR	E	Upgrade or replace MBGR
8600	N/A	13.51	N/A	East	Sand Vault	P	
8600	8700	13.51	13.58	East	Basins	P	14000 ft^2
8710	8870	13.58	13.68	West	Basins	P	23000 ft^2

Appendix J Project Maps