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CHRISTMAS VALLEY 2 ECP
MITIGATED NEGATIVE DECLARATION

FINDINGS

In accordance with El Dorado County ordinances regarding implementation of the California Environmental Quality Act, El Dorado County has prepared an Initial Study to assess the project's potential effects on the environment and the significance of those effects, and on the basis of that study hereby finds:

☐ The proposed project will not have a significant adverse effect on the environment; therefore, it does not require the preparation of an Environmental Impact Report and this **Negative Declaration** has been prepared.

☒ Although the proposed project could have a significant adverse effect on the environment, there will not be a significant adverse effect in this case because El Dorado County will adopt the Mitigation Monitoring and Reporting Program that contains the mitigation measures necessary for the project to have a less than significant impact. A **Mitigated Negative Declaration** has thus been prepared.

Per Section 21082.1 of the CEQA Guidelines, El Dorado County has independently reviewed and analyzed the Initial Study and Proposed Mitigated Negative Declaration for the proposed project and finds that they reflect the independent judgment of El Dorado County. The environmental documents, which constitute the Initial Study and provide the basis and reasons for this determination are attached and/or referenced herein and are hereby made a part of this document.

Per Section 15072 (f) (5) of the CEQA Guidelines, the project site is not on any list compiled pursuant to Government Code section 65962.5 as a hazardous waste facilities, land designated as a hazardous waste property, or a hazardous waste disposal site.

PROJECT INFORMATION

Title: Christmas Valley 2 Erosion Control Project (JN 95159)	
Description: Construction of erosion control and water quality improvement facilities.	
Location: The project area is located in eastern El Dorado County, California within the Lake Tahoe Basin. The site is located in Meyers just south of Highway 50. The project area is bordered by Portal Drive and Highway 89 to the south; the intersection of Highway 89 and Highway 50 to the north; the Upper Truckee River, Minal Street, Blitzen Road, and Wasabe Drive to the west; and Pinewood Drive, Shakori Drive, and Santa Claus Drive to the east.	
Owner/Applicant: El Dorado County Department of Transportation – Tahoe Engineering Division	
Lead Agency: El Dorado County Department of Transportation – Tahoe Engineering Division	
County Contact: Alfred Knotts, Principal Planner	**Phone:** 530-573-7900
Address: 924 B Emerald Bay Road, South Lake Tahoe, CA 96150	

AVAILABILITY OF DOCUMENTS

The Initial Study for this Mitigated Negative Declaration is available for review at the El Dorado County Department of Transportation – Tahoe Engineering Division 924 B Emerald Bay Road, South Lake Tahoe, CA. The document is also available for review at the El Dorado County's South Lake Tahoe Branch Library at 1000 Rufus Allen Blvd., South Lake Tahoe, CA . The library's hours of operation are from 10:00 am – 8:00 pm on Tuesday and Wednesday; 10:00 am – 5:00 pm on Thursday, Friday, and Saturday. The library is closed on Sunday and Monday. In addition to the South Lake Tahoe locations, the document is also available at the California State Clearinghouse located at 1400 Tenth St., Sacramento, CA.

PROJECT DESCRIPTION

In 1997, the Tahoe Regional Planning Agency (TRPA) developed a Basin-wide Environmental Improvement Program (EIP) that defined various projects which, once implemented, would assist in attaining and maintaining TRPA Environmental Threshold Carrying Capacities (ETCC) as well as meet other federal and state enviromental goals. TRPA has established thresholds for air quality, water quality, soil conservation, vegetation, noise, scenic resources, recreation, fisheries, and wildlife to address public health and safety of residents and visitors as well as the scenic, recreation, education, scientific, and natural values of the Lake Tahoe Basin. The Christmas Valley 2 Erosion Control Project (ECP) is defined in the TRPA EIP as Projects #708 and #190, Christmas Valley ECP and Tahoe Paradise ECP, respectively. EDOT proposes to initiate implementation of the Christmas Valley 2 ECP during the 2009/2010 construction seasons to assist with meeting the goals of the EIP. This project is being designed and constructed with financial assistance from the CTC, United States Forest Service - Lake Tahoe Basin Management Unit (USFS-LTBMU), and TRPA mitigation funds.

The Christmas Valley 2 Erosion Control Project (ECP) site is an existing residential development bounded by Portal Drive and Highway 89 to the south; the intersection of Highway 89 and Highway 50 to the north; the Upper Truckee River, Minal Street, Blitzen Road, and Wasabe Drive to the west; and Pinewood Drive, Shakori Drive, and Santa Claus Drive to the east (See Figure 1). The overall goal of the project is to design and implement erosion control and water quality improvement measures that will reduce the discharge of sediment and pollutants to Lake Tahoe from County administered rights of way in the Christmas Valley area. The proposed project will not change the use of the site or surrounding area. The project will provide benefits to the natural environment through the improvements proposed as part of the project. After project completion, less sediment will enter the Upper Truckee River from the project area, thereby improving water quality in Lake Tahoe.

The Preferred Alternative selected by the PDT is described below. The Preferred Alternative is a compilation of the most comprehensive alternative for each area within each project section, which meets the goals of the Project.

Cornelian

Area 1 (Mulberry Drive from Pinewood to Cornelian) – Alternative 2

- Armored channels and grass-lined channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment.
- Sediment traps – capture sediment, store and infiltrate runoff.
- Infiltration channels and trenches – reduce runoff by infiltration, trap fine sediment.
- Culvert – improve conveyance facilities, reduce flooding decreasing water quality.

Area 2 (Elmwood Drive to Keetak Street) – Alternative 3

- Armored channels and grass-lined channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment.
- Sediment traps – capture sediment, store and infiltrate runoff.
- Culvert – improve conveyance facilities; relieve flooding that reduces water quality.

Cebo

Area 1 (Cebo Circle, from Keetak Street and Pomo Street to Highway 89) – Alternative 2

- Armored channels and grass-lined channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment.
- Sediment traps – capture sediment, store and infiltrate runoff.
- Culvert – improve conveyance facilities.
- Revegetation – stabilize eroding areas.

Area 2 (Highway 89 and Pomo Street to Blitzen Road) – Alternative 2

- Armored channels and grass-lined channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment.
- Sediment traps – capture sediment, store and infiltrate runoff.
- Culvert – improve conveyance facilities.

Area 3 (Highway 89 and Wasabe Street to Blitzen Road) – Alternative 2

- Armored channels, infiltration channels, and infiltration trenches – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment.
- Culvert – improve conveyance facilities.

Cirugu

Area 1 (Pomo Street at the eastern intersection of Cirugu Street) – Alternative 2

- Armored channels and infiltration channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment.
- Sediment traps – capture sediment, store and infiltrate runoff
- Culvert – improve conveyance facilities.
- Revegetation – stabilize eroding areas.

Area 2 (Pomo Street at the western intersection of Cirugu Street) – Alternative 2

- Armored channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment.
- Sediment traps – capture sediment, store and infiltrate runoff.
- Culvert – improve conveyance facilities.
- Revegetation – stabilize eroding areas.

Area 3 (30" storm drain crossing Minal Street outlet structure) – Alternative 2

- Culvert – improve conveyance facilities.

Shakori

Area 1 (North end of Kaska Drive and Shakori Drive to Caltrans right-of-way) – Alternative 3

- Armored channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment.
- Sediment traps – capture sediment, store and infiltrate runoff.
- Culvert – improve conveyance facilities.
- Sand Filter – capture sediment.
- Revegetation – stabilize eroding areas.

Area 2 (Mid section of Shakori Drive to Kaska Drive to Caltrans right-of-way) – Alternative 2

- Armored channels and infiltration channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment.
- Sediment traps – capture sediment, store and infiltrate runoff.
- Culvert – improve conveyance facilities.
- Revegetation – stabilize eroding areas.

Wasabe

Area 1 (Blitzen Road) – Alternative 2

- Armored channels and infiltration channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment.
- Sediment trap – capture sediment, store and infiltrate runoff.
- Culvert – improve conveyance facilities.
- Revegetation – stabilize eroding areas.

Area 2 (Blitzen Road and Shakori Drive to the west) – Alternative 2

- Armored channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment.
- Sediment traps – capture sediment, store and infiltrate runoff.
- Culvert – improve conveyance facilities.
- Revegetation – stabilize eroding areas.

Colusa

Area 1 (Blitzen Road) – Alternative 2

- Armored channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment
- Sediment trap – capture sediment, store and infiltrate runoff.
- Culvert – improve conveyance facilities.
- Revegetation – stabilize eroding areas.

Han

Area 1 (Blitzen Road to Han Street) – Alternative 3

- Armored channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment.
- Culvert – improve conveyance facilities.
- Revegetation – stabilize eroding areas.

Area 2 (Blitzen Road 300' south of Han Street)

Proposed improvements in this area have been eliminated due to claims by the adjacent homeowner that drainage problems do not exist in this area.

Blitzen

Area 1 (Blitzen Road pipe (P54)) – Alternative 2

- Culvert – improve conveyance facilities.

Area 2 (Blitzen Road pipe (P56)) – Alternative 2

- Armored channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment.
- Culvert – improve conveyance facilities.

Area 3 (Blitzen Road pipe (P58)) – Alternative 2

- Grass-lined channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment.
- Sediment trap – capture sediment, store and infiltrate runoff.
- Culvert – improve conveyance facilities.

Area 4 (Santa Claus Drive) – Alternative 2

- Armored channel and grass-lined channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment.

Santa Claus

Area 1 (Sleighbell Lane, from Santa Claus to Saint Nick Way) – Alternative 3

- Armored channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment.
- Sediment traps – capture sediment, store and infiltrate runoff.
- Culvert – improve conveyance facilities.

Area 2 (Santa Claus to Saint Nick Way) – Alternative 2

- Infiltration channels – reduce runoff by infiltration, and trap fine sediment.
- Sediment traps – capture sediment, store and infiltrate runoff.
- Culvert – improve conveyance facilities.

Area 3 (Blitzen Road) – Alternative 2

- Culvert – improve conveyance facilities.

SUMMARY OF ENVIRONMENTAL ANALYSIS

An Initial Study has been prepared to assess the project's potential effects on the environment and the significance of those effects. Based on the Initial Study, it has been determined that the proposed project will not have any significant environmental impacts with the implementation of the mitigation measures outlined in the Initial Study. El Dorado County (County) will adopt the mitigation measures which are located in the Mitigation Monitoring and Reporting Program. This conclusion is supported by the following findings:

- The proposed project will have no adverse impacts in the areas of agricultural resources, cultural resources, land use and planning, mineral resources, population and housing, public services and recreation.
- The proposed project will have a less than significant impact in the areas of aesthetics, air quality, biological resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, transportation and traffic, and utilities and service systems. Discussion on each of these findings is provided below.

Aesthetics: The section of SR 89 that runs through the proposed project area is designated as a Scenic Highway by the California Department of Transportation (Caltrans) and the TRPA. The Luther Pass TRPA Plan Area Statement (PAS 141) considers the segment of SR 89 in the Christmas Valley 2 ECP area a scenic entry corridor to the Basin. The proposed improvements located near SR 89 may be seen from the highway but will not substantially damage scenic resources within the scenic highway. The erosion control and water quality improvement facilities will be non-obtrusive, context sensitive, and not detract from scenic views on this SR 89. While construction activities may affect the scenic resources during construction, it will be temporary and therefore a less than significant impact.

Air Quality: The project will not have any long term impacts to air quality. Construction equipment may impact air quality for the short term during construction, but is only temporary and will not result in a cumulative increase of criteria pollutant for which the project region is in non-attainment nor will it expose sensitive receptors to substantial pollutant concentrations, or create objectionable odors affecting a substantial number of people.

Biological Resources: Field surveys and assessments were conducted within the project survey area for special status botanical and wildlife species. No special status botanical or wildlife species were observed during the surveys. A noxious weed survey was conducted within the project/survey area, in which three noxious weed species were identified: bull thistle (*Cirsium vulgare*), oxeye daisy (*Leucanthemum vulgare*), and woolly mullein (*Verbascum thapsus*). A Noxious Weed Mitigation/Eradication Plan will be adopted by the County as a part of the proposed project. The Plan should decrease habitat vulnerability to or below pre-construction levels. The Plan includes pre-construction elements, such as treatment of existing noxious weed populations identified in the project area, as well as during- and post-construction elements. Additionally, the County will specify weed-free seed mix and require all construction equipment be certified steam cleaned prior to accessing the site.

Geology/Soils: The proposed project involves earth-moving activities, which may cause temporary soil erosion in the project area. El Dorado County or its contractor will prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) which will include appropriate measures to minimize soil erosion during construction to a less than significant level. As part of the SWPPP, the contractor will be required to prepare an Emergency Action Plan, Spill Contingency Plan, Dust Suppression Plan, Dewatering Contingency Plan, and Temporary BMP Plan. Additionally, the SWPPP will include appropriate measures to minimize soil erosion during construction to a less than significant level.

Hazards/Hazardous Materials: The project will have no long term impacts from hazards or hazardous materials in the project area. During construction there is a risk of accidental fuel spills from construction equipment. The contractor will be required to prepare a Spill Contingency Plan as part of the SWPPP and have spill prevention kits available to contain any accidental spills.

Hydrology/Water Quality: The project will not have any long term negative impacts on hydrology or water quality. Construction related activities may cause short term water quality impacts during storm events or accidental fuel spills from construction equipment. The contractor will prepare and follow a SWPPP in accordance with TRPA and the Lahontan Regional Water Quality Control Board (Lahontan) requirements for storm water pollution prevention.

Noise: Project construction will result in a temporary increase in ambient noise levels due to equipment noise and construction activities. Operation shall be restricted to the hours of 8:00 am to 6:30 pm. All equipment and vehicles used for project construction will have proper muffler devices and be tuned to the manufacturers' specification. El Dorado County will advise potentially affected residents of the proposed construction activities including duration, schedule of activities, and contacts for filing noise complaints. The County or contractor will attempt to respond to all noise complaints received within one working day and resolve the issue as soon as possible.

Transportation/Traffic: The project will not change any traffic element nor increase vehicle trips except during construction as a result of construction vehicles mobilizing to and from the project site. At some locations, temporary detours may be employed to facilitate construction. However, at no time will access for local residents, emergency vehicles, or school buses be prohibited. Traffic controls will only be implemented during work hours and when it is necessary to perform work, which will be outlined in a Traffic Control Plan prepared by the contractor. The proposed project may cause a short term impact to pedestrians and bicyclists during construction, but at no time will access to pedestrians or bicyclists be prohibited.

Utilities and Service Systems**:** During project construction, portions of the site may have exposed soil areas that, during a rain or high wind event or utility line breach, could cause minor erosion. Once construction is complete and the erosion control and water quality improvement measures are in place, surface runoff and erosion will be reduced and water quality will be improved. The contractor will prepare and follow a SWPPP which will include appropriate measures to minimize soil erosion during construction to a less than significant level.

PUBLIC NOTICE

The comment period for this document closes on January 21, 2009. A copy of the Initial Study/Proposed Mitigated Negative Declaration is available for public review at the El Dorado County Department of Transportation – Tahoe Engineering Unit at 924 B Emerald Bay Road, South Lake Tahoe, CA 96150 between the hours of 8:00 am and 5:00 pm. The document is also available for review at the El Dorado County Library – South Lake Tahoe Branch at 1000 Rufus Allen Blvd., South Lake

Tahoe, CA 96150 between the hours of 10:00 am and 8:00 pm Tuesday and Wednesday and 10:00 am and 5:00 pm Thursday through Saturday. The Library is closed on Sunday and Monday.

All parties providing written comments during this timeframe will be notified of the upcoming hearing before the Board of Supervisors. Additional information may be obtained by contacting the El Dorado County Department of Transportation – Tahoe Engineering Division at 530-573-7900 or 924 B Emerald Bay Road, South Lake Tahoe, CA 96150.

If you wish to appeal the appropriateness or adequacy of this document, address your written comments to our finding that the project will not have a significant adverse effect on the environment: (1) identify the environmental effect(s), why they would occur, and why they would be significant, and (2) suggest any mitigation measures which you believe would eliminate or reduce the effect to an acceptable level. Regarding item (1) above, explain the basis for your comments and submit any supporting data or references.

_____

Alfred Knotts, Principal Planner, Date

El Dorado County DOT—Lead Agency

(To be signed upon approval after the Public Review period has ended)

Recorder's Certification

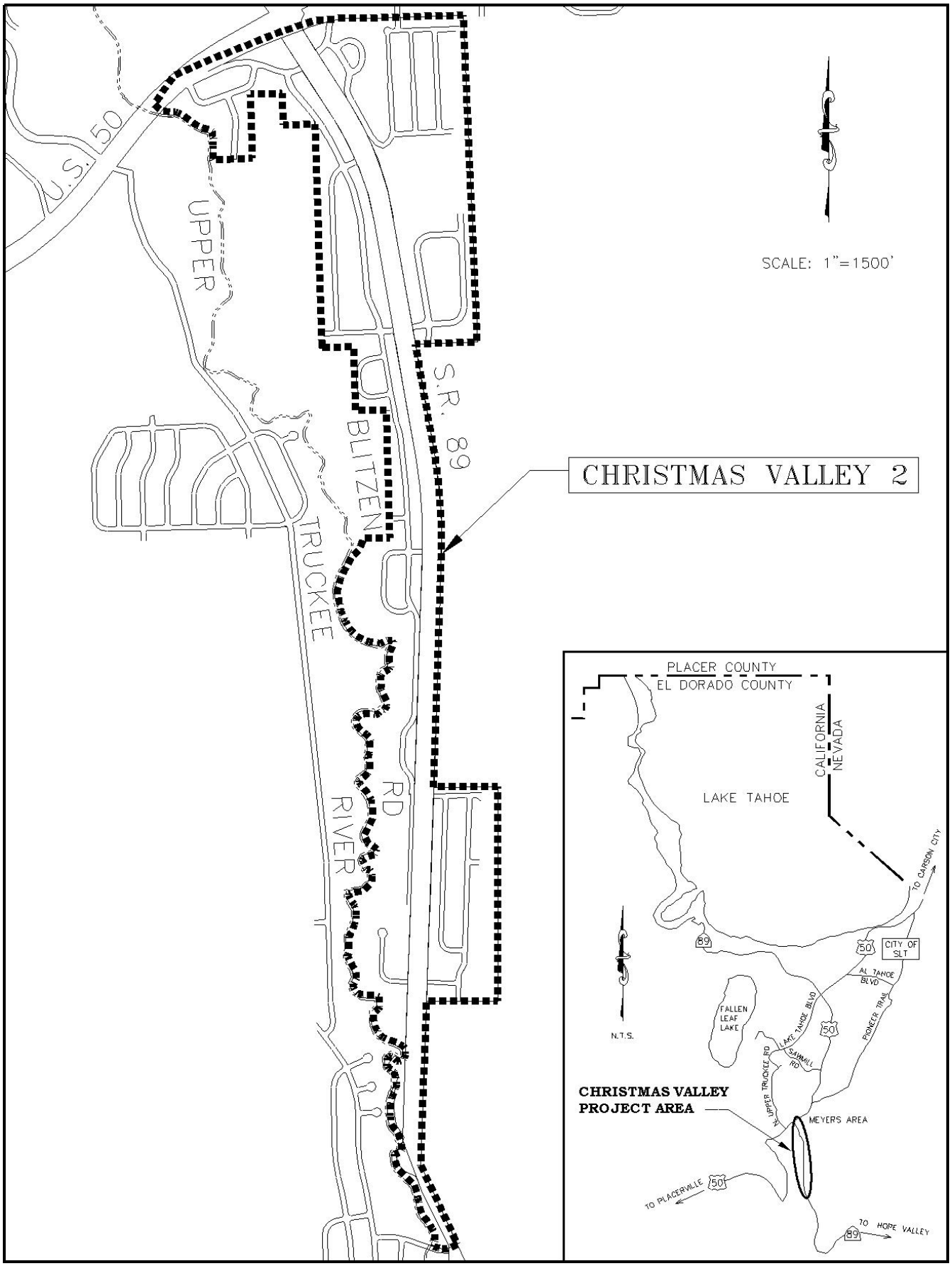

Figure 1. Project Area

CEQA
DRAFT INITIAL STUDY

CHRISTMAS VALLEY 2
EROSION CONTROL PROJECT
EIP PROJECTS #708 AND #190
JN 95159

STATE CLEARINGHOUSE # ------
To be inserted after Public Review

Prepared by:

El Dorado County
Department of Transportation
Tahoe Engineering Unit
924 B Emerald Bay Road
South Lake Tahoe, CA 96150

With Assistance from:

Nichols Consulting Engineers
PO Box 1760
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DRAFT
December 2008

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FIGURES

All figures are located after Section 7.0

APPENDICES

1.0 INTRODUCTION

This Draft Initial Study has been prepared to identify and assess the anticipated environmental impacts of the following described project. The document may rely on previous environmental documents and site-specific studies prepared to address in detail the effects or impacts associated with the project. This document has been prepared to satisfy the California Environmental Quality Act (CEQA) (Public Resources Code, Section 21000 et seq.), the State CEQA Guidelines (14 CCR 15000 et seq.), and the California Tahoe Conservancy (CTC) grant funding requirements. CEQA requires that all state and local government agencies consider the environmental consequences of projects over which they have discretionary authority before acting on those projects.

The Initial Study is a public document used by the decision making lead agency to determine whether a project may have a significant effect on the environment. If the lead agency finds substantial evidence that any aspect of the project, either individually or cumulatively, may have a significant effect on the environment, regardless of whether the overall effect of the project is adverse or beneficial, the lead agency is required to prepare an Environmental Impact Report (EIR), use a previously-prepared EIR and supplement that EIR, or prepare a Subsequent EIR to analyze the project at hand. If the agency finds no substantial evidence that the project or any of its aspects may cause a significant effect on the environment, a Negative Declaration shall be prepared. If in the course of analysis, the agency recognizes that the project may have a significant impact on the environment, but that by incorporating specific mitigation measures the impact will be reduced to a less than significant effect, a Mitigated Negative Declaration shall be prepared.

The El Dorado County Department of Transportation-Tahoe Engineering Division (EDOT-TED) has reviewed the proposed project and determined that the project, with mitigation measures, as identified in this document, will not have a significant effect on the environment. Therefore, a Mitigated Negative Declaration will meet the requirements of CEQA and the CTC.

A CEQA Checklist **(Appendix A)** has been completed based on the Final Project Alternatives Evaluation Report; however, should significant impacts or new mitigation measures result from the CEQA review process, the County will recirculate the document for public review. The public review period for the Draft Initial Study/Proposed Mitigated Negative Declaration shall begin on December 22, 2008 and end on January 21, 2009. Comments received after 5:00 pm on January 21, 2009 will not be considered. Written responses should be sent to Alfred Knotts, Principal Planner, at the following address:

El Dorado County Department of Transportation
CEQA Compliance
924 B Emerald Bay Road
South Lake Tahoe, CA 96150
(530) 573-7900
aknotts@co.el-dorado.ca.us

2.0 PROJECT DESCRIPTION

In 1997, the Tahoe Regional Planning Agency (TRPA) developed a Basin-wide Environmental Improvement Program (EIP) that defined various projects which, once implemented, would assist in attaining and maintaining TRPA Environmental Threshold Carrying Capacities (ETCC) as well as meet other federal and state environmental goals. TRPA has established thresholds for air quality, water quality, soil conservation, vegetation, noise, scenic resources, recreation, fisheries, and wildlife to address public health and safety of residents and visitors as well as the scenic, recreation, education, scientific, and natural values of the Lake Tahoe Basin. The Christmas Valley 2 Erosion Control Project (ECP) (Project) is defined in the TRPA EIP as Projects #708 and #190, Christmas Valley ECP and Tahoe Paradise ECP, respectively. EDOT proposes to initiate implementation of the Christmas Valley 2 ECP during the 2009/2010 construction seasons to assist with meeting the goals of the EIP. This Project is being designed and constructed with financial assistance from the CTC, United States Forest Service - Lake Tahoe Basin Management Unit (USFS-LTBMU), and TRPA mitigation funds.

The Project area lies in eastern El Dorado County, California within the Lake Tahoe Basin. The site is located in Meyers just south of Highway 50. The Project area is bordered by Portal Drive at Highway 89 to the south; the intersection of Highway 89 and Highway 50 to the north; the Upper Truckee River, Minal Street, Blitzen Road, and Wasabe Drive to the west; and Pinewood Drive, Shakori Drive, and Santa Claus Drive to the east **(**Figure 1, pg.2).

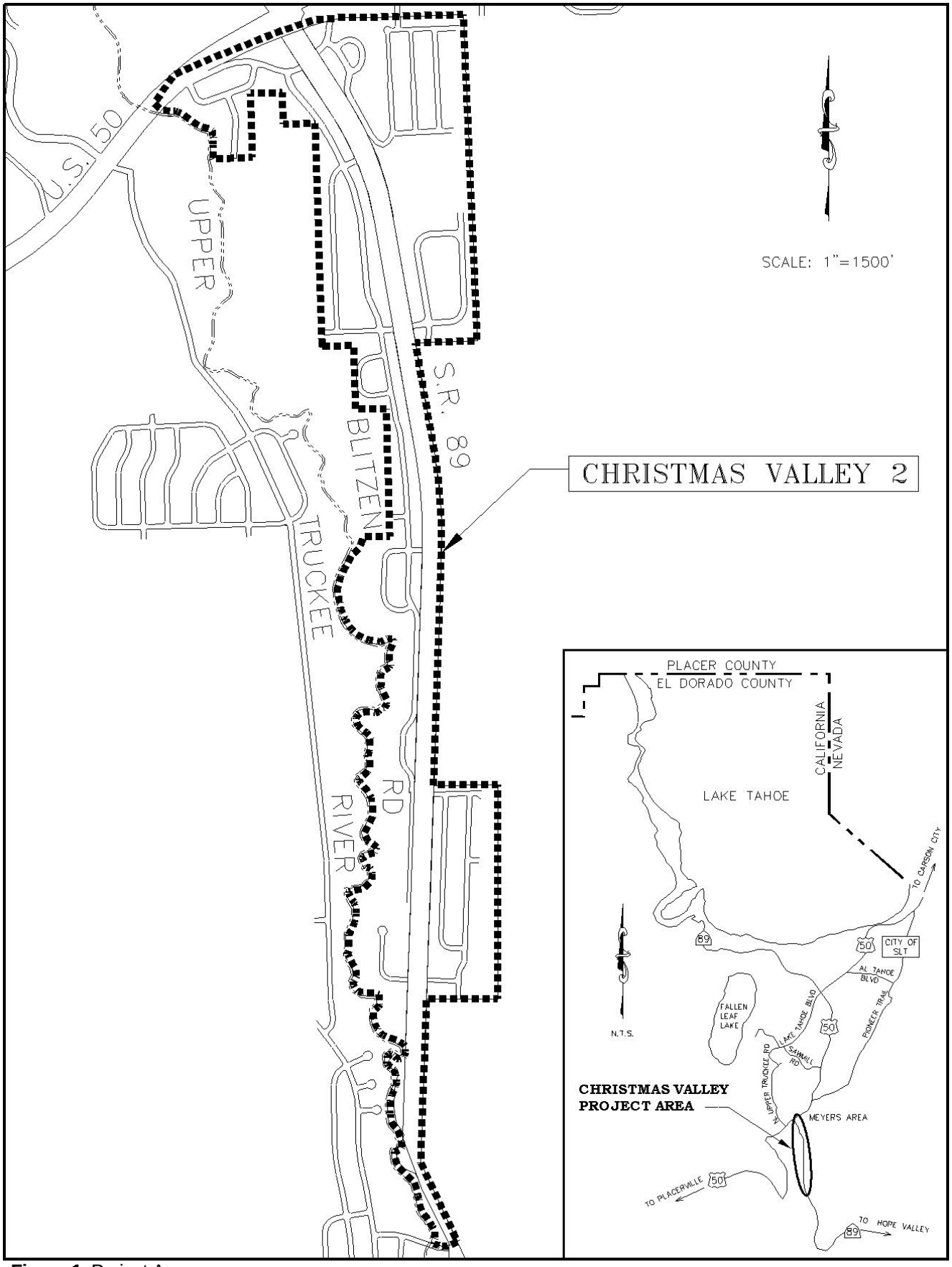


Figure 1. Project Area

The purpose of this Project is to improve the quality of stormwater runoff entering the Upper Truckee River and ultimately Lake Tahoe by reducing the discharge of sediment and pollutants from the Project area through source control, hydrologic design, and treatment. The Project will reduce the discharge of sediment and pollutants to Lake Tahoe through the design and implementation of erosion control and water quality improvement measures. Addressing identified erosion and water quality problems is anticipated to have a direct benefit to the quality of nearby waterways and ultimately that of Lake Tahoe.

2.1 Project Need

Pursuant to the requirements of Section 208 of the Clean Water Act, the TRPA prepared a Water Quality Management Plan for the Lake Tahoe Basin. This plan identified erosion, runoff, and disturbance resulting from developments, such as subdivision roads, in the Lake Tahoe Basin as major causes of the decline of Lake Tahoe's water quality and clarity. The 208 Plan also mandates that capital improvement projects such as the Christmas Valley 2 ECP be implemented to bring all El Dorado County roads into compliance with Best Management Practices (BMP) requirements. Additionally, the TRPA developed the EIP to assist in attaining and maintaining TRPA ETCC. The EIP identified the need to improve the quality of water entering Lake Tahoe by controlling upstream pollutant sources. Pollutant sources primarily include fine sediment and nutrients.

Source erosion, water quality, and drainage/infrastructure problems have been identified within the Project area. The problems within the Project area are typical of those found within older residential subdivisions and commercially developed areas in the Tahoe Basin. The problems were evaluated during site inspections by EDOT, TRPA, and CTC staff. The problem areas listed below.

Source Erosion

- Eroding Slopes
- Eroding Roadside Shoulders
- Compacted Parking Areas

Water Quality

- Road Sand and Cinder Accumulation
- Sediment Deposition and Tracking
- Concentration of Stormwater Flows
- Discharge of Untreated Stormwater

Drainage and Infrastructure

- Eroding Drainage Ditches and Channels
- Undersized and Damaged Culverts
- Undersized or Nonexistent Roadside Ditches
- Undersized or Inadequate Basins

2.2 Project Approach

The Project utilized the Lake Tahoe Basin Stormwater Quality Improvement Committee's (SWQIC) Formulating and Evaluating Alternatives for Water Quality Improvement Projects document as guidance in moving towards the selection of a preferred alternative. The Project Development Team (PDT) investigated a range of possibilities for water quality improvement in the Project area. The process of evaluating and selecting a preferred alternative for this project included the production and analysis of the following documents:

- Existing Conditions Report (EDOT 2006)
- Formulating Alternatives Memorandum (EDOT 2008)
- Preferred Alternative Evaluation Report (EDOT 2008)

In August 2006, EDOT completed the Existing Conditions Report (ECR) which investigated and described the physical and environmental characteristics of the project area and vicinity that were relevant to the design of the Project. The information collected and analyzed as part of the existing conditions analysis provided the PDT and other stakeholders with a clear representation and analysis of existing conditions and their relationship to or impact on water quality. The information presented in the ECR directly informed the development of project strategies and alternatives. In February 2008, EDOT completed a Formulating Alternatives Memorandum (FAM)

which compiled BMP alternatives for mitigating specific problem areas within the Project area. The FAM utilized the opportunities and constraints, as well as the goals and objectives, identified in the ECR to prepare a range of alternatives for erosion control and water quality improvement. In October 2008, EDOT completed the Final Project Alternatives Evaluation Report (PAER) which presented an evaluation of the alternatives that were presented in the FAM with respect to water quality improvements and erosion control mitigation. The above documents are available through EDOT. Below is a synopsis of the alternatives that were evaluated as part of the planning process.

2.3 Concept Alternatives

EDOT utilized a comprehensive watershed approach to develop the alternatives. This assisted with identification of the existing flow paths, their origins, hydrologic and hydraulic characteristics, and how to properly address the erosion and water quality issues.

Various alternatives were formulated to mitigate a variety of project specific erosion and storm water runoff water quality problems within the Project area. The alternatives were developed using the source erosion control, hydraulic design, and treatment of runoff categories. The source control and hydrologic design of existing conditions are discussed for each area shown on the alternative figures located on pages 30-37. The existing condition of runoff from the Project area for all sub-watersheds generally includes an increase in the volume and peak of runoff from the pre-developed condition due primarily to urbanization of the Project area. Figure 2 (p. 31) presents the configuration of each sub-watershed and is referenced to in the following sections. Figures 3-1 (p. 32) and 4-1 (p. 33) show the existing conditions, and is classified as Alternative 1 (no build alternative). Figures 5-2 (p. 34) and 6-2 (p. 35) identify the locations and extent of the proposed improvements for Alternative 2 while the Alternative 3 proposed improvements are shown in Figures 7-3 (p. 36) and 8-3 (p. 37). The proposed Project is a compilation of improvements derived from Alternative 2 and Alternative 3, which is described in more detail in Section 2.4.

Concept Alternative #1 (Figures 3-1 and 4-1)

Existing Conditions
The existing condition, Alternative 1, is classified as the no build alternative shown in Figures 3-1 and 4-1 (pgs. 32 and 33 respectively).

Cornelian

Existing Conditions
The site consists of residential subdivisions with an upper watershed of steep, undeveloped, forested terrain. Vegetation primarily consists of native shrubs and grasses, private property landscaping, and a moderate number of pine and fir trees. The southeastern portion of this area appears to be damp much of the year and may become classified as a TRPA Stream Environment Zone (SEZ). The streets within this area are Mulberry, Pinewood, Lindenwood, Cornelian, and Elmwood Drives. Pinewood Drive is the steepest roadway with an approximate 7% slope and Cornelian Drive the flattest at less than 0.5%. Through hydrologic analysis, the flow path's ultimate outfall for this watershed is located at the southeast corner of Cornelian and Mulberry, which does not have an existing conveyance system to properly direct runoff.

Hydrologic Design
Area 1 (Mulberry Drive from Pinewood to Cornelian) – Runoff from the larger portion of watershed ‘J3’ enters the right-of-way along the east side of Pinewood Drive collecting at the intersection of Mulberry Drive. The runoff then crosses the intersections of Pinewood Drive and Lindenwood Drive along the south side of Mulberry Drive, and collects and ponds in the area surrounding the intersection of Cornelian Drive, Mulberry Drive, and Cheyenne Drive.

Area 2 (Elmwood Drive to Keetak Street) – Sub-watershed ‘J1’ above Pinewood Drive drains to pipe (P09), then through sub-watershed ‘J2’ to pipe (P10). Pipe (P10) includes a bubble up system at the outlet, partially restricting the flow. The combined flows continue along the roadside swale on the east side of Cornelian Drive to the intersection of Cornelian Drive and Mulberry Drive. Existing pipes (P09) and (P10) are not sized to convey the calculated 25 year flows.

Cebo

Existing Conditions
The site consists of residential subdivisions and the northernmost portion of the Rainbow Tract, which is outside the limits of the Project boundary. The upper watershed draining into the area contains a mix of residential and commercial properties. This runoff is currently being monitored by EDOT for constituents related to sediment loading and water quality. Most of the site is dry and fairly level with the exception of the land bordering the Upper Truckee River, which is SEZ and has steep banks to the river. The streets within the area consist of Cebo Circle, Pomo Street, Keetak Street, and Blitzen Road. Vegetation consists of native shrubs, sparse ground cover, grasses, private property landscaping, and a moderate to dense number of pine and fir trees.

Hydrologic Design
Area 1 (Cebo Circle, from Keetak Street and Pomo Street to Highway 89) – The majority of Watershed 'J' reaches the area after ponding at the intersection of Cornelian Drive and Mulberry Drive. The ultimate runoff from this area effects the nearby streets of Cheyenne Drive and Navahoe Drive, this runoff may also affect a commercial property at the intersection of Pomo Street and Keetak Street. Additional ponding occurs at the north end of Pomo Street due to the existing topography. All of the existing culverts in Area 1 are partially blocked with sediment and are lower than the outlet channels causing flows to be restricted. The runoff from this area ultimately reaches the intersection of Pomo Street and Hwy 89 where the flow crosses the intersection pavement flowing toward Hwy 50. Existing pipe (P06) is sized to convey the calculated 25 year flows. Existing pipes (P07 & P08) are not sized to convey the calculated 25 year flows.

Area 2 (Highway 89 and Pomo Street to Blitzen Road) – Sub-watersheds 'A1'-'A3' contribute runoff to pipe (P02) at the intersection of Blitzen Road and Pomo Street. The existing pipe is 20% blocked at both ends and is lower than the outlet channels causing flows to be restricted. Existing pipe (P02) is not sized to convey the calculated 25 year flows.

Area 3 (Highway 89 and Wasabe Street to Blitzen Road) – Nearly all of watershed 'K' above Hwy 89 reaches pipe (P25) after flowing through the California Department of Transportation (Caltrans) and EDOT maintenance yards. The existing uncontrolled flow path along Hwy 89 leading to pipe (P25) crosses private property before reaching the inlet. Pipe (P25) is not sized to convey the calculated 25 year flows. The flow from pipe (P25) discharges into an eroding roadside channel leading to pipe (P30). Pipe (P30) conveys flow from pipe (P25) and additional channel flows from sub-watersheds 'K1'-'K30'. Existing pipe (P30) is not sized to convey the calculated 25 year flows. Pipe (P31) conveys runoff from sub-watershed 'K32', a very small watershed. Existing pipe (P31) is sized to convey the calculated 25 year flows.

Cirugu

Existing Conditions
The site consists of residential lots, many of which are publicly owned, and the Upper Truckee River. The areas along Pomo Street are generally dry with steep, terraced grading on some of the undeveloped lots while the mid portion is SEZ with steep slopes to the river. The roadways consist of the steeper portions of Pomo, Cirugu, and Minal Streets (approximately 5% and 9%, respectively), and U.S. Highway 50. Native shrubs, ground cover, grasses, and a moderate to dense number of pine and fir trees make up the vegetation in the area.

Hydrologic Design
Area 1 (Pomo Street at the eastern intersection of Cirugu Street) – Sub-watersheds 'A1'-'A5' contribute runoff to pipe (P03) at the intersection of Pomo Street and eastern intersection of Cirugu Street. The existing pipe is 5% blocked at both ends and is lower than the outlet channels causing flows to be restricted. Existing pipe (P03) is not sized to convey the calculated 25 year flows.

Area 2 (Pomo Street at the western intersection of Cirugu Street) – Sub-watersheds 'A1'-'A7' contribute runoff to pipe (P04) at the intersection of Pomo Street and western intersection of Cirugu Street. The existing pipe is 40% blocked at both ends and is lower than the outlet channels causing flows to be restricted. Existing pipe (P04) is sized to convey the calculated 25 year flows.

Area 3 (30" storm drain crossing Minal Street outlet structure) – All of watershed 'K' contributes runoff to pipe (P34) located near the mid point of Minal Street. The last section of the existing 30" RCP is partially separated at the last joint. Existing pipe (P34) is sized to convey the calculated 25 year flows.

Shakori

Existing Conditions
The site primarily consists of the Caltrans maintenance yard, EDOT maintenance yard, commercial properties, and Hwy 89 right-of-way. The area slopes to the northwest at approximately 3%, with the upper watershed consisting of steep, undeveloped, forested terrain. The upper watershed draining into the area contains a mix of residential and commercial properties, including the EDOT maintenance yard. This runoff is currently being monitored by EDOT for constituents related to sediment loading and water quality. Vegetation consists of sparse shrubs, ground cover, grasses, and a moderate number of pine and fir trees.

Hydrologic Design
Area 1 (North end of Kaska Drive and Shakori Drive to Caltrans right-of-way) – Runoff from watershed 'K6' enters the County right-of-way along the east side of Shakori Drive collecting at the inlet of pipe (P14). This pipe is the first in a storm drain system that continues under the EDOT maintenance yard collecting runoff in multiple drainage inlets until it discharges into a sediment basin at the lower end of the yard. The outlet of this basin discharges into the Caltrans right-of-way just upstream of pipe (P22). A second pipe in the area pipe (P13) collects runoff from the south side of Kaska Drive crosses Kaska Drive and discharges into a sediment filled channel located along the southwest property line of EDOT's maintenance yard. The flows then co-mingle with the discharge from EDOT's basin and continues beyond the subdivision via channel and overland flow into the Caltrans' right-of-way, co-mingles with by-pass runoff from the south pipe (P12), and flows toward the 24" CMP (P22) under Hwy 89. Existing pipe (P14) is not sized to convey the calculated 25 year flows. Existing pipe (P13) is sized to convey the calculated 25 year flows.

Area 2 (Mid section of Shakori Drive to Kaska Drive to Caltrans right-of-way) – Watershed 'K1' enters the County right-of-way along the east side of Shakori Drive collecting at the inlet of pipe (P11). This pipe crosses Shakori Drive and discharges into an overgrown sediment filled channel within the drainage easement continuing to pipe (P12) crossing Kaska Drive. Pipe (P12) discharges into a sediment filled channel within a drainage easement leading to the Caltrans right-of-way. Existing pipe (P11) is not sized to convey the calculated 25 year flows.

Wasabe

Existing Conditions
The site consists of residential properties, State Highway 89, and the Rainbow Tract to the west. The site is typically dry and gently sloping to the northwest (2 %±). Along with State Highway 89, the roadways within the Project vicinity are Blitzen Road, Wasabe Street, Shakori Drive, and Rainbow Road, which is a dirt access road within the Rainbow Tract, outside the limits of the Project boundary. Vegetation consists of native shrubs, ground cover, grasses, private property landscaping, and a moderate to dense number of pine and fir trees.

Hydrologic Design
Area 1 (Blitzen Road) – Sub-watersheds 'K23'-K27' contribute runoff from the east side of Hwy 89 leading to pipe (P28) crossing Hwy 89. Sub-watershed 'K28' on the west side of Hwy 89 combines with the pipe (P28) discharge flowing to pipe (P29) crossing Blitzen Road. Discharge from pipe (P29) flows through an existing overgrown channel within the existing drainage easement to pipe (P30) shown on Fig 5. The exact flow path of the runoff from pipe (P28) is not known due to the relative flatness of the area. Existing pipe (P29) is not sized to convey the calculated 25 year flows.

Area 2 (Blitzen Road and Shakori Drive to the west) – Sub-watersheds 'N1' & 'N2' contribute runoff from the west side of Hwy 89 leading to pipe (P37) crossing Blitzen Road at Shakori Drive. The discharge continues down the south side of Shakori Drive in a roadside channel to pipe (P38) crossing Shakori Drive to the north. The flow continues down the north side of Shakori Drive to pipe (P40) crossing Wasabe Drive, continuing in a roadside channel to the subdivision boundary and the Rainbow Tract. Existing pipes (P37, P38, and P40) are not sized to convey the calculated 25 year flows.

Colusa

Existing Conditions
The site consists of residential properties, State Highway 89, and the Rainbow Tract to the west. The site is typically dry and gently sloping to the northwest (2 %±). Along with State Highway 89, the roadways within the Project vicinity are Blitzen Road and Colusa Street. Vegetation consists of native shrubs, ground cover, grasses, private property landscaping, and a moderate number of pine and fir trees.

Hydrologic Design
Runoff from sub-watershed 'T1' contributes runoff to pipe (P43) crossing Hwy 89 from the undisturbed watershed area to the east of Hwy 89. Sub-watershed 'T2' runoff combines with the discharge from pipe (P43) leading to a channel within a drainage easement to pipe (P44).

Han

Existing Conditions
The site consists of publicly owned open space and residential properties bisected by State Highway 89 right-of-way. The Upper Truckee River meanders through the southwest corner of the Project area. East of the highway, the open space gently slopes to the west at approximately 1.5%, with the adjacent upper watershed consisting of steep, undeveloped, forested terrain. A dirt trail, located east of State Highway 89 in the USFS parcel, follows along the base of the steep upslope terrain. On the west side of the highway, the terrain varies from gently sloping (1 %±) to steep, near vertical slopes near the river. The roadways within the Project vicinity are Blitzen Road, Han Street, and State Highway 89. Vegetation consists of native shrubs, ground cover, grasses, private property landscaping, and a moderate to dense number of pine and fir trees. Within the County right-of-way, the road shoulder and roadside drainage channels are well stabilized with native vegetation and property owner landscaping. Native vegetation is denser near the river.

Hydrologic Design
Area 1 (Blitzen Road to Han Street) – Sub-watersheds 'V1' & 'V2' contribute runoff to a culvert crossing Blitzen Road (P46) between the Han Street intersections which receive runoff from culvert (P45) crossing Hwy 89 via a deep cobble lined channel. This culvert is partially blocked with sediment and debris but has the capacity, under clear flow conditions and head pressure, to convey the 25-year, 1-hour storm event. The slope above and adjacent to both the inlet and outlet of the culvert crossing Blitzen Road is faced with sac-crete. A culvert crossing Han Street (P47) receives this runoff from a deep rock-lined channel within a drainage easement with eroding cut slopes. This culvert is partially blocked with sediment and debris but has the capacity, under clear flow conditions and head pressure, to convey the 25-year, 1-hour storm event.

Area 2 (Blitzen Road 300' south of Han Street) – Sub-watersheds 'Z1' & 'Z2' contribute runoff to a culvert south of Han Street (P51) under Blitzen Road which receives the runoff from culvert (P50) crossing Hwy 89 via a deep channel with a cobble-lined flow line and dense pine duff/vegetation covered banks. The slope above and adjacent to both the inlet and outlet of the culvert crossing Blitzen Road is faced with sac-crete. The culvert is blocked with sediment and debris but has the capacity, under clear flow conditions and head pressure, to convey the 25-year, 1-hour storm event. Runoff from this culvert flows toward a drainage easement within a rock-lined channel, which outlets above wood piles in the flow path. Further toward the river in the path of the runoff is a teepee, erected within the drainage easement and also likely within a conservation easement described in the subdivision map for this parcel. Due to the sensitivity of the SEZ and the close proximity of the Upper Truckee River, there is a high probability of disturbance in this area.

Blitzen

Existing Conditions
The site consists of residential and publicly owned properties bisected by State Highway 89 right-of-way. The terrain slopes to the west at approximately 2.5%, with steeper slopes near the river. The adjacent upper watershed consists of steep, mostly undeveloped, forested terrain. The roadways within the Project vicinity are Santa Claus Drive, Saint Nick Way, Blitzen Road, and State Highway 89. Vegetation consists of native shrubs, ground cover, grasses, private property landscaping, and a moderate number of pine and fir trees.

Hydrologic Design
Area 1 (Blitzen Road pipe (P54) – Sub-watersheds 'BB1' – 'BB4' contribute runoff to pipe (P54) crossing Blitzen Road downstream from two pipes (P53 & P54) crossing Hwy 89. The slope above and adjacent to both the inlet and outlet is faced with sac-crete. Pipe (P54) can convey the 25-year, 1-hour storm event under clear flow conditions and with head pressure.

Area 2 (Blitzen Road pipe (P56) – Sub-watersheds 'DD1' – 'DD2' contribute runoff to pipe (P56) crossing Blitzen Road downstream from pipe (P55) crossing Hwy 89. The inlet channel crosses private property with railroad ties on the border with a headwall at the inlet. The outlet channel contains loose sediment and includes a wood and steel flume that directs a portion of the runoff into a pond above the Upper Truckee River behind a residence.

Area 3 (Blitzen Road pipe (P58) – Sub-watersheds 'HH1' – 'HH2' contribute runoff to pipe (P58) crossing Blitzen Road downstream of pipe (P57) crossing Hwy 89. The inlet channel from pipe (P57) flows uncontrolled across private property to the roadside channel along Blitzen Road to the inlet of pipe (P58). The outlet channel is nearly flat and fairly stable.

Area 4 (Santa Claus Drive) – The majority of Sub-watershed 'JJ1' contributes runoff via a private road at the end of Santa Claus Drive to a roadside channel on the north side of Santa Claus Drive. The concentrated flow continues down the eroding roadside channel to the Caltrans right-of-way.

Santa Claus

Existing Conditions

The site consists of residential and publicly owned properties bisected by State Highway 89 right-of-way. The upper watershed draining into the area consists of steep, undeveloped, forested terrain. The roadways within the Project vicinity are Santa Claus Drive, Sleighbell Lane, Saint Nick Way, Blitzen Road, Elf Lane, and State Highway 89. Vegetation consists of native shrubs, ground cover, grasses, private property landscaping, and a moderate number of pine and fir trees.

Hydrologic Design

Area 1 (Sleighbell Lane, from Santa Claus to Saint Nick Way) – Sub-watershed 'JJ1' contributes runoff from the upper watershed entering the subdivision at multiple locations on the east side of Santa Claus Drive to pipe (P59) crossing Santa Claus Drive. The first pipe in the storm drain system, pipe (59) a 12" culvert, continues within a drainage easement through pipe (P60), across Saint Nick Way pipe (P61), and discharges into a channel leading to the Caltrans right-of-way. The system also includes drain inlets on Santa Claus Drive and Saint Nick Way. The existing pipes (P59, P60, and P61), are not sized to convey the calculated 25 year flows.

Area 2 (Santa Claus to Saint Nick Way) – Sub-watershed 'JJ6' contributes runoff from the upper watershed entering the subdivision at multiple locations on the east side of Santa Claus Drive causing local flooding due to the relative flat grade of the area. Runoff then crosses Santa Claus Drive via the south culvert (P63) and uncontrolled overland flow due to the undersized culvert, and then flows in a shallow swale across four parcels, one of which is publicly owned, before reaching the Saint Nick Way right-of-way. There does not appear to be any easements on these parcels for this runoff, which includes County runoff from Santa Claus Drive. Flows are then directed into the inlet of a short section of 24" culvert (P64) presumably added by the adjacent homeowner. This culvert then connects to culvert (P65) crossing Saint Nick Way. Because of condition and discontinuous placement of the 24" culvert (P64) was not included in the hydrologic of the Existing Conditions Report; however, the 24" culvert was included only for hydraulic capacity. From that analysis, it was determined that both culverts in this area on Saint Nick Way are undersized and most of the runoff of the 25-year, 1-hour event overtops the road. Both culverts are damaged and blocked with sediment. The runoff over the road and through the 18" CMP then flows via a shallow, vegetation-lined swale over private and publicly owned property. This runoff is not contained within drainage easements. Ponding and runoff over the road creates a vehicular safety hazard in the winter and spring, and disturbance from snowplows, along with excessive saturation, prevents the establishment of vegetative growth during the warmer months. Ponding has also been observed around some of the local residences flooding driveways and garages resulting in a potential water quality problem.

Area 3 (Blitzen Road) – Sub-watershed 'JJ1-JJ9' contributes runoff from the upper watershed to pipe (P67) crossing Blitzen Road. The outfall discharges into a large scour hole which disperses the flows into a stable meandering channel through the forest.

Concept Alternative #2 (Figures 5-2 and 6-2)

Cornelian

Source Control

Area 1 (Mulberry Drive from Pinewood to Cornelian) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, construction of armored channels and grass-lined swales to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Area 2 (Elmwood Drive to Keetak Street) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, construction of armored channels and grass-lined swales to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Hydrologic Design

Area 1 – Includes a proposed armored channel replacing the existing eroding channel along the northeast side of Pinewood Drive. This armored channel drains to the proposed storm drain system beginning at the southwest intersection of Pinewood Drive and Mulberry Drive, also collecting concentrated flows from the roadside channels along Pinewood Drive, Lindenwood Drive, and Cornelian Drive. This storm drain system includes sediment traps at the intersections to collect and convey the runoff to the proposed infiltration treatment area. The alignment of the proposed storm drain system continues along the boundary of a private parcel without a drainage easement. This storm drain discharges into a treatment area for the watershed 'J' runoff, consisting of a proposed armored infiltration channel with branches of connecting infiltration trenches. This proposed armored infiltration channel continues to a proposed pipe crossing Cebo Circle. This proposed storm drain system should prevent future ponding in the area, and contamination of the runoff associated with ponding areas and flows crossing the intersections. This alternative will require a drainage easement for the storm drain along the southern boundary of APN 035-131-04. Alternative 2 will require a special use permit for USFS parcels APN 035-262-04 & APN 035-262-05 to construct the proposed improvements.

Area 2 – Includes replacing the driveway culvert and constructing armored channels replacing the existing eroding roadside ditches leading to pipe (P09). It also includes replacing pipe (P09), adding a sediment trap drain inlet, and changing the outfall into a proposed grass-lined channel on the adjacent CTC parcel across Elmwood Drive. The proposed grass-lined channel continues into Caltrans property connecting the existing channel that leads to pipe (P23). The redirection of pipe (P09) would alleviate the need to replace pipe (P10) and additional downstream channel improvements. The redirection of pipe (P10) would also reduce the flows along the roadside swale on the east side of Cornelian Drive that add to the ponding at the intersection of Cornelian Drive and Mulberry Drive.

Alternative 2 will require a CTC license agreement for APN 035-145-06, to construct the grass-lined channel. The CTC parcel may also have additional constraints due to ground water and land capability designation. Alternative 2 will also require cooperation with Caltrans for the grass-lined channel construction.

Treatment

Area 1 – There are no primary treatments for this area. Secondary treatment includes sediment traps, armored channels, and grass-lined channels.

Area 2 – The primary treatment for this area includes the grass-lined channel on the CTC parcel and the existing channel on Caltrans property. Secondary treatment includes the sediment trap.

Cebo

Source Control

Area 1 (Cebo Circle, from Keetak Street and Pomo Street to Highway 89) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, slope revegetation to stabilize eroding slopes, construction of armored channels and grass-lined swales to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Area 2 (Highway 89 and Pomo Street to Blitzen Road) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, slope revegetation to stabilize eroding slopes, and construction of armored channels to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Area 3 (Highway 89 and Wasabe Street to Blitzen Road) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, construction of armored channel to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Hydrologic Design
Area 1 – The proposed infiltration channel and infiltration trenches outlet into a proposed pipe crossing Cebo Circle outlets into an armored channel on the south side of Cebo Circle leading to another proposed pipe crossing Keetak Street. This pipe redirects flows away from the two existing pipes (P07) & (P08), at the intersection of Pomo Street and Keetak Street. The flow path continues into a proposed armored roadside channel to the intersection of Pomo Street and Hwy 89. At this point the runoff reaches the Caltrans right-of-way, where improvements are being coordinated with Caltrans engineers. Alternative 2 also includes a conveyance system along the east side of Keetak Street, including a proposed armored channel leading to a proposed pipe replacing pipe (P06) at the intersection of Cebo Circle and Keetak Street. This pipe outlets into a proposed armored channel leading the proposed pipe (P07) and sediment trap at the intersection of Cebo Circle and Keetak Street. Alternative 2 also includes grass-lined channel on the west side of Pomo Street leading to a CTC lot for treatment by infiltration. Alternative 2 will require a CTC license Agreement for APN 035-261-05.

Area 2 – Includes a proposed armored channel on the south side of Pomo Street from the Caltrans Right-of-Way to the intersection of Pomo Street and Blitzen Road where the proposed pipe (P02) and sediment trap are located. Pipe (P02) then discharges into a proposed infiltration channel on the south side of Pomo Street.

Area 3 – Includes a proposed armored channel on the south side of Wasabe Drive from the Caltrans right-of-way to the proposed pipe (P25). The proposed pipe (P25) redirects the flow across the intersection of Wasabe Drive and Blitzen Road to the opposite corner and a proposed treatment area on two USFS parcels. The treatment area includes a proposed armored infiltration channel with branches of connecting infiltration trenches. The treatment area armored channel then discharges back into the armored infiltration channel downstream of proposed pipe (P30). Pipe (P30) is proposed to be replaced at the same location leading to a proposed armored infiltration channel ending at the boundary of the Rainbow Tract. Alternative 2 will also require cooperation with Caltrans to convey the runoff within the Caltrans right-of-way to the area along Wasabe Drive to connect with the proposed armored channel construction. Alternative 2 will require a drainage easement for the armored channel along the northern boundary of APN 035-234-01. Alternative 2 will require a special use permit from the USFS for APN 035-231-04 & APN 035-231-05 to construct the proposed improvements.

Treatment
Area 1 – There is no primary treatment for this area. Secondary treatments include sediment traps, grass-lined channels and armored channels.

Area 2 – The primary treatment for this area includes the proposed infiltration channel. Secondary treatments include the sediment trap and armored channel.

Area 3 – The primary treatment for this area includes the proposed infiltration channel and trenches on the USFS parcels. Secondary treatments include sediment traps and armored channels.

Cirugu

Source Control
Area 1 (Pomo Street at the eastern intersection of Cirugu Street) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, slope revegetation to stabilize eroding slopes, construction of infiltration channel to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Area 2 (Pomo Street at the western intersection of Cirugu Street) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, slope revegetation to stabilize eroding slopes,

construction of armored channel to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Area 3 (30" storm drain crossing Minal Street outlet structure) – Source Control measures include: upstream improvements within the Rainbow Tract (by others), replacement of the storm drain pipe outlet and armor outlet channel to prevent further outlet channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Hydrologic Design
Area 1 – Includes replacement of pipe (P03) at the intersection of Pomo Street and Cirugu Street, a sediment trap at the inlet and outlet, and a new pipe crossing Pomo Street to redirect the flow into the adjacent CTC parcel treatment area. The discharge flows into a proposed infiltration channel across the CTC parcel, ending at the existing roadside channel on the south side of Hwy 50. Alternative 2 will require a CTC license agreement for APN 034-300-28, to construct the infiltration channel. Alternative 2 will require cooperation with Caltrans to construct the infiltration channel.

Area 2 – Includes a proposed armored channel on the east side of Cirugu Street leading to a proposed sediment trap and pipe replacing pipe (P04). The proposed armored outlet channel continues into the existing basin in the Caltrans right-of-way. Alternative 2 will require cooperation with Caltrans for the armored channel construction.

Area 3 – Includes; replacement of the last section of 30" RCP, installation of a flared end section with a rock dissipater. Improvements in this area may be difficult due to limited accessibility. The regulatory permits needed to work near the Upper Truckee River may also be restrictive.

Treatment
Area 1 – The primary treatment for this area includes the proposed infiltration channels. Secondary treatments include the sediment trap.

Area 2 – The primary treatment for this area includes the proposed armored channels. Secondary treatments include the sediment trap.

Area 3 – None.

Shakori

Source Control
Area 1 (North end of Kaska Drive and Shakori Drive to Caltrans right-of-way) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, slope revegetation to stabilize eroding slopes, construction of infiltration channel and armored channel to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Area 2 (Mid section of Shakori Drive to Kaska Drive to Caltrans right-of-way) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, slope revegetation to stabilize eroding slopes, construction of infiltration channel and armored channel to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Hydrologic Design
Area 1 – Proposed improvements include redirecting the flow from pipe (P14) away from the EDOT maintenance yard, armored channel on the south side of Kaska Drive leading to a sediment trap at the inlet of proposed pipe (P13). Redirection of the flow will prevent co-mingling flows from the undisturbed upper watershed with the EDOT maintenance yard runoff. Future improvements associated with the EDOT maintenance yard may change the proposed alternatives in this area. Additional improvements downstream of pipe (P13) include an infiltration channel along the southwest property line of the EDOT maintenance yard to the Caltrans right-of-way.

Area 2 – Proposed improvements include armored channels leading to a sediment trap and replacement of pipe (P11), construction of an infiltration channel from pipe (P11) to pipe (P12) within the existing drainage easement,

a sediment trap and replacement of pipe (P12) crossing Kaska Drive, construction of armored channels leading to the inlet of pipe (P12), construction of an infiltration channel from pipe (P12) to the Caltrans right-of-way.

Treatment
Area 1 – The primary treatment for this area includes the proposed armored channels and infiltration channels. Secondary treatments include the sediment traps.

Area 2 – The primary treatment for this area includes the proposed armored channels and infiltration channels. Secondary treatments include the sediment traps.

Wasabe

Source Control
Area 1 (Blitzen Road) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, slope revegetation to stabilize eroding slopes, construction of armored channels to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Area 2 (Blitzen Road and Shakori Drive to the west) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, slope revegetation to stabilize eroding slopes, construction of armored channels to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Hydrologic Design
Area 1 – Proposed improvements include: a roadside armored channel to the inlet along Blitzen Road leading to a sediment trap and replacement of pipe (P29), a treatment area infiltration channel with connecting infiltration trenches on CTC parcel APN 035-233-31.

Area 2 – Proposed improvements include: a roadside armored channel from the Caltrans right-of-way along the south side of Shakori Drive leading to a sediment trap and replacement of pipe (P37), construction of armored channel along the south side of Shakori Drive to the subdivision boundary and the Rainbow Tract.

Treatment
Area 1 – The primary treatment for this area include the proposed armored channels, infiltration channels, and infiltration trenches. Secondary treatments include the sediment traps.

Area 2 – The primary treatment for this area include the proposed armored channels. Secondary treatments include the sediment traps.

Colusa

Source Control
Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, slope revegetation to stabilize eroding slopes, construction of armored channels to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Hydrologic Design
Area 1 (Blitzen Road) – Proposed improvements include: armored channel from the Caltrans right-of-way to a sediment trap and replacement of pipe (P44), armored channel from the pipe outlet to the subdivision boundary.

Treatment
Area 1 (Blitzen Road) – The primary treatment for this area includes the proposed armored channels. Secondary treatment includes the sediment trap.

Han

Source Control
Area 1 (Blitzen Road to Han Street) – Source Control measures include aggregate base shouldering to stabilize the eroding roadside shoulders, slope revegetation to stabilize eroding slopes, construction of armored channel

and infiltration channel to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Area 2 (Blitzen Road 300' south of Han Street) – Source Control measures include aggregate base shouldering to stabilize the eroding roadside shoulders, rock outlet protection and construction of infiltration channel to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Hydrologic Design
Area 1 – Proposed improvements include: armored channel from the Caltrans right-of-way to a headwall and replacement of pipe (P46) with outlet headwall and rock dissipater into a proposed treatment area across three USFS parcels adjacent to the existing channel, including a meandering infiltration channel. The construction of the proposed infiltration channel will disturb a very large area and may require restoration of the existing deep rock-lined channel. The proposed infiltration channel leads to the inlet headwall and replacement of pipe (P47) with outlet headwall and rock dissipater. Alternative 2 will require special use permits for USFS parcels, APN 036-612-15, APN 036-612-14, and APN 036-612-03.

Area 2 – Proposed improvements include: a rock dissipater at the outlet of pipe (P51) crossing Blitzen Road leading to a new infiltration channel alignment. The proposed infiltration channel will require a special use permit from the USFS for parcel APN 036-611-18. Additional drainage easements will also be required for the new infiltration channel alignment from private parcels, APN 036-611-19, and APN 036-611-14.

Treatment
Area 1 – The primary treatments for this area include the proposed infiltration channel and armored channel.

Area 2 – The primary treatment for this area include the proposed infiltration channel.

Blitzen

Source Control
Area 1 (Blitzen Road pipe (P54)) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, construction of rock dissipater to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Area 2 (Blitzen Road pipe (P56)) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, construction of armored channels to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Area 3 (Blitzen Road pipe (P58)) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, construction of grass-lined channels to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Area 4 (Santa Claus Drive) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, construction of armored channels and grass-lined channels to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Hydrologic Design
Area 1 – Proposed improvements include: inlet and outlet headwall replacement, pipe replacement and rock dissipater installation.

Area 2 – Proposed improvements include: inlet and outlet headwall replacement, pipe replacement, rock dissipater installation, and armored outlet channel construction.

Area 3 – Proposed improvements include a sediment trap and replacement of pipe (P58).

Area 4 – Proposed improvements include armored channel and grass-lined channel construction.

Treatment
Area 1 – None

Area 2 – The primary treatment for this area include the proposed armored channel.

Area 3 – The primary treatment for this area include the proposed sediment trap.

Area 4 – The primary treatments for this area include the proposed armored channel and grass-lined channel.

Santa Claus

Source Control
Area 1 (Sleighbell Lane, from Santa Claus to Saint Nick Way) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, construction of infiltration channel, grass-lined channel, and armored channel to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Area 2 (Santa Claus to Saint Nick Way) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, slope revegetation to stabilize eroding slopes, construction of infiltration channel to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Area 3 (Blitzen Road) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, rock dissipater installation to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Hydrologic Design
Area 1 – Proposed improvements include armored channels and grass-lined channel leading to a storm drain system at the intersection of Sleigh Bell Lane, sediment traps and pipe crossing the intersection, continuing to double sediment traps and armored channel from the north. Replacement of the existing storm drain system to Saint Nick Way with sediment traps, armored channels leading to the drain inlets, and infiltration channel replacing the existing outlet channel to the Caltrans right-of-way.

Area 2 – Proposed improvements include new pipe and sediment trap installation at the southeastern edge of the subdivision to collect runoff currently flowing between two houses. Improvements also include relocation of the existing pipe under a driveway on private property, to the County right-of-way leading to an infiltration channel treatment area on a USFS parcel. Overflows then continue into a new storm drain system with multiple sediment traps along the east side of Santa Claus Drive to the low point of the area. At this point the storm drain system crosses Santa Claus Drive and crosses private property leading to a second infiltration channel treatment area on a USFS parcel on the east side of Saint Nick Way. This treatment area discharges into pipe (P65) realigned to discharge into an infiltration channel treatment area on a USFS parcel on the west side of Saint Nick Way. This infiltration channel continues across the USFS parcel to the Caltrans right-of-way. Special use permits will be required for four USFS parcels, APN 036-350-50, APN 036-350-53, APN 035-422-05, and APN 036-423-02. Two drainage easements will be required for parcels, APN 036-421-05, and APN 036-422-12.

Area 3 – Proposed improvements include replacement of pipe (P67) and installation of a rock dissipater at the outlet.

Treatment
Area 1 – The primary treatment for this area include the proposed grass line channel, and armored channels. Secondary treatments include the sediment traps.

Area 2 – The primary treatment for this area include the proposed infiltration channels. Secondary treatments include the sediment traps.

Area 3 – None

Concept Alternative #3 (Figures 7-3 and 8-3)

Cornelian

Source Control
Area 1 (Mulberry Drive from Pinewood to Cornelian) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, construction of armored channels and grass-lined swales to prevent further channel degradation and sediment transport. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Area 2 (Elmwood Drive to Keetak Street) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, construction of armored channels and grass-lined swales to prevent further channel degradation and sediment transport. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Hydrologic Design
Area 1 – Includes a proposed armored channel replacing the existing eroding channel along the northeast side of Pinewood Drive. This armored channel drains to the southwest intersection of Pinewood Drive and Mulberry Drive where the runoff flows across the intersections of Pinewood Drive Lindenwood Drive, continuing down the existing roadside channels on the south side of Mulberry Drive. A short section of grass-lined channel is proposed at the intersection of Mulberry Drive and Cornelian Drive to convey the runoff into the proposed sediment trap and culvert crossing Cornelian Drive and second sediment trap on the opposite side of Cornelian Drive. The proposed sediment traps storm drain system will collect and convey the runoff from the existing ponding area to a basin treatment area on USFS parcels. This proposed storm drain system will prevent future ponding in the area, and contamination of the runoff associated with the ponding areas. Alternative 3 will require a drainage easement for the storm drain along the southern boundary of APN 035-131-04. Alternative 3 will also require a special use permit for USFS parcels APN 035-262-04 & APN 035-262-05 to construct the proposed improvements.

Area 2 – Includes installing armored channel leading to the driveway culvert at the end of Elmwood Drive and replacing the driveway culvert, constructing armored channel replacing the existing eroding roadside ditch leading to pipe (P09). It also includes constructing a grass-lined channel along Pinewood Drive leading to pipe (P09), installing a sediment trap and replacing pipe (P09), replacing the existing driveway culvert on the north side of Elmwood Drive between pipes (P09) and (P10), replacing pipe (P10), adding a sediment trap, and changing the outfall into a proposed grass-lined channel on the south side of Elmwood Drive. The proposed pipe outlet includes a bubble up sand trap that discharges into a grass-lined channel along the south side of Elmwood Drive continuing to the inlet of pipe (P23). The redirection of pipe (P10) will reduce the flows along the roadside swale on the east side of Cornelian Drive that add to the ponding at the intersection of Cornelian Drive and Mulberry Drive.

Treatment
Area 1 – The primary treatment for this area includes the proposed basin. Secondary treatment includes armored channel, sediment traps, and grass-lined channels.

Area 2 – None.

Cebo

Source Control
Area 1 (Cebo Circle, from Keetak Street and Pomo Street to Highway 89) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, slope revegetation to stabilize eroding slopes, construction of grass-lined swales to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Area 2 (Highway 89 and Pomo Street to Blitzen Road) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, slope revegetation to stabilize eroding slopes, construction of armored channels to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Area 3 (Highway 89 and Wasabe Street to Blitzen Road) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, construction of armored channels to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and is considered as a source control of sediment.

Hydrologic Design
Area 1 – The proposed basin discharges into a proposed pipe crossing Cebo Circle that discharges into a proposed grass-lined channel on the south side of Cebo Circle leading to another proposed pipe redirecting pipe (P07) crossing Keetak Street. This pipe redirects flows away from the two existing pipes (P07 & P08), at the intersection of Pomo Street and Keetak Street. This pipe discharges into a proposed grass-lined channel to the intersection of Pomo Street and Hwy 89. At this point the runoff reaches the Caltrans right-of-way, where improvements are being discussed with Caltrans engineers. Alternative 2 also includes a proposed pipe replacing pipe (P06) at the intersection of Cebo Circle and Keetak Street. This pipe outlets into a proposed grass-lined channel leading the proposed pipe (P07) and sediment trap at the intersection of Cebo Circle and Keetak Street.

Area 2 – Includes a proposed pipe (P02) and sediment trap at the intersection of Pomo Street and Blitzen Road. Pipe (P02) then discharges into a proposed armored infiltration channel on the south side of Pomo Street.

Area 3 – Includes a proposed armored channel on the south side of Wasabe Drive from the Caltrans right-of-way to the proposed pipe (P25). The proposed pipe (P25) redirects the flow across the intersection of Wasabe Drive and Blitzen Road to the opposite corner and a proposed treatment area on two USFS parcels. The treatment area includes a proposed basin and bypass armored channel. The treatment area armored channel then discharges back into the armored channel downstream of proposed pipe (P30). Pipe (P30) is proposed to be replaced at the same location leading to a proposed armored channel ending at the boundary of the Rainbow Tract. Alternative 2 will require cooperation with Caltrans to convey the runoff within the Caltrans right-of-way to the area along Wasabe Drive to connect with the proposed armored channel construction. Alternative 2 will require a drainage easement for the armored channel along the northern boundary of APN 035-234-01. Alternative 2 will require a special use permit from the USFS for APN 035-231-04 & APN 035-231-05 to construct the proposed improvements.

Treatment
Area 1 – There is no primary treatment for this area. Secondary treatments include sediment traps, and grass-lined channels.

Area 2 – The primary treatment for this area includes the infiltration channel. Secondary treatments include the sediment traps.

Area 3 – The primary treatment for this area includes the proposed basin on the USFS parcels. Secondary treatments include the sediment traps and armored channels, sediment, traps.

Cirugu

Source Control
Area 1 (Pomo Street at the eastern intersection of Cirugu Street) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, slope revegetation to stabilize eroding slopes, construction of infiltration channel to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Area 2 (Pomo Street at the western intersection of Cirugu Street) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, slope revegetation to stabilize eroding slopes, construction of armored channel to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Area 3 (30” storm drain crossing Minal Street outlet structure) – Source Control measures include: upstream improvements within the USFS Rainbow Tract (by others).

Hydrologic Design
Area 1 – Includes; replacement of pipe (P03) at the intersection of Pomo Street and Cirugu Street, a sediment trap, construction of an infiltration channel along the south side of Pomo Street to the first driveway downstream.

Area 2 – Includes a proposed armored channel on the east side of Cirugu Street leading to a proposed sediment trap and pipe replacing pipe (P04). The proposed armored outlet channel continues into the existing basin in the Caltrans right-of-way. Alternative 2 will require cooperation with Caltrans for the armored channel construction at the outlet of pipe (P04).

Area 3 – None.

Treatment
Area 1 – The primary treatment for this area includes the proposed infiltration channels. Secondary treatments include the sediment trap.

Area 2 – The primary treatment for this area includes the proposed armored channels. Secondary treatments include the sediment trap.

Area 3 – None.

Shakori

Source Control
Area 1 (North end of Kaska Drive and Shakori Drive to Caltrans right-of-way) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, slope revegetation to stabilize eroding slopes, construction of armored channel to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Area 2 (Mid section of Shakori Drive to Kaska Drive to Caltrans right-of-way) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, slope revegetation to stabilize eroding slopes, construction of armored channel to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Hydrologic Design
Area 1 – Proposed improvements include redirecting the flow from pipe (P14) away from the EDOT maintenance yard, armored channel on the south side of Kaska Drive leading to a sediment trap at the inlet of proposed pipe (P13). Redirection of the flow will prevent co-mingling flows from the undisturbed upper watershed with the EDOT maintenance yard runoff. Future improvements associated with the EDOT maintenance yard such as a sand filter constructed to filter the discharges from both Caltrans and EDOT maintenance yards may change the proposed alternatives in this area. Additional improvements downstream of pipe (P13) include armored channel along the southwest property line of the EDOT maintenance yard to the Caltrans right-of-way.

Area 2 – Proposed improvements include roadside armored channels leading to a sediment trap and replacement of pipe (P11), construction of armored channel from pipe (P11) to pipe (P12) within the existing drainage easement, a sediment trap and replacement of pipe (P12) crossing Kaska Drive, construction of armored channels leading to the inlet of pipe (P12), construction of armored channel from pipe (P12) to the Caltrans right-of-way.

Treatment
Area 1 – The primary treatment for this area includes the proposed sand filter. Secondary treatments include the armored channels and sediment traps.

Area 2 – The primary treatment for this area includes the proposed armored channels. Secondary treatments include the sediment traps.

Wasabe

Source Control
Area 1 (Blitzen Road) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, slope revegetation to stabilize eroding slopes, construction of armored channels to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Area 2 (Blitzen Road and Shakori Drive to the west) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, slope revegetation to stabilize eroding slopes, construction of armored channels to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Hydrologic Design
Area 1 – Proposed improvements include: a roadside armored channel to the inlet along Blitzen Road leading to a sediment trap and replacement of pipe (P29), armored channel construction from the pipe outlet to the junction of the drainage easements.

Area 2 – Proposed improvements include: a roadside armored channel from the Caltrans right-of-way along the south side of Shakori Drive leading to a sediment trap and replacement of pipe (P37), construction of armored channel along the south side of Shakori Drive to a sediment trap and replacement of pipe (P38), armored channel from the pipe outlet to a sediment trap and replacement of pipe (P40) crossing Wasabe Drive, armored channel from the pipe outlet along the south side of Shakori Drive to the subdivision boundary and the Rainbow Tract.

Treatment
Area 1 – The primary treatment for this area include the proposed armored channels. Secondary treatments include the sediment trap.

Area 2 – The primary treatment for this area include the proposed armored channels. Secondary treatments include the sediment traps.

Colusa

Source Control
Proposed improvements include: armored channel from the Caltrans right-of-way to a sediment trap and replacement of pipe (P44), armored channel from the pipe outlet to the subdivision boundary. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Hydrologic Design
Area 1 (Blitzen Road) – Proposed improvements include: armored channel from the Caltrans right-of-way to a sediment trap and replacement of pipe (P44), armored channel from the pipe outlet to the subdivision boundary.

Treatment
Area 1 (Blitzen Road) – The primary treatment for this area includes the proposed armored channels. Secondary treatment includes the grass-lined channel.

Han

Source Control
Area 1 (Blitzen Road to Han Street) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, slope revegetation to stabilize eroding slopes, construction of armored channels to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Area 2 (Blitzen Road 300' south of Han Street) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, construction of armored channel to prevent further channel degradation Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Hydrologic Design
Area 1 – Proposed improvements include: armored channel from the Caltrans right-of-way to the inlet headwall and replacement of pipe (P46) with outlet headwall, rock dissipater, and armored channel following the path of the existing channel the right turn in the channel then to a proposed channel meandering across the USFS parcel to pipe (P47). Improvements also include construction of a headwall at the inlet of pipe (P47), replacement of the pipe, and outlet headwall with a rock dissipater. Alternative 3 will require special use permits for USFS parcels APN 036-612-14, and APN 036-612-05.

Area 2 – Proposed improvements include armored channel from the outlet of pipe (P51) crossing Blitzen Road within a new channel alignment. The proposed armored channel will require a special use permit from the USFS for parcel APN 036-611-18. Additional drainage easements will also be required for the armored channel alignment from private parcels, APN 036-611-19, and APN 036-611-14.

Treatment
Area 1 – The primary treatments for this area include the proposed armored channel.

Area 2 – The primary treatment for this area include the proposed armored channel.

Blitzen

Source Control
Area 1 (Blitzen Road pipe (P54)) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, construction of rock dissipater to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Area 2 (Blitzen Road pipe (P56)) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, construction of armored channels to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Area 3 (Blitzen Road pipe (P58)) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, construction of armored channels and grass-lined channels to prevent further channel degradation.

Area 4 (Santa Claus Drive) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, construction of armored channels and grass-lined channels to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Hydrologic Design
Area 1 – Proposed improvements include inlet and outlet headwall replacement, pipe replacement and rock dissipater installation.

Area 2 – Proposed improvements include redirection of pipe (P56) to the historic channel to the north, inlet and outlet headwall replacement, pipe replacement, armored outlet channel construction. The armored channel construction will require a special use permit from the USFS.

Area 3 – Proposed improvements include a sediment trap and replacement of pipe (P58).

Area 4 – Proposed improvements include armored channel and grass-lined channel construction.

Treatment
Area 1 – None

Area 2 – The primary treatment for this area include the proposed armored channel.

Area 3 – The primary treatment for this area include the proposed sediment trap.

Area 4 – The primary treatments for this area include the proposed armored channel and grass-lined channel.

Santa Claus

Source Control
Area 1 (Sleighbell Lane, from Santa Claus to Saint Nick Way) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, construction of armored channels to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Area 2 (Santa Claus to Saint Nick Way) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, slope revegetation to stabilize eroding slopes, construction of grass-lined channel and infiltration channel to prevent further channel degradation. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Area 3 (Blitzen Road) – Source Control measures include: aggregate base shouldering to stabilize the eroding roadside shoulders, rock dissipater installation to prevent further outlet scour. Additional sweeping frequency by County maintenance personnel is proposed and considered as a source control of sediment.

Hydrologic Design
Area 1 – Proposed improvements include armored channel leading to double sediment traps, and armored channel from the north, replacement of the existing storm drain system to Saint Nick Way with sediment traps, and armored channel replacing the existing outlet channel to the Caltrans right-of-way.

Area 2 – Proposed improvements include pipe and sediment trap installation at the southeastern edge of the subdivision to collect runoff currently flowing between two houses. Improvements also include relocation of the existing pipe under a driveway on private property, to the County right-of-way and grass-lined channel leading to a basin treatment area on a USFS parcel. Flows then continue via grass-lined channel to a new driveway culvert and grass-lined channel to a second USFS parcel on the east side of Santa Claus Drive. Flows then continue via a grass line channel to a sediment trap and pipe crossing Santa Claus Drive to a second sediment trap at the low point of the area. At this point the storm drain system continues across private property leading to an infiltration channel treatment area on a USFS parcel on the east side of Saint Nick Way. This treatment area discharges into pipe (P65) realigned to discharge into a basin and bypass armored channel treatment area on a USFS parcel on the west side of Saint Nick Way. This armored channel continues across the USFS parcel to the Caltrans right-of-way. Special use permits will be required for five USFS parcels, APN 036-350-50, APN 036-350-53, APN 036-421-08, APN 035-422-05, and APN 036-423-02. Two drainage easements will be required for parcels, APN 036-421-05, and APN 036-422-12.

Area 3 – Proposed improvements include replacement of pipe (P67) and installation of a rock dissipater at the outlet.

Treatment
Area 1 – The primary treatment for this area include the proposed armored channels. Secondary treatments include the sediment traps.

Area 2 – The primary treatment for this area include the proposed infiltration basins, and infiltration channels. Secondary treatments include the sediment traps.

Area 3 – None

2.4 Proposed Project

The Preferred Alternative selected by the PDT is described below. The Preferred Alternative is a compilation of the most comprehensive alternative for each area within each project section, which meets the goals of the Project. A definition of the goals referenced below can be found in Section 2.5.

Cornelian

Area 1 (Mulberry Drive from Pinewood to Cornelian) – Alternative 2 Figure 5-2 (p. 34)

- Armored channels and grass-lined channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment. (Goals #1, #2, #3)
- Sediment traps – capture sediment, store and infiltrate runoff. (Goals #1, #2, #3)
- Infiltration channels and trenches – reduce runoff by infiltration, trap fine sediment. (Goals #1, #2, #3)
- Culvert – improve conveyance facilities, reduce flooding decreasing water quality. (Goal #4)

Area 2 (Elmwood Drive to Keetak Street) – Alternative 3 Figure 7-3 (p. 36)

- Armored channels and grass-lined channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment. (Goals #1, #2, #3)
- Sediment traps – capture sediment, store and infiltrate runoff. (Goals #1, #2, #3)
- Culvert – improve conveyance facilities; relieve flooding that reduces water quality. (Goal #4)

Cebo

Area 1 (Cebo Circle, from Keetak Street and Pomo Street to Highway 89) – Alternative 2 Figure 5-2 (p. 34)

- Armored channels and grass-lined channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment. (Goals #1, #2, #3)
- Sediment traps – capture sediment, store and infiltrate runoff. (Goals #1, #2, #3)
- Culvert – improve conveyance facilities. (Goal #4)
- Revegetation – stabilize eroding areas. (Goal #1)

Area 2 (Highway 89 and Pomo Street to Blitzen Road) – Alternative 2 Figure 5-2 (p. 34)

- Armored channels and grass-lined channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment. (Goals #1, #2, #3)
- Sediment traps – capture sediment, store and infiltrate runoff. (Goals #1, #2, #3)
- Culvert – improve conveyance facilities. (Goal #4)

Area 3 (Highway 89 and Wasabe Street to Blitzen Road) – Alternative 2 Figure 5-2 (p. 34)

- Armored channels, infiltration channels, and infiltration trenches – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment. (Goals #1, #2, #3)
- Culvert – improve conveyance facilities. (Goal #4)

Cirugu

Area 1 (Pomo Street at the eastern intersection of Cirugu Street) – Alternative 2 Figure 5-2 (p. 34)

- Armored channels and infiltration channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment. (Goals #1, #2, #3)
- Sediment traps – capture sediment, store and infiltrate runoff. (Goals #1, #2, #3)
- Culvert – improve conveyance facilities. (Goals #4)

- Revegetation – stabilize eroding areas. (Goal #1)

Area 2 (Pomo Street at the western intersection of Cirugu Street) – Alternative 2 Figure 5-2 (p. 34)

- Armored channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment. (Goals #1, #2, #3)
- Sediment traps – capture sediment, store and infiltrate runoff. (Goals #1, #2, #3)
- Culvert – improve conveyance facilities. (Goal #4)
- Revegetation – stabilize eroding areas. (Goal #1)

Area 3 (30" storm drain crossing Minal Street outlet structure) – Alternative 2 Figure 5-2 (p. 34)

- Culvert – improve conveyance facilities. (Goal #4)

Shakori

Area 1 (North end of Kaska Drive and Shakori Drive to Caltrans right-of-way) – Alternative 3 Figure 7-3 (p. 36)

- Armored channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment. (Goals #1, #2, #3)
- Sediment traps – capture sediment, store and infiltrate runoff. (Goals #1, #2, #3)
- Culvert – improve conveyance facilities. (Goal #4)
- Sand Filter – capture sediment. (Goals #1, #2)
- Revegetation – stabilize eroding areas. (Goal #1)

Area 2 (Mid section of Shakori Drive to Kaska Drive to Caltrans right-of-way) – Alternative 2 Figure 5-2 (p. 34)

- Armored channels and infiltration channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment. (Goals #1, #2, #3)
- Sediment traps – capture sediment, store and infiltrate runoff. (Goals #1, #2, #3)
- Culvert – improve conveyance facilities. (Goal #4)
- Revegetation – stabilize eroding areas. (Goal #1)

Wasabe

Area 1 (Blitzen Road) – Alternative 2 Figure 5-2 (p. 34)

- Armored channels and infiltration channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment. (Goals #1, #2, #3)
- Sediment trap – capture sediment, store and infiltrate runoff. (Goals #1, #2, #3)
- Culvert – improve conveyance facilities. (Goal #4)
- Revegetation – stabilize eroding areas. (Goal #1)

Area 2 (Blitzen Road and Shakori Drive to the west) – Alternative 2 Figure 5-2 (p. 34)

- Armored channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment. (Goals #1, #2, #3)
- Sediment traps – capture sediment, store and infiltrate runoff. (Goals #1, #2, #3)
- Culvert – improve conveyance facilities. (Goal #4)
- Revegetation – stabilize eroding areas. (Goal #1)

Colusa

Area 1 (Blitzen Road) – Alternative 2 Figure 5-2 (p. 34)

- Armored channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment. (Goals #1, #2, #3)
- Sediment trap – capture sediment, store and infiltrate runoff. (Goals #1, #2, #3)
- Culvert – improve conveyance facilities. (Goal #4)
- Revegetation – stabilize eroding areas. (Goal #1)

Han

Area 1 (Blitzen Road to Han Street) – Alternative 3 Figure 7-3 (p. 36)

- Armored channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment. (Goals #1, #2, #3)
- Culvert – improve conveyance facilities. (Goal #4)
- Revegetation – stabilize eroding areas. (Goal #1)

Area 2 (Blitzen Road 300' south of Han Street)

Proposed improvements in this area have been eliminated due to claims by the adjacent homeowner that drainage problems do not exist in this area.

Blitzen

Area 1 (Blitzen Road pipe (P54)) – Alternative 2 Figure 6-2 (p. 35)

- Culvert – improve conveyance facilities. (Goal #4)

Area 2 (Blitzen Road pipe (P56)) – Alternative 2 Figure 6-2 (p. 35)

- Armored channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment. (Goals #1, #2, #3)
- Culvert – improve conveyance facilities. (Goal #4)

Area 3 (Blitzen Road pipe (P58)) – Alternative 2 Figure 6-2 (p. 35)

- Grass-lined channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment. (Goals #1, #2, #3)
- Sediment trap – capture sediment, store and infiltrate runoff. (Goals #1, #2, #3)
- Culvert – improve conveyance facilities. (Goal #4)

Area 4 (Santa Claus Drive) – Alternative 2 Figure 6-2 (p. 35)

- Armored channel and grass-lined channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment. (Goals #1, #2, #3)

Santa Claus

Area 1 (Sleighbell Lane, from Santa Claus to Saint Nick Way) – Alternative 3 Figure 8-3 (p. 37)

- Armored channels – stabilize roadside ditches, reduce runoff by infiltration, and trap fine sediment. (Goals #1, #2, #3)
- Sediment traps – capture sediment, store and infiltrate runoff. (Goals #1, #2, #3)
- Culvert – improve conveyance facilities. (Goal #4)

Area 2 (Santa Claus to Saint Nick Way) – Alternative 2 Figure 6-2 (p. 35)

- Infiltration channels – reduce runoff by infiltration, and trap fine sediment. (Goals #1, #2, #3)
- Sediment traps – capture sediment, store and infiltrate runoff. (Goals #1, #2, #3)
- Culvert – improve conveyance facilities. (Goal #4)

Area 3 (Blitzen Road) – Alternative 2 Figure 6-2 (p. 35)

- Culvert – improve conveyance facilities. (Goal #4)

2.5 Project Benefits

The main goals of this Project are related to improving the water quality of runoff to Lake Tahoe by reducing erosion and sediment that originate in the Project area. The Project goals are as follows:

1. Remove/reduce fine sediment originating from the Project area prior to reaching the Upper Truckee River to the maximum extent practicable.
2. Remove/reduce coarse sediment originating from the Project area prior to reaching the Upper Truckee River to the maximum extent practicable.
3. Reduce the storm water runoff volume from the 25-year, 1-hour storm event for the Project area prior to reaching the Upper Truckee River to the maximum extent practicable.
4. Reduce the storm water peak flow from the 25-year, 1-hour storm event for the Project area prior to reaching the Upper Truckee River to the maximum extent practicable.
5. Through a cooperative agreement with Caltrans and its water quality project along State Highway 89, provide a Class I or II bike trail from the intersection of U.S. Highway 50 and State Highway 89 to Portal Drive.

Goals #1 & #2 Objectives

- Stabilize eroding areas and turnout areas through revegetation or rock protection BMPs.
- Stabilize roadside ditches using channel protection or improved road conveyance BMPs.
- Capture road sand/cinders prior to discharge to the Upper Truckee River using sediment trapping BMPs.
- Capture de-icing abrasives to prevent discharge to watercourses.

Goal #3 Objectives

- Lengthen watershed flow paths from upper elevations to the Upper Truckee River.
- Store runoff in sediment traps and small basins.
- Reduce runoff by spreading and infiltrating flows.

Goal #4 Objectives

- Spread flows to slow runoff and lengthen flow paths.
- Improve conveyance facilities.

Goal #5 Objectives

- Provide a Class I or II bike trail along the State Highway 89 corridor (part of the air quality recreation EIP).

3.0 ENVIRONMENTAL SETTING AND SITE CHARACTERISITCS

The Christmas Valley 2 ECP area lies in eastern El Dorado County, California within the Lake Tahoe Basin. The site is located in Meyers just south of Highway 50. The Project area is bordered by Portal Drive and Highway 89 to the south; the intersection of Highway 89 and Highway 50 to the north; the Upper Truckee River, Minal Street, Blitzen Road, and Wasabe Drive to the west; and Pinewood Drive, Shakori Drive, and Santa Claus Drive to the east **(Figure 1, p. 30)**.

The Project area encompasses El Dorado County and Caltrans rights of way; CTC, USFS-LTBMU, and privately owned parcels; and parcels owned by the South Tahoe Public Utility District (STPUD), Lake Valley Fire Protection District (LVFPD), Caltrans, and El Dorado County.

The Project area is located in portions of Sections 29, 30, 31, and 32, Township 12 North, Range 18 East and portions of Sections 5, 6, 7, and 8, Township 11 North, Range 18 East. The Project area is located on the Echo Lake U.S. Geological Survey (USGS) 7.5-minute quadrangle and lies within the Upper Truckee River Watershed.

Topography: The Project area is bounded by the Upper Truckee River to the west and steep mountainous terrain to the east. The approximate elevation range of the Project area is 6,320 to 6,440 feet. The sub-watersheds that drain to the Project area reach elevations over 8,970 feet. Project area topography consists mostly of flat terrain with isolated slopes exceeding 50%.

Hydrology: The USGS has divided the Lake Tahoe Basin into 63 watersheds, all of which feed into Lake Tahoe. The Project area lies within the Upper Truckee River Watershed, which is the largest watershed in the Tahoe Basin. The Upper Truckee River Watershed is comprised of 80 individually numbered sub-watersheds, 9 of which encompass the Project site. One perennial and numerous ephemeral watercourses flow through the Project area. Conveyance systems throughout the subdivisions and under Highway 89 direct stormwater runoff through the Project area. Existing facilities for capturing and treating this runoff are limited; therefore, most surface runoff is conveyed into the Upper Truckee River untreated.

The Federal Emergency Management Agency (FEMA) has determined floodplain limits associated with the Upper Truckee River as Zones A, B, and C. Zone A designates areas within the 100-year flood limit. Zone B designates areas between the 100-year and 500-year flood limits. Zone C designates areas of minimal flooding. Most structures (dwellings, garages, sheds, storage units, etc.) within the Project area are within Zone C; however, there are a number of structures completely or partially within Zones A and B between Highway 50 and Portal Drive. With the exception of improvements at isolated pipe outfalls discharging into the Upper Truckee River, it is understood that this project will not involve work in or near the river. It is anticipated that a future project will include a stream restoration element requiring extensive evaluation of river hydrology and hydraulics within this reach.

Groundwater: For most of the year, groundwater is near the ground surface in the lower elevations of the Project area. In the summer, groundwater provides base flow in several of the culverts. The presence of perennial base flow helps maintain vegetation in the drainage channels and meadow areas.

Geology/Soils: Generally, the Project site is not in close proximity to exposures of Triassic-Jurassic metamorphic and metasedimentary rock. However, the southern tip of the Project appears to be overlying exposures of Cretaceous miscellaneous diorites and gabbros that extend to the southeast. A majority of the rocks exposed to the south and west (i.e., upgradient) of the site are granitic rocks of the Sierra Nevada batholith, specifically Cretaceous Bryan Meadow granodiorite. A majority of the Project site is underlain by stream sediments associated with the Upper Truckee River and associated tributary creeks, including Grass Lake Creek and Big Meadow Creek. These sediments are likely composed primarily of sand and gravel, with possible silt and clay associated with flood plain deposits and are likely underlain by either glacial moraine till and/or outwash gravels or by granodiorite, diorite, or gabbro as described above.

The Project encompasses 11 soil types (SCS 1974): CaD (Cagwin-Rock outcrop complex, 5-15% slopes), Co (Celio gravelly loamy coarse sand), GeC (Gefo gravelly loamy coarse sand, 2-9% slopes), GeD (Gefo gravelly loamy coarse sand, 9-20% slopes), Gr (Gravelly alluvial land), JaD (Jabu coarse sandy loam, 9-20% slopes), MkB (Meeks gravelly loamy coarse sand, 0-5% slopes), MmB (Meeks stony loamy coarse sand, 0-5% slopes), MsD (Meeks very stony loamy coarse sand, 5-15% slopes), MsE (Meeks very stony loamy coarse sand, 15-30%

slopes), and Ra (Rock land). The majority of the soils within the Project area have high to moderate infiltration and transmission rates and are categorized as Hydrologic Groups A and B. The majority of the soils east of, and immediately adjacent to, the Project area have moderate to high permeability rates and low to medium runoff potential. Farther up the watershed, the soils become less permeable with medium to high runoff potential.

Land Use: The Project area is located in an unincorporated area of El Dorado County within the Tahoe Basin. Land use policies for the Project area are discussed in the El Dorado County General Plan and the TRPA Plan Area Statements (PAS). The Project lies within portions of the Freel Peak PAS-121, Tahoe Paradise-Mandan PAS-122, Meyers Commercial PAS-125 (superseded by the Meyers Community Plan), Christmas Valley PAS-137, and Luther Pass PAS-141.

PAS-137 has a land use classification of "Residential" (Single Family Dwelling) and is approximately 50 percent built-out. PAS-121 has a land use classification of "Conservation" and is managed by the USFS-LTBMU for low level recreation and grazing. PAS-141 has a land use classification of "Recreation." Summer homes in this area may be considered under provisions for special use with a maximum density of one unit per parcel. This Plan Area is important for winter cross-country skiing and has 20 summer residences on the west end. PAS-122 is classified as "Residential," with a maximum density of one single family dwelling per parcel. The Plan Area maintains some recreational uses and erosion control, runoff control, and SEZ restoration are allowable resource management uses within this Plan Area. Portions of the Project fall within PAS-125, which has been superseded by the Meyers Community Plan. Adopted in 1987, the Meyers Community Plan divides lands within the Plan Area into 5 separate land use districts. The Project area encompasses 2 of these districts: the Industrial Tract (Special Area #4) and the Upper Truckee River (Special Area #5). Ownership in the Project area is a combination of private and public. Public agencies with lands in the Project area include the LTBMU, Caltrans, STPUD, CTC, and El Dorado County.

Cultural Resources: Zeier & Associates, LLC conducted an inventory of 36.6 acres within the Project area. Most of the inventoried area consists of existing rights of way associated with residential streets (34.5 acres). These rights of way are 50-feet wide and generally include a 26-foot wide roadway. In addition, 29 publicly owned (USFS and CTC) parcels have been identified as potential treatment locations. Six of those parcels were examined (2.1 acres) as part of the present archaeological inventory (the remaining 23 parcels were reviewed previously). These rights of way and the 29 parcels constitute the Area of Potential Effect associated with the proposed action.

Inventory activities resulted in the identification of one isolated historic period artifact. It is recommended that this isolated artifact is not eligible for listing on either the National Register or the California Register of Historic Places. Previously recorded heritage resources are present adjacent to the proposed Project area. These resources were revisited as part of the present study. It was determined that recognizable elements of the previously recorded resources do not extend into a right of way or a parcel that makes up a part of the present study area. As a result, those site records were not revised or amended. Given that significant heritage resources are not present in the road rights of way or parcels identified by El Dorado County as part of the proposed Project area, the Project will have no effect on properties listed on or eligible for listing on the National Register of Historic Places or the California Register of Historic Places (Zeier 2007). Similarly, the proposed Project would have no potential to impact properties eligible as a historic resource as that term is defined in Chapter 29 of the TRPA Code of Ordinances.

Botanical Resources: Reconnaissance level surveys were conducted on August 31 and September 7, 2007, during which vegetation communities were identified and photographed. Detailed surveys were conducted on foot on September 12 and 13, 2007. These surveys were conducted by Foothill Associates staff, Brian Mayerle, Botanist, and John Heal, Environmental Scientist. The methods used for the botanical survey were similar to the California Native Plant Society (CNPS) methodology, approved by the California Department of Fish and Game (CDFG). These methods include conducting surveys on foot using random transects and identifying plant communities and habitat types on the site that may support special status species, and identifying the plants observed to the extent necessary to determine rarity and listing status. In addition, rare natural communities, such as wetlands and riparian areas were identified for the purposes of impact assessments. All results are contained in Table 1 (**Appendix C)**.

The Project area has a variety of vegetation communities and developed land. These communities were identified through the use of aerial-photography interpretation and ground level surveys. Plant communities found in the Project area are typical of those found in the Lake Tahoe Basin, and include forest, scrub, and riparian communities as well as developed land. Interspersed within the Jeffrey pine forest community and developed

ground are patches of big sagebrush scrub. Areas of residential and commercial development include residential and commercial structures and associated landscaping, paved and unpaved roads, parking areas, and other ancillary uses. The vegetation in the landscaped areas includes lawns and ornamental flowers, trees, and shrubs.

Wildlife Resources: Field assessments and surveys were conducted for presence of populations, habitat, and range by Nichols Consulting Engineer's Biologist, Madelyn Comer, on September 5 and 12, 2007. The California Wildlife Habitat Relationship (CWHR) methodology was used to assess habitat and species occurrence. CWHR is a habitat modeling program developed by the CDFG that supports habitat classifications described in *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988). During the field surveys, an inventory of existing wildlife species was conducted to assess the wildlife diversity of the Project area. A search was conducted of the CNDDB, which is the database maintained by the CDFG. The CWHR types were field verified and found to be highly impacted by development and recreational use. Habitat in the Project area is fragmented and does not portray traits characteristic of natural vegetation communities. County roads and their associated rights of way were assessed and were found to hold no potential for wildlife habitat.

The environmental study lots for the Project encompasses 29 publicly owned (USFS and CTC) vacant parcels. Five public lots are within and/or border the USFS designated willow flycatcher habitat zone. Three additional public lots are within 50 meters of designated habitat, but are so embedded in the urban interface that occupancy is highly unlikely. This zone is based on USFS models that map areas of potential flycatcher habitat, and is not designated as occupied, historic, or emphasis habitat. There is little likelihood that the willow flycatcher would utilize sections of the Project area, and it is not likely that they would occur here as habitat is marginal. All results are contained in Table 2 (**Appendix C)**.

4.0 PUBLIC INPUT AND PDT COORDINATION

The public involvement process for the Project includes two public meetings held on May 1, 2008 and August 28, 2008. At the first public meeting on May 1, 2008, EDOT provided the public with information on the draft concept alternatives in the form of the Formulating Alternatives Memorandum (FAM) and asked the public to express their concerns on the Project related to environmental impacts. The public was also invited to identify opportunities and constraints in the Project area, which included visual documentation from area residents. Public notices for the May 2008 meeting were published in the Tahoe Daily Tribune on April 18, 2008 and April 25, 2008. A second public meeting on the Project was held on August 28, 2008 to discuss the proposed Project/Preferred Alternative. Invitations to the May 2008 meeting were also mailed to all property owners within the Project area on April 18, 2008 and for the August 2008 meeting on August 11, 2008.

EDOT met with the Project Development Team (PDT) during the project development process to identify problems and to develop and refine project alternatives. The PDT consists of resource agency representatives in the Lake Tahoe Basin, including, but not limited to, the TRPA, USFS-LTBMU, CTC, Tahoe Resource Conservation District, Caltrans, Bureau of Reclamation, and Lahontan RWQCB. The initial PDT meeting on the Project was held on September 29, 2005. At this meeting the PDT reviewed and endorsed the Project. After the development of the Existing Conditions Report, EDOT produced a Final Formulating Alternatives Memorandum based on comments received from the PDT and public scoping meeting. This document was provided to the PDT on March 7, 2008. A Final Preferred Alternatives Report has been developed based on those recommendations and public comments and was provided to the PDT on October 31, 2008.

5.0 RIGHT OF WAY REQUIREMENTS

Every effort has been made to locate proposed improvements within the County right of way or on publicly owned parcels. EDOT will potentially require easements, permits, or agreements on the following list of public or private parcels for either permanent improvements or for construction access.

USFS Parcels (Special Use Permits):

- 035-262-04
- 035-262-05
- 035-612-15
- 036-612-14
- 036-612-03

- 036-350-50
- 036-350-53
- 035-422-05
- 036-423-02

CTC Parcels (License Agreements):

- 035-261-05
- 034-300-28
- 035-233-31

Private Parcels (Drainage Easements):

- 035-131-04 (DeChambeau)
- 036-421-05 (Gleave)
- 036-422-12 (Silva)

In addition to the potential easements listed above, it is anticipated that the County will also require the use of Caltrans right of way. If the use of Caltrans right of way is necessary, the County will acquire approval from Caltrans either by acquiring an easement through the encroachment permit process or by entering into a Cooperative Agreement between the County and the State of California.

6.0 COVERAGE AND PERMIT ISSUES

Clean Water Act Section 404

The fieldwork was conducted for the delineation of Waters of the U.S., including wetlands, as defined by Section 404 of the Clean Water Act. Data collected in the field will be analyzed to determine if jurisdictional waters, including wetlands, exist in the Project area. A delineation report will be prepared that includes maps that identify the type, location, and size of all Waters of the U.S. within the Project boundary. A Clean Water Act Section 404 Permit Application, Jurisdictional Determination Form, and Engineering Form 4345 will be prepared and submitted to the U.S. Army Corps of Engineers (USACE) based on the final project design and its potential impact on jurisdictional waters, including wetlands.

Clean Water Act Section 401

If the proposed Project involves the discharge to surface waters, which includes Waters of the U.S., Waters of the State, and all other surface waters, a 401 Water Quality Certification will be required from the Lahontan Regional Water Quality Control Board (RWQCB). A 401 Water Quality Certification application will be prepared and submitted to the Lahontan RWQCB based on the final project design and its potential to discharge to surface waters.

Lahontan RWQCB NPDES Permit and Basin Plan

Any disturbance of an SEZ requires consultation with and potentially a permit from Lahontan RWQCB. If one acre or more of overall disturbance is slated to occur during construction, compliance with the NPDES General Construction Permit will be required.

Tahoe Regional Planning Agency Stream Environment Zones (SEZ)

A Land Capability Verification application will be prepared and submitted to the TRPA. If Land Capability District 1b (SEZ) lands exist within the Project area and the proposed Project requires disturbance within this land district, EDOT will work with TRPA to develop and implement appropriate mitigation measures through the TRPA permitting process.

California Department of Fish & Game Section 1601 Lake or Streambed Alteration Agreements

A Section 1601 Lake or Streambed Alteration Agreement from the CDFG will be required if the proposed Project will:

- Substantially obstruct or divert the natural flow of a river, stream, or lake,
- Substantially change the bed, channel, or bank of the river, stream, or lake,

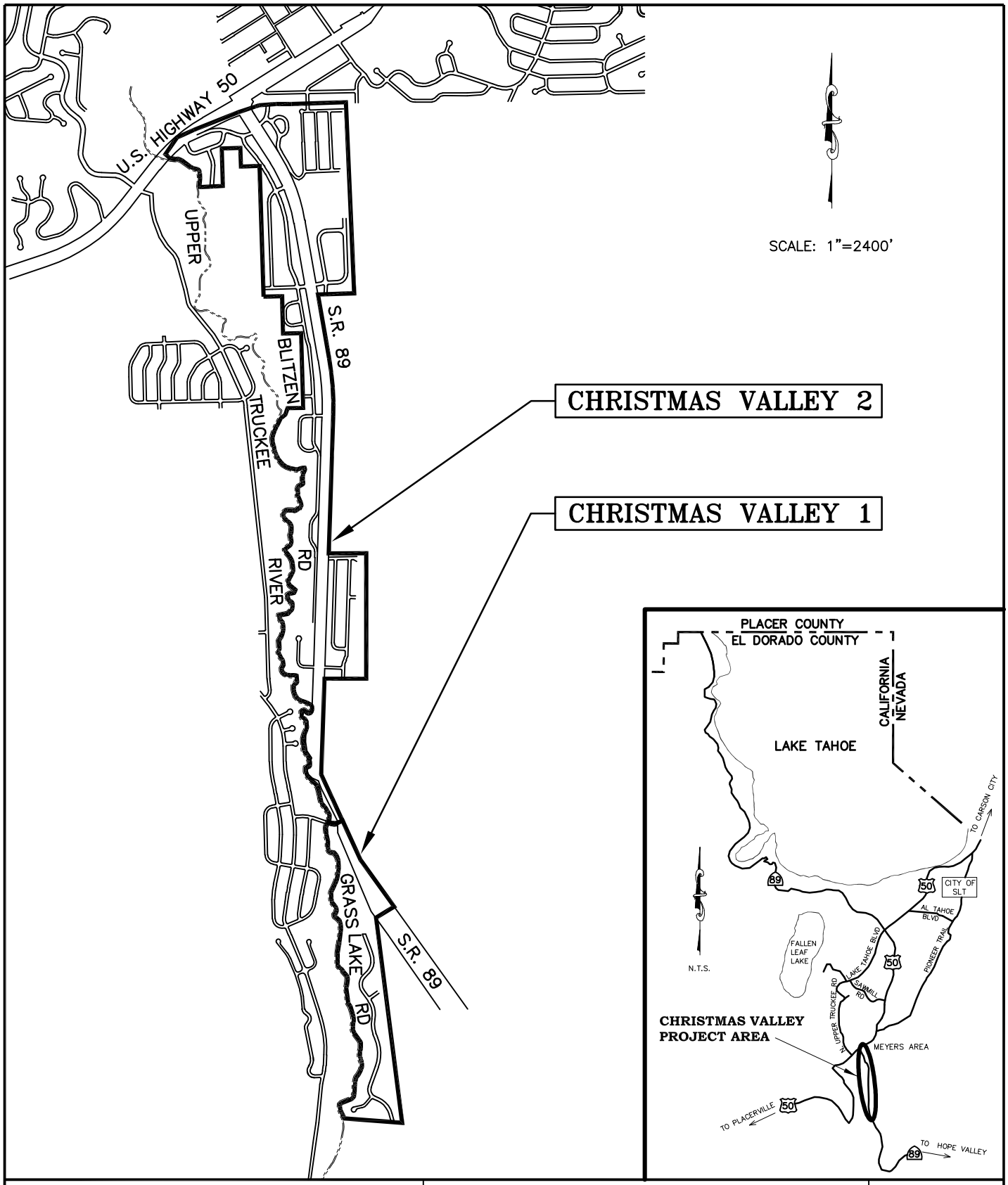
- Use any material from the bed, channel, or bank of a river, stream, or lake, and
- Deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake.

A Section 1601 permit application will be prepared and submitted based on the final Project design and its potential impacts to streams, rivers, or lakes.

7.0 MITIGATION AND MONITORING

Mitigation measures are described in the attached Mitigation Monitoring and Reporting Program **(Appendix B)**. EDOT staff and/or their contractor will conduct on-site monitoring to ensure that mitigation measures are implemented as proposed. A full time construction inspector provided by EDOT and/or contractor will monitor proposed mitigation measures for potential temporary impacts associated with construction. The inspector will ensure that the contractor strictly adheres to all temporary erosion control requirements and other environmental protection requirements. In addition to County inspections, regulatory agencies will review project plans and specifications to ensure compliance with local, state, and federal requirements. Any additional mitigation measures required by regulatory agencies as a condition of approval will be monitored in the same manner. Throughout the construction of the Project, the agencies will be invited to weekly "tailgate" meetings and conduct periodic visits to the Project site to enforce the implementation of BMPs and ensure compliance with all other mitigation measures.

The maintenance and monitoring of the Project improvements will continue well after construction completion. Revegetation monitoring and establishment will continue for a minimum of two years following construction. Plant establishment will include irrigation and replanting, if necessary. EDOT will inspect all project improvements during the spring and fall of each year during the twenty-year maintenance period as required by CTC erosion control grant guidelines. EDOT engineering staff will direct maintenance staff to provide maintenance of new facilities based on results of the inspections. Photographs will be taken before and after construction for a period of two years, and following significant storm events to monitor project improvement performance.



EL DORADO COUNTY
SOUTH LAKE TAHOE OFFICE

CHRISTMAS VALLEY 2 ECP
EXISTING CONDITIONS REPORT
PROJECT LOCATION MAP

FIGURE 1

DATE:	PROJECT NO.:	BY:
08/06	95159	ALD

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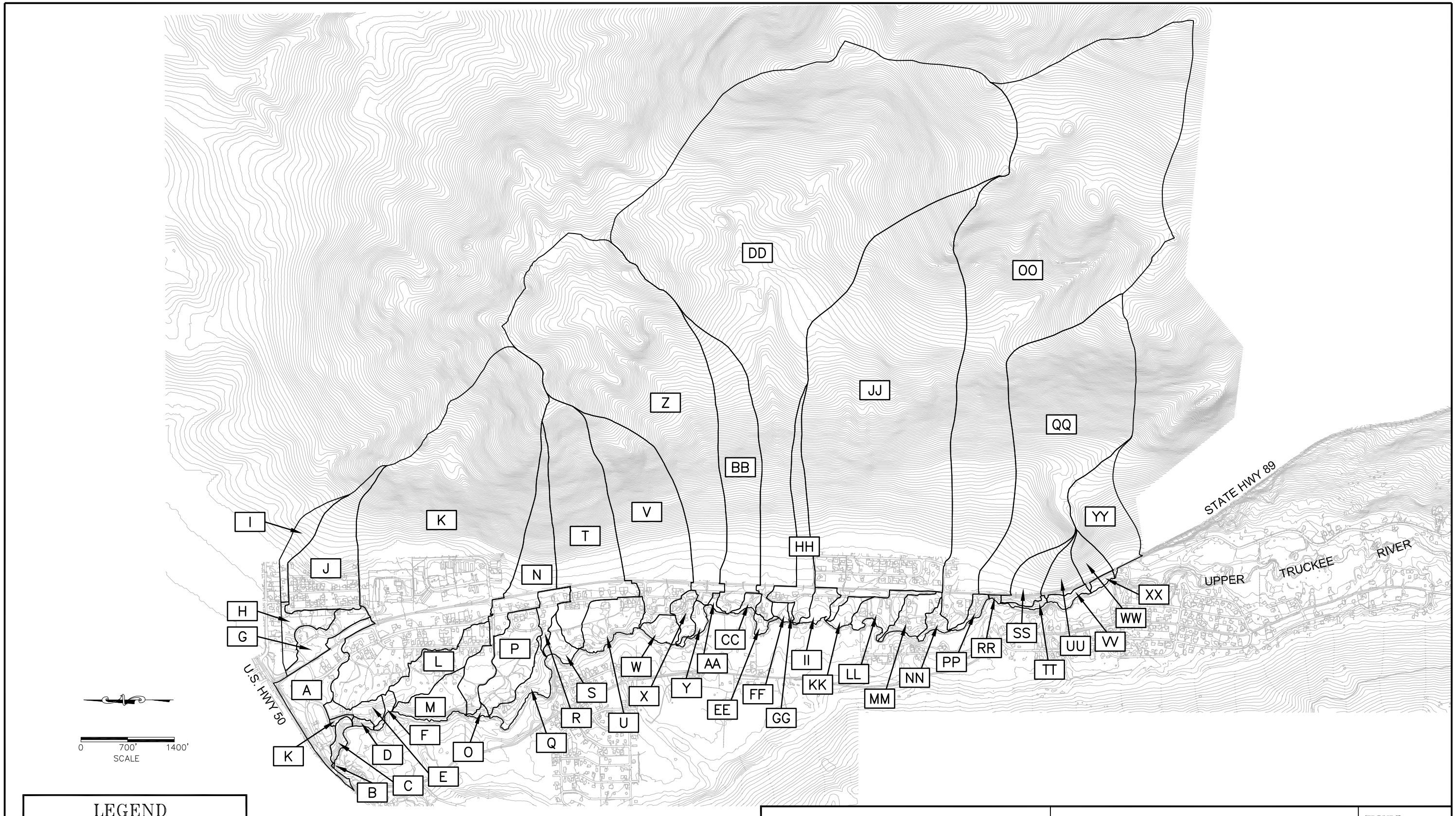
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STATE HWY 89
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TRUCKEE
RIVER
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SCALE
LEGEND
WATERSHED BOUNDARY
YY
WATERSHED DESIGNATION
EL DORADO COUNTY
SOUTH LAKE TAHOE OFFICE
EL DORADO COUNTY
DOT
DEPT. OF TRANSPORTATION
CHRISTMAS VALLEY 2 ECP
HYDROLOGY MAP
FIGURE
2
DATE: 05/08
PROJECT NO.: 95159
BY: TA

SCALE: 1"=400'

U.S. HIGHWAY 50

UPPER TRUCKEE RIVER

STATE HIGHWAY 89

RAINBOW TRACT

MATCH LINE ~ SEE FIGURE 4-1

LEGEND

- BARE SHOULDER, ERODING SHOULDER, ERODING ROADSIDE DITCH, OR ERODING CHANNEL
- ERODING SLOPE
- PIPE LOCATION AND DIRECTION
- SEDIMENT ACCUMULATION
- COUNTY OR CALTRANS RIGHT-OF-WAY OR PARCEL LIMITS
- DRAINAGE OR PUBLIC UTILITY EASEMENT
- CHRISTMAS VALLEY 2 PROJECT BOUNDARY
- USFS PARCEL
- CTC PARCEL

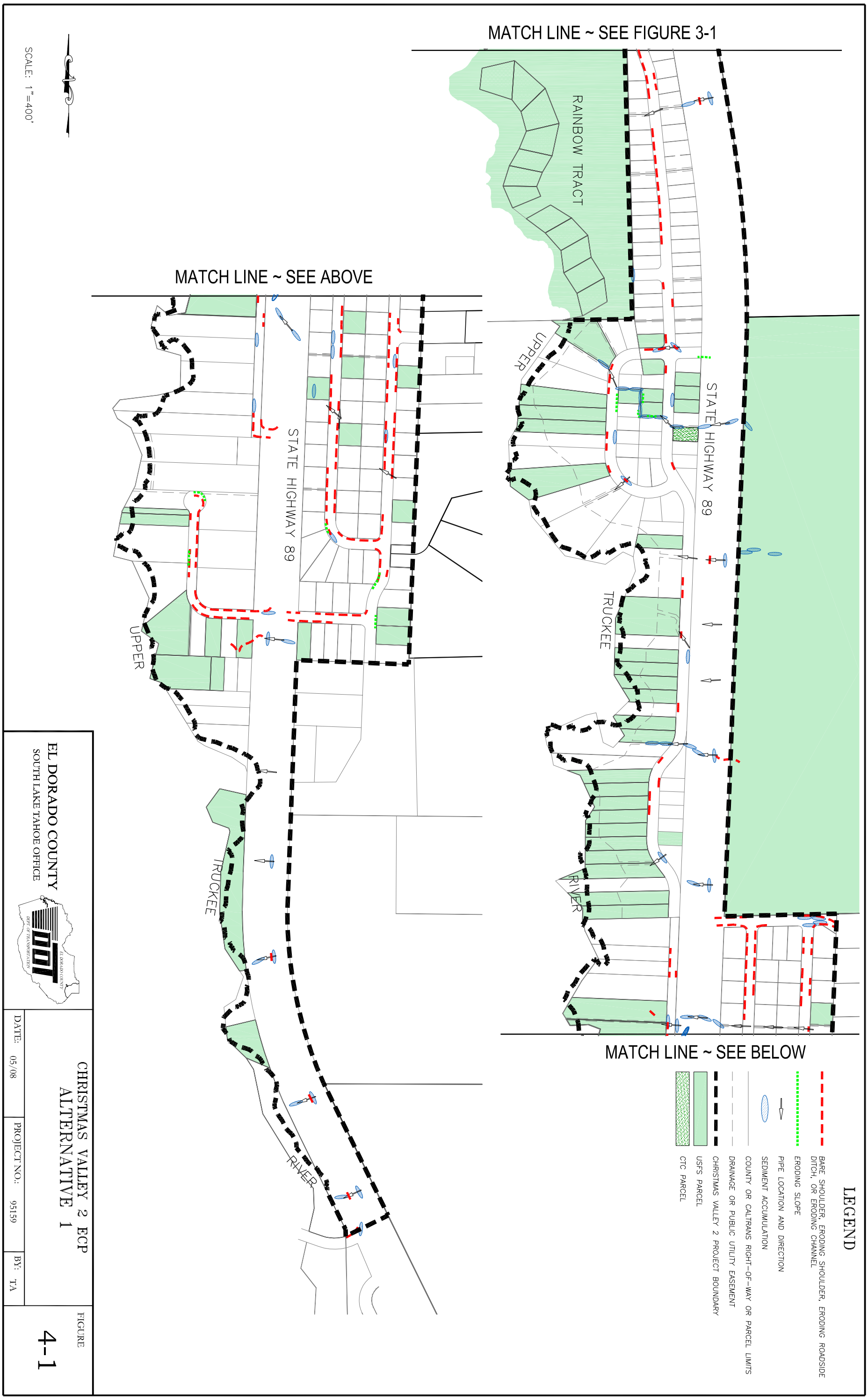
EL DORADO COUNTY
SOUTH LAKE TAHOE OFFICE

DEPT. OF TRANSPORTATION
EL DORADO COUNTY

CHRISTMAS VALLEY 2 ECP
ALTERNATIVE 1

DATE:	PROJECT NO.:	BY:
05/08	95159	TA

FIGURE 3-1


SCALE: 1"=400'
MATCH LINE ~ SEE FIGURE 3-1
MATCH LINE ~ SEE ABOVE
MATCH LINE ~ SEE BELOW
RAINBOW TRACT
UPPER
STATE HIGHWAY 89
TRUCKEE
RIVER
LEGEND
BARE SHOULDER, ERODING SHOULDER, ERODING ROADSIDE DITCH, OR ERODING CHANNEL
ERODING SLOPE
PIPE LOCATION AND DIRECTION
SEDIMENT ACCUMULATION
COUNTY OR CALTRANS RIGHT-OF-WAY OR PARCEL LIMITS
DRAINAGE OR PUBLIC UTILITY EASEMENT
CHRISTMAS VALLEY 2 PROJECT BOUNDARY
USFS PARCEL
CTC PARCEL
EL DORADO COUNTY
SOUTH LAKE TAHOE OFFICE
DEPT OF TRANSPORTATION
EL DORADO COUNTY
CHRISTMAS VALLEY 2 ECP
ALTERNATIVE 1
DATE: 05/08
PROJECT NO.: 95159
BY: TA
FIGURE
4-1

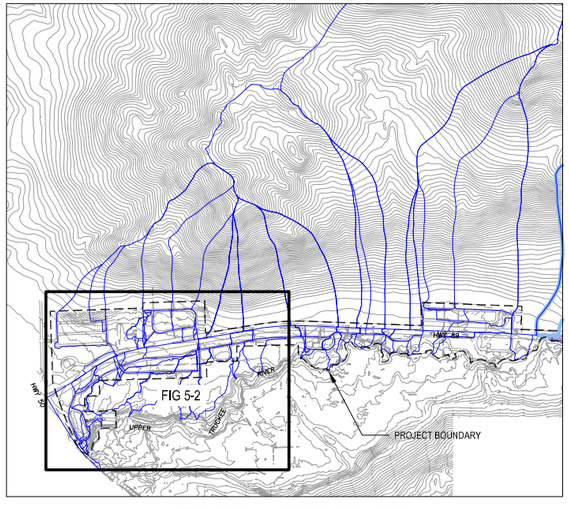
LEGEND

ALTERNATIVE 1- EXISTING CONDITIONS

- EXISTING ERODING CHANNEL
- EXISTING ERODING ROADSIDE DITCH OR SHOULDER
- EXISTING SEDIMENT ACCUMULATION
- EXISTING ERODING SLOPE
- EXISTING CULVERT & FLOW DIRECTION
- EXISTING FLOW PATH
- PROJECT BOUNDARY
- EXISTING BUILDING
- EXISTING CONTOUR
- USFS PARCEL/ CTC PARCEL
- EXISTING RIGHT-OF-WAY
- EXISTING PROPERTY LINE
- EXISTING DRAINAGE OR PUBLIC UTILITY EASEMENT
- EXISTING EDGE OF PAVEMENT
- EXISTING DRAIN INLET (○ OR □)
- EXISTING PIPE ID/SIZE/PEAK Q 25-YEAR (P42/18/25.0)
- EXISTING WATERSHED BOUNDARY

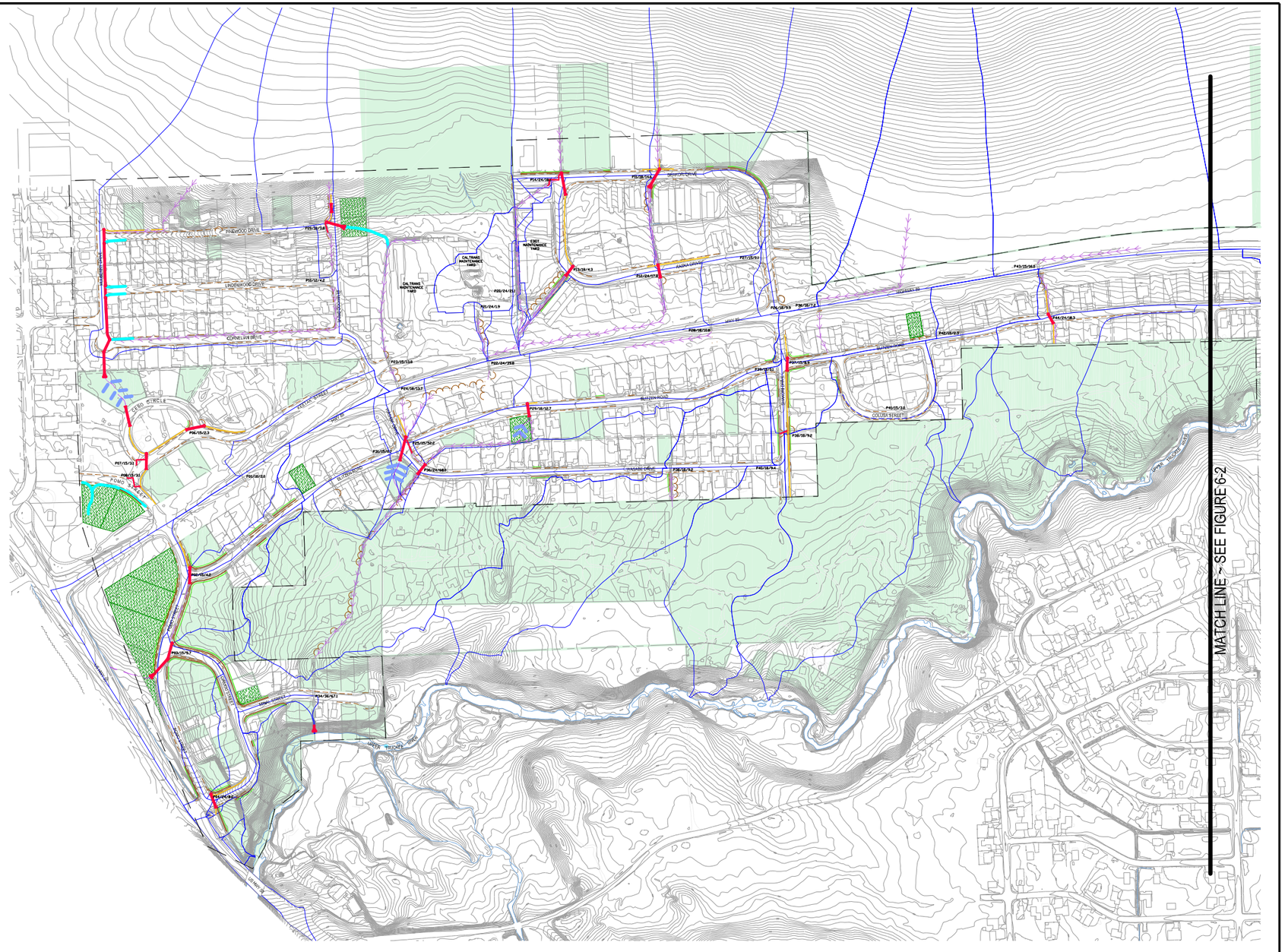
PROPOSED ALTERNATIVES

- PROPOSED ARMORED CHANNEL
- PROPOSED REVEGETATION
- PROPOSED GRASS-LINED SWALE
- PROPOSED INFILTRATION TRENCH
- PROPOSED SEDIMENT TRAP
- PROPOSED ROCK DISSIPATOR
- PROPOSED INFILTRATION CHANNEL
- PROPOSED CULVERT
- PROPOSED BASIN
- PROPOSED FLARED END SECTION
- PROPOSED CULVERT REMOVAL
- PROPOSED CULVERT HEADWALL
- PROPOSED ALTERNATE MEDIA FILTER



PROJECT WATERSHED INDEX

SCALE: 1"=1500'



SCALE: 1"=250'

EL DORADO COUNTY
SOUTH LAKE TAHOE OFFICE

CHRISTMAS VALLEY 2 ECP
ALTERNATIVE 2

FIGURE 5-2

DATE: 05/08 | PROJECT NO.: 95159 | BY: TA

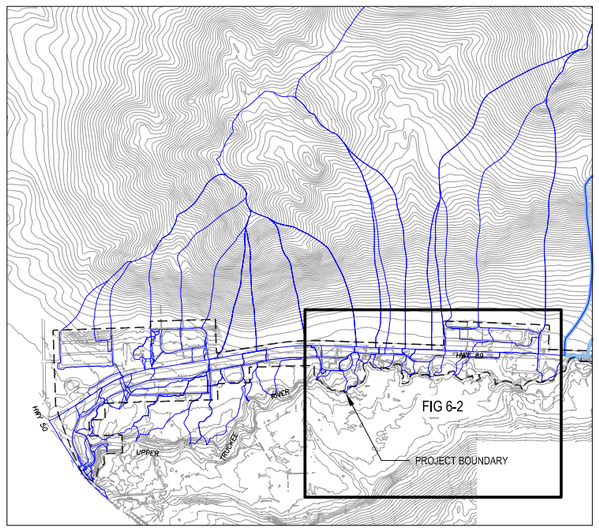
LEGEND

ALTERNATIVE 1- EXISTING CONDITIONS

- EXISTING ERODING CHANNEL
- EXISTING ERODING ROADSIDE DITCH OR SHOULDER
- EXISTING SEDIMENT ACCUMULATION
- EXISTING ERODING SLOPE
- EXISTING CULVERT & FLOW DIRECTION
- EXISTING FLOW PATH
- PROJECT BOUNDARY
- EXISTING BUILDING
- EXISTING CONTOUR
- USFS PARCEL/ CTC PARCEL
- EXISTING RIGHT-OF-WAY
- EXISTING PROPERTY LINE
- EXISTING DRAINAGE OR PUBLIC UTILITY EASEMENT
- EXISTING EDGE OF PAVEMENT
- ○ OR □ EXISTING DRAIN INLET
- P42/18/25.0 EXISTING PIPE ID/SIZE/PEAK Q 25-YEAR
- EXISTING WATERSHED BOUNDARY

PROPOSED ALTERNATIVES

- PROPOSED ARMORED CHANNEL
- PROPOSED REVEGETATION
- PROPOSED GRASS-LINED SWALE
- PROPOSED INFILTRATION TRENCH
- PROPOSED SEDIMENT TRAP
- PROPOSED ROCK DISSIPATOR
- PROPOSED INFILTRATION CHANNEL
- PROPOSED CULVERT
- PROPOSED BASIN
- PROPOSED FLARED END SECTION
- PROPOSED CULVERT REMOVAL
- PROPOSED CULVERT HEADWALL
- PROPOSED ALTERNATE MEDIA FILTER



PROJECT WATERSHED INDEX

SCALE: 1"=1500'

MATCH LINE ~ SEE FIGURE 5-2

SCALE: 1"=250'

EL DORADO COUNTY
SOUTH LAKE TAHOE OFFICE

CHRISTMAS VALLEY 2 ECP
ALTERNATIVE 2

FIGURE 6-2

DATE: 05/08 | PROJECT NO.: 95159 | BY: TA

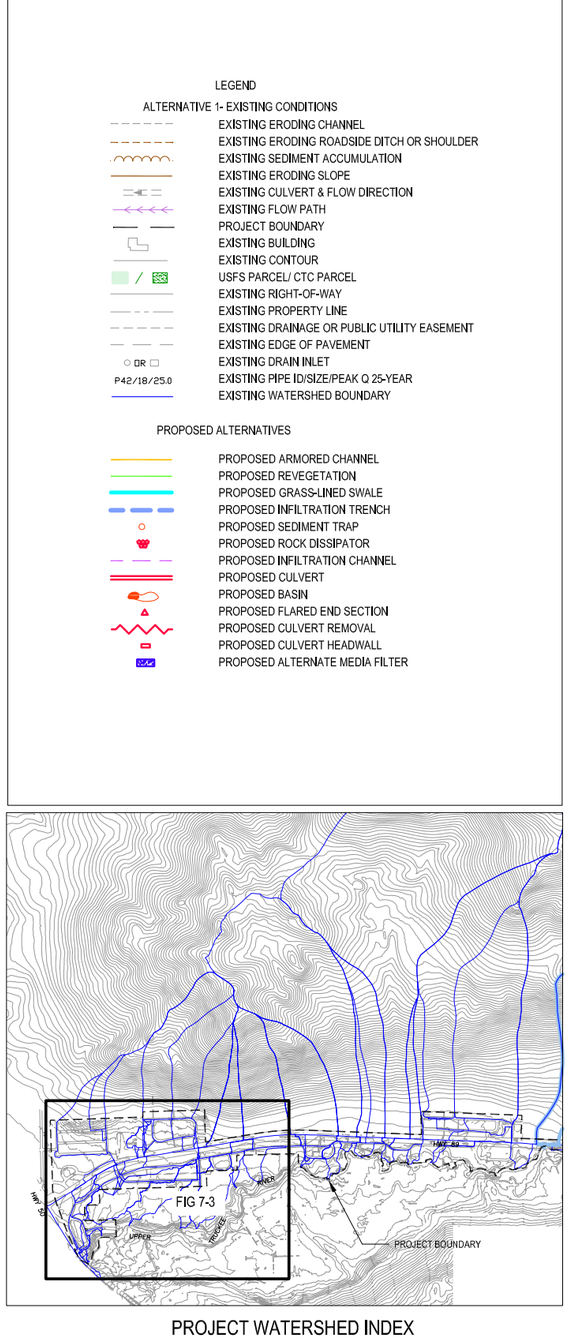
LEGEND

ALTERNATIVE 1- EXISTING CONDITIONS

- EXISTING ERODING CHANNEL
- EXISTING ERODING ROADSIDE DITCH OR SHOULDER
- EXISTING SEDIMENT ACCUMULATION
- EXISTING ERODING SLOPE
- EXISTING CULVERT & FLOW DIRECTION
- EXISTING FLOW PATH
- PROJECT BOUNDARY
- EXISTING BUILDING
- EXISTING CONTOUR
- USFS PARCEL/ CTC PARCEL
- EXISTING RIGHT-OF-WAY
- EXISTING PROPERTY LINE
- EXISTING DRAINAGE OR PUBLIC UTILITY EASEMENT
- EXISTING EDGE OF PAVEMENT
- EXISTING DRAIN INLET
- P42/18/25.0 EXISTING PIPE ID/SIZE/PEAK Q 25-YEAR
- EXISTING WATERSHED BOUNDARY

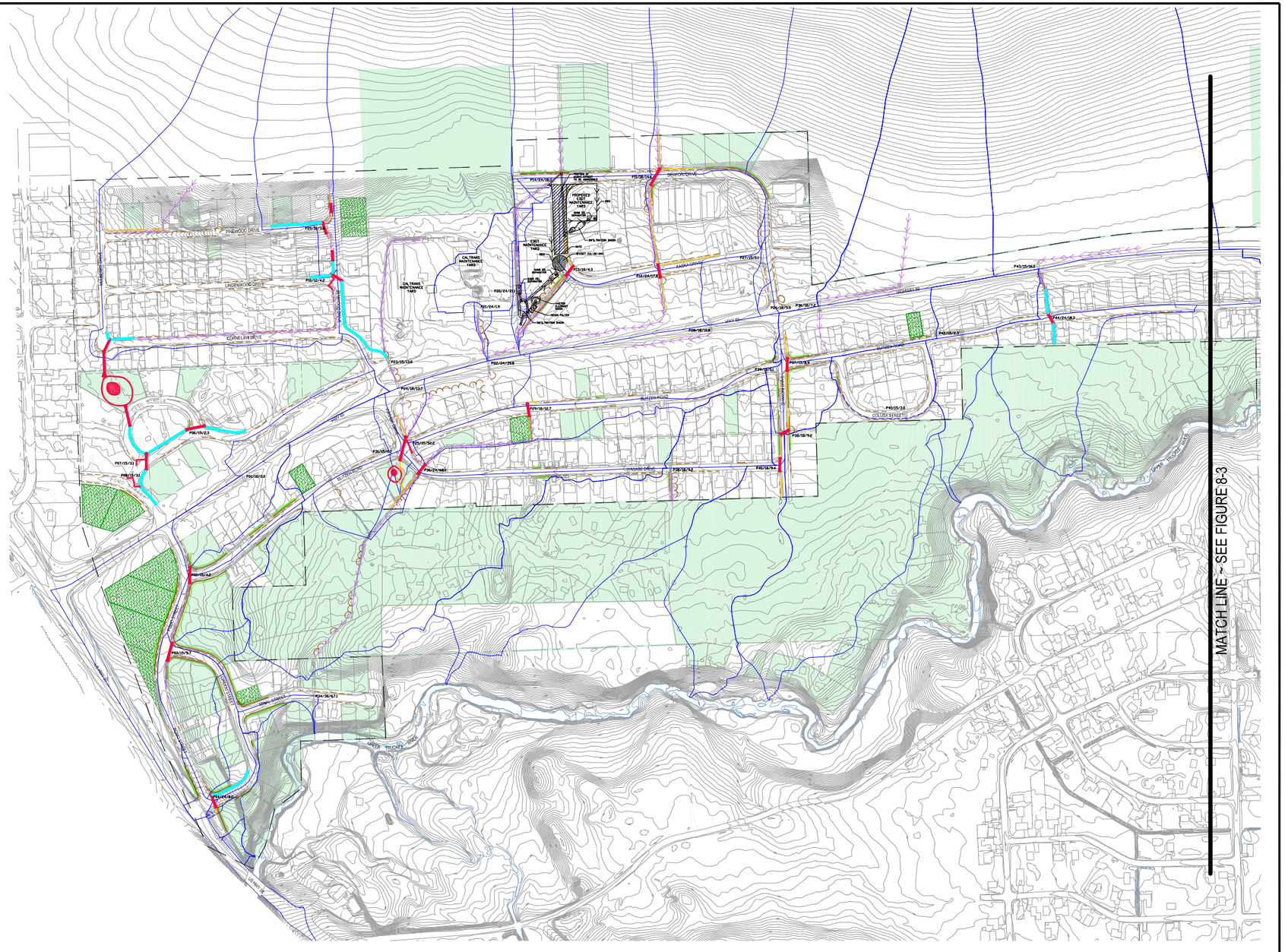
PROPOSED ALTERNATIVES

- PROPOSED ARMORED CHANNEL
- PROPOSED REVEGETATION
- PROPOSED GRASS-LINED SWALE
- PROPOSED INFILTRATION TRENCH
- PROPOSED SEDIMENT TRAP
- PROPOSED ROCK DISSIPATOR
- PROPOSED INFILTRATION CHANNEL
- PROPOSED CULVERT
- PROPOSED BASIN
- PROPOSED FLARED END SECTION
- PROPOSED CULVERT REMOVAL
- PROPOSED CULVERT HEADWALL
- PROPOSED ALTERNATE MEDIA FILTER



PROJECT WATERSHED INDEX

SCALE: 1"=1500'



SCALE: 1"=250'

EL DORADO COUNTY
SOUTH LAKE TAHOE OFFICE

CHRISTMAS VALLEY 2 ECP
ALTERNATIVE 3

FIGURE
7-3

DATE:	PROJECT NO.:	BY:
05/08	95159	TA

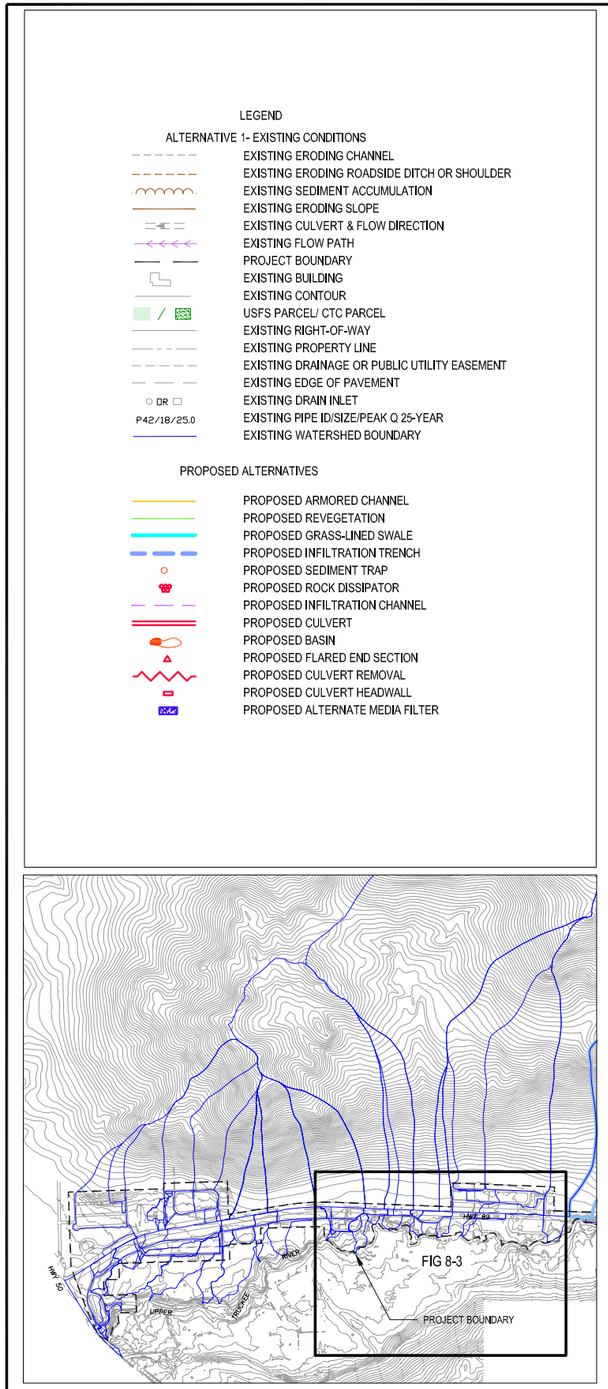
LEGEND

ALTERNATIVE 1- EXISTING CONDITIONS

- EXISTING ERODING CHANNEL
- EXISTING ERODING ROADSIDE DITCH OR SHOULDER
- EXISTING SEDIMENT ACCUMULATION
- EXISTING ERODING SLOPE
- EXISTING CULVERT & FLOW DIRECTION
- EXISTING FLOW PATH
- PROJECT BOUNDARY
- EXISTING BUILDING
- EXISTING CONTOUR
- USFS PARCEL/ CTC PARCEL
- EXISTING RIGHT-OF-WAY
- EXISTING PROPERTY LINE
- EXISTING DRAINAGE OR PUBLIC UTILITY EASEMENT
- EXISTING EDGE OF PAVEMENT
- ○ OR □ EXISTING DRAIN INLET
- P42/18/25.0 EXISTING PIPE ID/SIZE/PEAK Q 25-YEAR
- EXISTING WATERSHED BOUNDARY

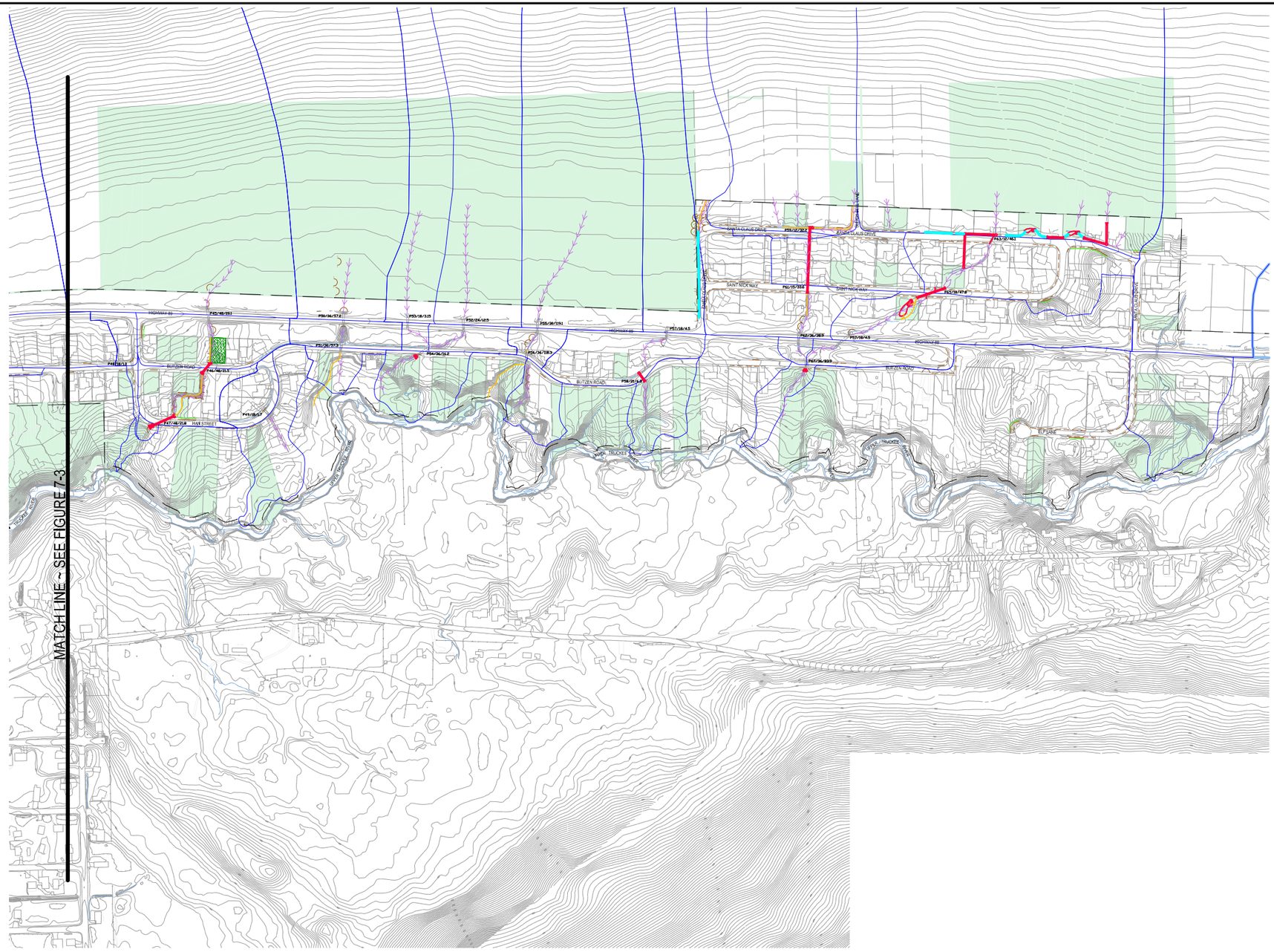
PROPOSED ALTERNATIVES

- PROPOSED ARMORED CHANNEL
- PROPOSED REVEGETATION
- PROPOSED GRASS-LINED SWALE
- PROPOSED INFILTRATION TRENCH
- PROPOSED SEDIMENT TRAP
- PROPOSED ROCK DISSIPATOR
- PROPOSED INFILTRATION CHANNEL
- PROPOSED CULVERT
- PROPOSED BASIN
- PROPOSED FLARED END SECTION
- PROPOSED CULVERT REMOVAL
- PROPOSED CULVERT HEADWALL
- PROPOSED ALTERNATE MEDIA FILTER



PROJECT WATERSHED INDEX

SCALE: 1"=1500'



SCALE: 1"=250'

EL DORADO COUNTY SOUTH LAKE TAHOE OFFICE	CHRISTMAS VALLEY 2 ECP ALTERNATIVE 3		FIGURE 8-3
	DATE: 05/08	PROJECT NO.: 95159	BY: TA

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APPENDIX A:
CEQA CHECKLIST

COUNTY OF EL DORADO **DEPARTMENT OF TRANSPORTATION**

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Christmas Valley 2 Erosion Control Project CEQA Checklist

Title: Christmas Valley 2 Erosion Control Project (JN 95159)	
Description: Construction of erosion control and water quality improvement measures.	
Location: The Project area is located in eastern El Dorado County, California within the Lake Tahoe Basin. The site is located in Meyers just south of Highway 50. The Project area is bordered by Portal Drive and Highway 89 to the south; the intersection of Highway 89 and Highway 50 to the north; the Upper Truckee River, Minal Street, Blitzen Road, and Wasabe Drive to the west; and Pinewood Drive, Shakori Drive, and Santa Claus Drive to the east.	
Owner/Applicant: El Dorado County Department of Transportation – Tahoe Engineering Division	
Lead Agency: El Dorado County Department of Transportation – Tahoe Engineering Division	
County Contact: Alfred Knotts, Principal Planner	**Phone:** 530-573-7900
Address: 924 B Emerald Bay Road, South Lake Tahoe, CA 96150	

The CEQA Checklist recommended by the State of California Environmental Quality Act (CEQA) Guidelines is used to determine potential impacts of the proposed Project on the physical environment. The checklist provides a list of questions concerning a comprehensive array of environmental issue areas potentially affected by the Project. An evaluation of impacts for each resource follows:

a) A brief explanation is required for all answers except No Impact answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A No Impact answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A No Impact answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

b) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

c) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. A potentially significant impact is appropriate if there is substantial evidence that an effect may be significant. If there are one or more potentially significant impact entries when the determination is made, an EIR is required.

d) Negative Declaration: Less than significant with mitigation incorporated applies where the incorporation of mitigation measures has reduced an effect from a potentially significant impact to a less than significant impact. The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, Earlier Analyses, may be cross-referenced).

e) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or Negative Declaration (Section 15063(c)(3)(D)). In this case, a brief discussion should identify the following:

i. **Earlier Analysis Used.** Identify and state where they are available for review.

ii. **Impacts Adequately Addressed.** Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

iii. **Mitigation Measures.** For effects that are less than significant with mitigation measures incorporated, describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the Project.

f) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

g) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

h) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

i) The explanation of each issue should identify:

i. The significance criteria or threshold, if any, used to evaluate each question.

ii. The mitigation measure identified, if any, to reduce the impact to less than significant.

I. AESTHETICS – Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
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 buildings 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?	☐	☐	☐	☒

Item I-B Discussion: The section of State Route (SR) 89 that runs through the proposed Project area is a designated Scenic Highway by the California Department of Transportation (Caltrans) and the Tahoe Regional Planning Agency (TRPA). The Luther Pass TRPA Plan Area Statement (PAS 141), considers the segment of SR 89 in the Christmas Valley 2 ECP area a scenic entry corridor to the Basin. The proposed improvements located near SR 89 may be seen from the highway but will not substantially damage scenic resources within the scenic highway. The erosion control and water quality improvement facilities will be non-obtrusive, context sensitive, and not detract from scenic views on this SR 89. While construction activities may affect the scenic resources during construction, it will be temporary. The proposed Project will not substantially damage scenic resources within a state scenic highway; therefore, the Project will have a less than significant impact.

Item I-C Discussion: The proposed Project will include erosion control and water quality improvement measures that will increase the visual character and quality of the site. Surface topography may be slightly altered to install improvements such as basins and channels. While construction activities may affect the scenic resources during construction, it will be temporary and therefore a less than significant impact. The proposed Project will not substantially degrade the existing visual character or quality of the site or its surroundings; therefore, the Project will have a less than significant impact.

II. AGRICULTURAL 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 Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

Category II Discussion: Prime Farmland, Unique Farmland, and Farmland of Statewide or Local Importance do not occur in or near the Project area. No land within the Project area is currently used for agriculture nor is it listed as a permissible use within the PAS. Therefore, the proposed Project will have no impact on agricultural resources.

III. 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:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Item III-B Discussion: The proposed Project will involve excavation and earth moving. The El Dorado County Air Quality Management District (EDCAQMD) Rule 223 Fugitive Dust General Requirements states that "visible emissions shall not exceed 20% opacity at point-of-origin and shall not extend more than 50 feet from point-of-origin, or cross the Project boundary line, whichever is less." The contractor will comply with the Air Quality Plan and EDCAQMD regulations by implementing the Best Management Practices (BMPs) related to air quality from the TRPA Handbook of Best Management Practices and practices as outlined in the EDCAQMD Rule 223 to address fugitive dust.

Compliance with the TRPA Air Quality Plan will lead to the attainment of the TRPA threshold standards and, therefore, federal and state air quality standards. The contractor will comply with the TRPA Air Quality Plan by implementing dust control BMPs from the TRPA Handbook of Best Management Practices.

The Project will have no long term impacts to air quality. Compliance with EDCAQMD and TRPA regulations through the permitting process will ensure that the Project will not conflict with or obstruct implementation of the air quality plans, will not violate any air quality standard or contribute substantially to an existing or projected air quality violation, and will not result in a cumulatively considerable net increase of any criteria for which the Project region is in non-attainment. With the implementation of the mitigation measures outlined below in *Item III-B Mitigation Measures*, the proposed Project will not violate any air quality standard or contribute substantially to an existing or projected air quality violation; therefore, the Project will have a less than significant impact.

Item III-B Mitigation Measures:

Mitigation Measure AQ-1: The construction contractor shall implement Best Management Practices as they relate to air quality from the TRPA Code of Ordinances and Handbook of Best Management Practices.

Mitigation Measures AQ-2*:* The construction contractor shall water exposed soil twice daily, or as needed, to control wind borne dust. All haul/dump truckloads shall be covered securely.

Mitigation Measure AQ-3: At a minimum of three times per week, remove from all adjacent streets, all dirt and mud which has been generated from or deposited by construction equipment going to and from the construction site.

Mitigation Measure AQ-4: On-site vehicle speed shall be limited to 15 miles per hour on unpaved surfaces.

Mitigation Measure AQ-5: Construction activities shall comply with EDCAQMD Rule 223-Fugitive Dust, so that emissions do not exceed hourly levels. The contractor will prepare and submit a Dust Suppression Plan, and will use approved BMP practices as outlined in the TRPA Handbook of Best Management Practices and the EDCAQMD Rule 223 to address fugitive dust. Dust mitigation measures and dust control BMPs will include, but are not limited to, stabilization of unpaved areas subject to vehicular traffic, stabilization of storage piles and disturbed areas, dust suppression through watering of areas to be disturbed, cleaning of all construction vehicles leaving the site, mulching of bare soil areas, and suspension of grading and earth moving activities when wind speeds are high enough to result in dust emissions crossing the Project boundary.

Mitigation Measure AQ-6: Construction equipment idling shall be restricted to 5 minutes when it is not in use.

Mitigation Measure AQ-7: The construction contractor shall post a publicly visible sign on the Project site during construction operations that specifies the telephone number and person/agency to contact for complaints and/or inquiries on dust generation and other air quality problems resulting from Project construction.

Item III-C Discussion: Construction activities may impact air quality, but the impacts are expected to be well below established significance levels since the activity is temporary and there will not be any long-term impacts. The proposed Project will not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment; therefore, the Project will have a less than significant impact.

Item III-D Discussion: Construction activities may impact air quality, but the impacts are expected to be well below established significance levels since the activity is temporary and there will not be any long-term impacts. The proposed Project will not expose sensitive receptors to substantial pollutant concentrations; therefore, the Project will have a less than significant impact.

Item III-E Discussion: Construction activities may impact air quality, but the impacts are expected to be well below established significance levels since the activity is temporary and there will not be any long-term impacts. The proposed Project will not create objectionable odors affecting a substantial number of people; therefore, the Project will have a less than significant impact.

IV. BIOLOGICAL RESOURCES – Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
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, and 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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Item IV-A Discussion: A *Wildlife Biological Assessment and Biological Evaluation (BABE)* was performed for the proposed Project. This study identified three (3) special status wildlife species that occur, or have the potential to occur, in or near the proposed Project. This determination was based on a data review and a survey of the Project area. The primary purpose of the field survey was to identify and determine the occurrence of, or the suitability of, habitat for special status wildlife species within the Project site. Species-focused surveys were not required at this time. The results of this study were used to identify and evaluate potential biological constraints to Project implementation, which are summarized below.

- Mountain yellow-legged frog. There have been two incidental sightings over 50 years ago within the proposed Project area. Currently, riverine habitat within and adjacent to the Project area is marginal, and it is unlikely mountain yellow-legged frog would persist here. The only location in the Tahoe Basin where mountain yellow-legged frogs have been consistently detected is at the headwaters of Trout Creek, which is over three miles from the Project area. In 2005, the Upper Truckee River (approximately 1 mile south of the proposed Project area) was surveyed for mountain yellow-legged and northern leopard frogs by ENTRIX, Inc. for the Christmas Valley 1 Erosion Control Project. No frogs or tadpoles of either species were found during these surveys (EDOT 2007). Suitable habitat for the mountain yellow-legged frog does exist along the Upper Truckee River, south of the Project area.
- Willow flycatcher. Nesting activity has been documented in the Upper Truckee River from one (1) to over three (3) miles from the Project area. The USFS and associated research entities conduct multi-species inventories in this area. There was an unsuccessful nest found just over 1 mile from the proposed Project

area in 2004. This pair was not detected in subsequent years. In 2006, there was an unsuccessful nest found at the uppermost end of the Upper Truckee River, which is over 3 miles from the proposed Project site. In 2005, the Upper Truckee River and adjacent willow patches (approximately 1 mile south of the Project area) were surveyed by ENTRIX, Inc. for the Christmas Valley 1 Erosion Control Project. No willow flycatchers were detected during these surveys. Riparian habitat within and adjacent to the Project area is marginal, and it is unlikely that the willow flycatcher would persist here. The USFS should be contacted prior to construction to obtain the most recent monitoring results, and confirm that no new nest sites have been identified within 0.5 miles of the Project area. If new nests or breeding individuals are found, construction will not occur within 0.5 miles of reproductively active areas from June 1st to August 31st. Mitigation measures to avoid impact to this species are defined in below under Mitigation Measure B-1.

- Yellow warbler. Yellow warblers are present along the Upper Truckee River and the adjacent Project parcels. Nesting along the Project boundary could potentially occur. Yellow warblers are a California Species of Special Concern and are protected under the Migratory Bird Act. Mitigation measures to avoid impact to this species are defined in below under Mitigation Measure B-4.

A *Botanical Biological Assessment and Biological Evaluation (BABE)* was performed for the proposed Project. This determination was based on a data review and a survey of the Project area. The primary purpose of the field survey was to identify and determine the occurrence of or the suitability of habitat for special status botanical species within the Project site. No special status plant species were found in the Project area during field surveys. Potential or modeled habitat was identified for a total of 15 special status species in the Project area, but none of these species were found during surveys.

A *Noxious Weed Risk Assessment (NWRA)* was performed for the proposed Project. This study identified three (3) noxious weed species located within the proposed Project area. This determination was based on a survey of the Project area. The primary purpose of the field survey was to identify and determine the occurrence of noxious weed species within the Project site. The findings are summarized below.

- Bull thistle (*Cirsium vulgare*). Bull thistle was found at seven (7) locations throughout the Project area. These locations are documented in the NWRA.
- Oxeye daisy (*Leucanthemum vulgare*). Oxeye daisy was found at one (1) location in the Project area. This location is documented in the NWRA.
- Woolly mullein (*Verbascum thapsus*). Woolly mullein was found at eleven (11) locations in the Project area. These locations are documented in the NWRA.

The California Department of Food and Agriculture (CDFA) Code Section 403 requires the prevention of the "introduction and spread of injurious insect or animal pests, plant diseases, and noxious weeds." Although the three species listed above are not designated as noxious weeds by the CDFA, they are designated as noxious by the USFS-LTBMU. Additionally, bull thistle and oxeye daisy are on the Lake Tahoe Basin Weed Coordinating Group's list of Priority Invasive Weeds in the Lake Tahoe Basin, and bull thistle is defined as a noxious weed in the Sierra Nevada Forest Plan Amendment. Therefore, the species listed above are considered noxious weeds for the purpose of this project, and will be managed as such by El Dorado County.

With the implementation of the mitigation measures outlined below under *Item IV-A Mitigation Measures* in Mitigation Measures B-1 – B-6, the proposed Project will not 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 & Game (CDFG) or U.S. Fish & Wildlife Service; therefore, the Project will have a less than significant impact.

Item IV-A Mitigation Measures:

Mitigation Measure B-1: Prior to construction, the County will confirm if any new special status species have been identified by the USFS or the CDFG (via the California Natural Diversity Database - *CNDDB*) within, or immediately adjacent to, the Project area. If new wildlife activity or occurrences have been identified, the appropriate USFS LOP and/or TRPA No Disturbances Zone will be observed. If new plant occurrences have been identified, an additional plant survey will be conducted to locate the species and determine appropriate measures for avoiding disturbance.

Mitigation Measure B-2: If final design requires work within or adjacent to the riverine habitat found in the southern reach of the river, an assessment or survey will be conducted for the mountain yellow-legged frog in the spring prior to construction. If any detections are made, work will not be allowed in the area that would directly impact the Upper Truckee River or riverine habitat in which they exist.

Mitigation Measure B-3: If final design requires work within 0.5 miles of the montane riparian habitat found along the Upper Truckee River, an assessment or survey will be conducted for the willow flycatcher in the spring prior to construction. If any detections are made, work will not be allowed within 0.5 miles of the occurrence during the breeding season.

Mitigation Measure B-4: To comply with the Migratory Bird Treaty Act for the yellow warbler, construction will not occur on parcels with meadow or riparian habitat during the nesting season (June 1st - August 15th). If construction is necessary during the nesting season, an assessment or survey will be conducted for the yellow warbler in the spring prior to construction.

Mitigation Measure B-5: If special status plant species are found prior to or during construction, these populations will be identified and protected with appropriate measures per TRPA and the USFS.

Mitigation Measure B-6: The County will adopt and implement a Noxious Weed Mitigation Plan to decrease habitat vulnerability to or below pre-construction levels. The Plan includes pre-construction elements such as treatment of existing noxious weed populations identified in the Project area, as well as during and post-construction elements. Recommended BMPs will include, but are not limited to, the hand removal of existing weeds prior to going to seed, cleaning equipment prior to use, minimizing the areas of disturbance, covering the disturbed ground as quickly as possible with mulch or other means, utilizing certified weed-free mulch and other materials, and revegetating disturbed areas with native plants as soon as construction is completed.

Item IV-C Discussion: A Land Capability Verification, which will delineate 1B (Stream Environment Zone (SEZ)) lands within the Project area, will be completed by the TRPA. The existing TRPA land capability layer shows that SEZ lands exist within the Project area along the southwestern perimeter. Improvements proposed within this SEZ may include, but is not limited to, revegetation, vegetated or rock lined channels, armored and/or infiltration channels, and culverts.

Fieldwork has been completed to delineate Waters of the U.S. (WOUS), including wetlands. Data will be analyzed to determine if jurisdictional waters, including wetlands, exist within the Project area. A delineation report will be prepared and submitted as part of the Section 404 permit application to the U.S. Army Corps of Engineers (USACE) to make a formal determination. With the implementation of the mitigation measures outlined in *Item IV-C and Item VI-B Mitigation Measures,* the proposed Project will not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act; therefore, the Project will have a less than significant impact.

Item IV-C Mitigation Measures:

Mitigation Measure B-7: The amount of disturbance will be minimized by restricting the contractor's access with equipment through the use of construction limit fencing. All disturbed areas will be stabilized and revegetated with native seed and compost. All revegetated areas will be irrigated for a minimum of two years following construction.

Mitigation Measure B-8: Upon completion of the wetland delineation, Project design will be modified, as needed, to avoid or minimize impacts to wetlands and/or other WOUS. Should direct or indirect impacts to wetlands or WOUS be identified during final design. The County will obtain a 404 Permit and/or 401 Water Quality Certification and will implement the required mitigation measures. The County will obtain a TRPA EIP Project Permit and will implement the required mitigation measures related to the disturbance of SEZs (if applicable).

Where it is not possible to avoid impacts, the County will mitigate impacts through the enhancement of hydrology, soils, vegetation, and/or ecological function at a minimum of 1:1.5 for disturbed features. Mitigation measures will include, but are not limited to, the use of hand or low impact equipment and the implementation of temporary BMPs such as filter fencing, coir logs, gravel bags, and tree protection and construction limit fencing to minimize disturbance. Although groundwater is not expected to be encountered during construction, if groundwater is encountered and the excavated area requires dewatering to complete the work, TRPA shall be notified immediately. The SWPPP will include a Dewatering Contingency Plan (Item VI-B Mitigation Measures).

Mitigation Measure B-9: Should any construction work be required in or adjacent to wetlands, it shall be conducted from existing pavement and/or confined to the smallest area possible to complete the work by restricting the contractor's access with equipment through the use of construction limit fencing. Post construction mitigation measures may include restoration, revegetation, enhancement of SEZ vegetation, removal of fill material, and removal of noxious weeds.

Mitigation Measure B-10: All excavated material not required to complete the work shall be removed from the wetland areas and contained by appropriate BMP measures.

V. CULTURAL RESOURCES – Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

Category V Discussion: The North Central Information Center was contacted to determine the extent of previous studies in or near the Project area. The Project area was the subject of an archaeological inventory. The *Christmas Valley Phase 2 ECP Heritage Resource Inventory Report* (Zeier 2008) was prepared and details the findings and recommendations related to cultural resources based on the records search and archaeological inventory. The only heritage resource identified as a result of the conducted inventory was a single isolated artifact of comparatively recent origin which is not eligible for the National or California Register. Four previously identified heritage resources, all located outside the immediate Project area, were revisited. Recognizable elements of those resources do not extend into a right of way or a parcel that makes up a part of the present study area. As a result, none of those site records were revised or amended. Given that significant heritage resources are not present in the road rights of way or parcels identified by El Dorado County as part of the proposed Project area, the proposed Project will not impact properties listed on or eligible to the National Register of Historic Places, nor will it impact historic resources that meet criteria outlined in Section 5024.1 of the California Public Resource Code or Section 29 of the TRPA's Code of Ordinances; therefore, the Project will have no impact on cultural resources.

Although improbable, it is possible that archeological resources, as defined by Section 15064.5(f) of CEQA, or human remains might be discovered in the Project area during ground disturbing activities (none were apparent based on an examination of the ground surface). Should archeological resources or human remains be encountered while engaged in construction activities, work must cease in the immediate area and the contractor must immediately report the finding to the State Historic Preservation Office (SHPO) and other designated officials. The SHPO will contact the appropriate tribal representatives and consult on disposition of the remains and any associated artifacts.

VI. GEOLOGY & SOILS – Would the Project:

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

Item VI-B Discussion: The proposed Project is an erosion control and water quality improvement project that will assist in improving water quality in the surrounding area. During the construction phase of the Project, portions of the site may have exposed soil areas that, during a rain or high wind event or utility line breach, could cause minor erosion. Once the construction of the Project is completed, there will be an overall decrease of erosion in the Project area. With the implementation of the mitigation measures outlined below in *Item VI-B Mitigation Measures,* the proposed Project will not result in substantial soil erosion or the loss of topsoil; therefore, the Project will have a less than significant impact.

Item VI-B Mitigation Measures:

Mitigation Measure G-1: The contractor will be required to prepare and submit a Stormwater Pollution Prevention Plan (SWPPP) to the County, Lahontan Regional Water Quality Control Board (Lahontan), and TRPA prior to construction. The SWPPP will be in accordance with the TRPA and Lahontan requirements for storm water pollution prevention. As part of the SWPPP, the contractor will be required to prepare an Emergency Action Plan, Temporary BMP Plan, Spill Contingency Plan, Dust Suppression Plan, and Dewatering Contingency Plan. The Emergency Action Plan will state the plan for dealing with a utility line breach.

The Temporary BMP Plan will include design and specifications that detail the required construction BMPs that shall be installed prior to and during construction to prevent any erosion that may occur during a rain or wind event. Temporary BMPs will include, but are not limited to, gravel bags, silt fencing, tree protection fencing, construction limit fencing, coir logs, and gravel construction access. Prior to construction, all storage, access, and staging areas are to be secured by the contractor and approved by the County and TRPA. No staging or storage

will occur in SEZs. The contractor shall be responsible for maintenance of mobilization sites, including placement and maintenance of BMPs. All equipment, vehicles, and materials shall be stored on paved or disturbed surfaces only, in locations approved by the County and TRPA. The contractor shall limit the areas to be disturbed to the minimum size required to construct proposed improvements. All disturbed areas shall have temporary BMPs in place before and during construction and the disturbed areas will be restored to a better than pre-construction condition. The contractor shall meet the permit requirements for BMPs, staging areas, revegetation, grading season restrictions, and all other agency approval conditions. Construction will take place within the Lake Tahoe construction season (between May 1st and October 15th).

The Spill Contingency Plan will state the plan for dealing with accidental spills and must include the requirement for spill prevention kits to be available on site to contain any accidental spills. The Spill Contingency Plan will minimize the potential for and effects from spills of hazardous, toxic, or petroleum substances during construction activities. The Spill Prevention Kit will contain, but is not limited to, sorbent pads, plastic bags, containment devices, drain seals, and drip pans.

The Dust Suppression Plan shall control dust to prevent transport of such materials off the project site, into any surface water, or into any drainage course. Dust mitigation measures and dust control BMPs will include, but are not limited to, stabilization of unpaved areas subject to vehicular traffic, stabilization of storage piles and disturbed areas, dust suppression through watering of areas to be disturbed, cleaning of all construction vehicles leaving the site, mulching of bare soil areas, and suspension of grading and earth moving activities when wind speeds are high enough to result in dust emissions crossing the Project boundary.

The Dewatering Contingency Plan will outline the steps that will be required if groundwater is intercepted. Although groundwater is not expected to be encountered during construction, if groundwater is encountered and the excavated area requires dewatering to complete the work, TRPA shall be notified immediately and a Dewatering Plan will be prepared and submitted for approval by the County and TRPA prior to its implementation. Based on the results of the Soils/Hydrology Analysis, TRPA may require that a full Dewatering Plan be prepared and submitted as part of the SWPPP prior to permit acknowledgement.

Mitigation Measure G-2: The contractor will also be required to attend the TRPA pre-grade inspection meeting onsite to ensure that BMPs are in place per the SWPPP before work commences.

Mitigation Measure G-3: EDOT will also conduct daily inspections of BMP measures to ensure they are properly maintained and properly placed for maximum benefit. As part of this process, DOT and/or contractor will complete formal inspection forms for submittal to regulatory agencies to demonstrate deficiencies and that corrective action has been taken.

VII. HAZARDS & HAZARDOUS MATERIALS – Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard for people residing or working in the Project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the Project area?	☐	☐	☐	☒
g) Impair implementation of or 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?	☐	☐	☐	☒

Item VII-A Discussion: During Project construction, there exists a risk of accidental fuel spills from construction equipment. With the implementation of the mitigation measures outlined in *Item VI-B Mitigation Measures*, the proposed Project will not create a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials; therefore, the Project will have a less than significant impact.

Item VII-B Discussion: During Project construction, there exists a risk of accidental fuel spills from construction equipment. With the implementation of the mitigation measures outlined in *Item VI-B Mitigation Measures*, the proposed Project will not 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; therefore, the Project will have a less than significant impact.

VIII. HYDROLOGY & WATER QUALITY – Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
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 stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☒	☐	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Item VIII-A Discussion: During construction, grading and excavation will take place that may have the potential to cause erosion. During Project construction, there exists a risk of accidental fuel spills from construction equipment. Once construction is complete and the erosion control and water quality improvement measures are in place, water quality in the area will be improved. With the implementation of the mitigation measures outlined below in *Item VI-B Mitigation Measures*, the proposed Project will not violate any water quality standards; therefore, the proposed Project will have a less than significant impact.

Item VIII-C Discussion: The Project will not alter the existing drainage pattern of the site or surrounding area. The Project design includes conveyance and treatment of stormwater. As a result, the flow rates and volumes at the outflow locations will not exceed the existing condition and will likely be decreased through the implementation of this project. Therefore, the proposed Project will have a less than significant impact.

Item VIII-D Discussion: The Project will not alter the existing drainage pattern of the site or surrounding area. The Project design includes conveyance and treatment of stormwater. As a result, the flow rates and volumes at the outflow locations will not exceed the existing condition and will likely be decreased through the implementation of this project. The proposed Project will not substantially alter the existing drainage pattern of the site or area or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site; therefore, the proposed Project will have a less than significant impact.

Item VIII-E Discussion: During construction of the Project, grading and excavation will take place that may have a potential to cause increased surface runoff. Once construction is complete and the erosion control and water quality improvement measures are in place, surface flows and volumes will be reduced from their existing condition. With the implementation of the mitigation measures outlined in *Item VI-B Mitigation Measures,* the proposed Project will not contribute runoff water that would exceed the capacity of existing or planned drainage systems or provide substantial additional sources of polluted runoff; therefore, the Project will have a less than significant impact.

Item VIII-F Discussion: During construction of the Project, grading and excavation will take place that may have a potential to cause increased surface runoff and minor erosion. Once construction is complete and the erosion control and water quality improvement measures are in place, surface runoff and erosion will be reduced and water quality will be improved. With the implementation of the mitigation measures outlined in *Item VI-B Mitigation Measures,* the proposed Project will not substantially degrade water quality; therefore, the Project will have a less than significant impact.

IX. LAND USE & PLANNING – Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Item IX Discussion: The proposed Project will not physically divide an established community; conflict with any applicable land use plan, policy, or regulation; or conflict with any applicable habitat conservation plan or natural community conservation plan. The Project site is located in Freel Peak PAS-121, Tahoe Paradise-Mandan PAS-122, Meyers Commercial PAS-125 (superseded by the Meyers Community Plan), Christmas Valley PAS-137, and Luther Pass PAS-141, which have a land use classification of residential and industrial (Special Area #4). Permissible uses include erosion control, SEZ restoration, and runoff control. The proposed Project will be consistent with such allowed uses; therefore, the proposed Project will have no impact on land use or planning.

X. MINERAL RESOURCES – Would the Project result in:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

Category X Discussion: No known mineral resources or recovery sites are located in or near Project area. Therefore, the proposed Project will have no impact on mineral resources.

XI. NOISE – Would the Project result in:

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

Item XI-A Discussion: Standard construction equipment is anticipated to be used to construct the proposed improvements. The equipment will increase noise levels over that of regular levels in the neighborhood, but the noise levels will be within acceptable noise decibel standards imposed by El Dorado County and the TRPA. The TRPA Code of Ordinances (Chapter 23.8) states that TRPA-approved construction projects are exempt from the quantitative limits contained in the Noise Ordinance and Community Plan if construction activities take place between the hours of 8:00 am and 6:30 pm. The Community Noise Equivalent Level (CNEL) for the Luther Pass Planning Area is 50 CNEL. With the implementation of the mitigation measures outlined below in *Item XI-A Mitigation Measures,* the proposed Project may result in a temporary or periodic exposure to or generation of noise levels in excess of standards established in the local General Plan, Community Plan, or Noise Ordinance, but it will be temporary and is allowable under local ordinances. Therefore, the Project will have a less than significant impact.

Item XI-A Mitigation Measures:

Mitigation Measure N-1: In order to mitigate the impacts of increased ambient noise levels, construction noise emanating from all construction activities shall only occur between the hours of 8:00 am and 6:30 pm per TRPA Code, unless other hours are approved by TRPA.

Mitigation Measure N-2: All construction equipment and vehicles used for Project construction will be fitted with the factory installed muffling devices and will be maintained in good working order. EDOT will advise potentially affected residents of the proposed construction activities including duration, schedule of activities, and contacts for filing noise complaints. EDOT staff and/or contractor will attempt to respond to all noise complaints received within one working day and resolve the issue as soon as possible.

Item XI-B Discussion: Standard construction equipment is anticipated to be used to construct the proposed improvements. The equipment will create groundborne vibrations and noise levels over that of regular levels in the neighborhood, but the groundborne vibrations and noise levels will be within acceptable noise decibel standards imposed by El Dorado County and the TRPA. The proposed Project will not result in exposure of persons to or generation of groundborne vibration or noise levels in excess of standards established in the local

General Plan, Community Plan, or Noise Ordinance, or applicable standards of other agencies; therefore, the Project will have a less than significant impact.

Item XI-D Discussion: Refer to the information stated in the *Item XI-A Discussion*. With the implementation of the mitigation measures outlined in *Item XI-A Mitigation Measures,* the proposed Project may result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project, but it will be temporary and is allowable under local ordinances. Therefore, the Project will have a less than significant impact.

XII. POPULATION & HOUSING – Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

Category XII Discussion: The proposed Project will not directly or indirectly induce substantial population growth or displace existing or future housing. Therefore, the proposed Project will have no impact on population and housing.

XIII. PUBLIC SERVICES – Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental services and/or 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, including:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Fire protection?	☐	☐	☐	☒
b) Police protection?	☐	☐	☐	☒
c) Schools?	☐	☐	☐	☒
d) Parks?	☐	☐	☐	☒
e) Other public facilities?	☐	☐	☐	☒

Category XIII Discussion: The proposed Project will have no impact on fire protection, police protection, schools, parks, or other public facilities. The Project will positively improve existing storm water facilities in the Project area. Improvements are designed and located to ensure that regular access and maintenance can take place. The proposed Project will not result in substantial adverse physical impacts associated with the new or altered facilities; therefore, the Project will have no impact on public services.

XIV. RECREATION – Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Category XIV Discussion: The proposed Project will not increase the use of existing parks or other recreational facilities nor require the expansion of such facilities. Therefore, the proposed Project will have no impact on recreation.

XV. TRANSPORTATION & TRAFFIC – Would the Project result in:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☒	☐	☐
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☒	☐	☐
f) Result in inadequate parking capacity?	☐	☐	☐	☒
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☒

Item XV-A Discussion: The proposed Project will not change any traffic element nor increase vehicle trips except during construction as a result of construction vehicles mobilizing to and from the Project site. At some locations, temporary detours may be employed to facilitate construction; however, at no time would access for local residents, school buses, or emergency vehicles be prohibited. Traffic controls will only be implemented during work hours and when it is necessary to perform work. With the implementation of the mitigation measures outlined below in *Item XV-A Mitigation Measures,* the proposed Project will not cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system; therefore, the Project will have a less than significant impact.

Item XV-A Mitigation Measures:

Mitigation Measure T-1: The contractor will be required to prepare a Traffic Control Plan for TRPA and El Dorado County review and approval. Elements of the plan will include appropriate use of signage, flaggers, traffic calming, and alternative routes to accommodate local and through traffic. In addition, EDOT would advise local residents regarding schedules for construction traffic detours through press releases and distribution of flyers in area neighborhoods well in advance of construction initiation. Access will not be prohibited, at any time, for local residents, school buses or emergency vehicles.

Item XV-E Discussion: At some locations, temporary lane closures would be necessary to facilitate construction; however, at no time would access for local residents, school buses, or emergency vehicles be prohibited. With the implementation of the mitigation measures below in *Item XV-A Mitigation Measures,* the proposed Project will not result in inadequate emergency access; therefore, the Project will have a less than significant impact.

XVI. UTILITIES & SERVICE SYSTEMS – Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider, which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Item XVI-C Discussion: The overall goal of the Project is to design and implement erosion control and water quality improvement measures that will reduce the discharge of sediment and pollutants to Lake Tahoe from County rights of way located in Christmas Valley. During Project construction, portions of the site may have exposed soil areas that, during a rain or high wind event or utility line breach, could cause minor erosion. Once construction is complete and the erosion control and water quality improvement measures are in place, surface runoff and erosion will be reduced and water quality will be improved. The Project is anticipated to have a direct benefit to the quality of nearby waterways and ultimately Lake Tahoe as well as benefits to the natural environment. With the implementation of the mitigation measures outlined in *Item VI-B Mitigation Measures,* the proposed Project will not cause significant environmental effects; therefore, the Project will have a less than significant impact.

MANDATORY FINDINGS OF SIGNIFICANCE

Environmental Issue	Yes	No
a) Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒
b) Does the Project have impacts that are individually limited, but cumulatively considerable? (Cumulatively considerable means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒
c) Does the Project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒

OTHER RESPONSIBLE AND TRUSTEE AGENCIES (whose approval is required)

☐ California Department of Fish and Game	☐ Local Agency Formation Commission (LAFCO)
☐ California Department of Forestry	☐ National Marine Fisheries Service
☐ California Department of Health Services	☒ Tahoe Regional Planning Agency
☐ California Department of Toxic Substances	☒ U.S. Army Corps of Engineers
☒ California Department of Transportation (Caltrans)	☐ U.S. Fish and Wildlife Service
☐ California Integrated Waste Management Board	☒ USFS - LTBMU
☒ California Regional Water Quality Control Board	☒ California Tahoe Conservancy

LIST OF PREPARERS

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DETERMINATION – The Environmental Review Committee finds that (choose one):

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

Signature_____Date_____
Alfred Knotts, El Dorado County

APPENDIX B:
MITIGATION MONITORING AND REPORTING PROGRAM

COUNTY OF EL DORADO **DEPARTMENT OF TRANSPORTATION**

TAHOE ENGINEERING
942b Emerald Bay Road
South Lake Tahoe, CA 96150
Phone: (530) 573-7900
Fax: (530) 541-7049

RICHARD W. SHEPARD, P. E.
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2850 Fairlane Court
Placerville CA 95667
Phone: (530) 621-5900
Fax: (530) 626-0387

CHRISTMAS VALLEY 2 ECP
MITIGATION MONITORING AND REPORTING PROGRAM

PROJECT NAME: CHRISTMAS VALLEY 2 EROSION CONTROL PROJECT

MITIGATED NEGATIVE DECLARATION #: ***To be inserted after Public Review***

REGULATORY BACKGROUND

This Mitigation Monitoring and Reporting Program (MMRP) was prepared to comply with Section 21081.6 of the Public Resources Code, which requires the following:

> "The public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation."

This MMRP is intended to ensure the effective implementation of mitigation measures that are within the authority of El Dorado County to implement (including monitoring where identified) throughout all phases of the development and operation of the Christmas Valley 2 Erosion Control Project (proposed project). Monitoring of such mitigation measures may extend through project permitting, construction, and project operations, as necessary.

The required monitoring and reporting shall be accomplished through the County's Standard Mitigation Monitoring Program and/or the Project Specific Mitigation Monitoring and Reporting Program as defined in the El Dorado County Code.

PROGRAM IMPLEMENTATION

The MMRP Checklist (Table B-1) lists all mitigation measures identified in the *CEQA Checklist* for the proposed project. In general, monitoring becomes effective at the time the action is taken on the project. Timing of monitoring is organized as follows:

- Prior to Construction: The monitoring activity consists of ensuring that a particular mitigation action has taken place prior to the beginning of any construction or grading activities.
- During Construction: The monitoring activity consists of active monitoring while grading or construction is occurring on the project site.
- Prior to Operation: The monitoring activity consists of active monitoring after initial site grading and facility construction has occurred, but prior to the initiation of project operations.
- Ongoing: The monitoring activity consists of monitoring after the grading and construction phase of the project has been completed, and relates to ongoing operation of the project.

The mitigation measures listed in Table B-1 are numbered as they are described in the *CEQA Checklist*. El Dorado County staff will be responsible for implementing and/or ensuring that the mitigation measures listed in the MMRP are undertaken for this project, to the extent such mitigation measures apply to the project within El Dorado County. Implementation includes ensuring that any required actions are included in bid documents and contracts as part of the design/build process for the project, and ensuring that the contractor(s) include specified mitigation activities in plans and specifications for construction. El Dorado County staff responsibility includes designation of certain mitigation measure responsibility to, and continued oversight of, the contractor(s) and consultant(s).

TABLE B-1. MITIGATION MONITORING AND REPORTING PROGRAM FOR THE CHRISTMAS VALLEY 2 ECP

MITIGATION MEASURE	IMPLEMENTING RESPONSIBILITY[1,3]	MONITORING RESPONSIBILITY[2,3]	TIMING AND FREQUENCY	VERIFICATION OF COMPLIANCE (INITIALS/DATE)
I. AESTHETICS				
No mitigation measures required.				
II. AGRICULTURAL RESOURCES				
No mitigation measures required.				
III. AIR QUALITY- Item III-B Mitigation Measures				
Mitigation Measure AQ-1: The construction contractor shall implement Best Management Practices as they relate to air quality from the TRPA Code of Ordinances and Handbook of Best Management Practices.	DOT or its Contractor	DOT	Prior to and During Construction	
Mitigation Measures AQ-2: The construction contractor shall water exposed soil twice daily, or as needed, to control wind borne dust. All haul/dump truckloads shall be covered securely.	DOT or its Contractor	DOT	Prior to and During Construction	
Mitigation Measure AQ-3: At a minimum of three times per week, remove from all adjacent streets, all dirt and mud which has been generated from or deposited by construction equipment going to and from the construction site.	DOT or its Contractor	DOT	Prior to and During Construction	
Mitigation Measure AQ-4: On-site vehicle speed shall be limited to 15 miles per hour on unpaved surfaces.	DOT or its Contractor	DOT	Prior to and During Construction	
Mitigation Measure AQ-5: Construction activities shall comply with EDCAQMD Rule 223-Fugitive Dust, so that emissions do not exceed hourly levels. The contractor will prepare and submit a Dust Suppression Plan, and will use approved BMP practices as outlined in the TRPA Handbook of Best Management Practices and the EDCAQMD Rule 223 to address fugitive dust.	DOT or its Contractor	DOT	Prior to and During Construction	
Mitigation Measure AQ-6: Construction equipment idling shall be restricted to 5 minutes when it is not in use.	DOT or its Contractor	DOT	Prior to and During Construction	
Mitigation Measure AQ-7: The construction contractor shall post a publicly visible sign on the Project site during construction operations that specifies the telephone number and person/agency to contact for complaints and/or inquiries on dust generation and other air quality problems resulting from Project construction.	DOT or its Contractor	DOT	Prior to and During Construction	

MITIGATION MEASURE	IMPLEMENTING RESPONSIBILITY[1,3]	MONITORING RESPONSIBILITY[2,3]	TIMING AND FREQUENCY	VERIFICATION OF COMPLIANCE (INITIALS/DATE)
IV. BIOLOGICAL RESOURCES- Item IV-A Mitigation Measures				
Mitigation Measure B-1: Prior to construction, the County will confirm if any new special status species have been identified by the USFS or the CDFG (via the California Natural Diversity Database - *CNDDB*) within, or immediately adjacent to, the Project area. If new wildlife activity or occurrences have been identified, the appropriate USFS LOP and/or TRPA No Disturbances Zone will be observed. If new plant occurrences have been identified, an additional plant survey will be conducted to locate the species and determine appropriate measures for avoiding disturbance.	DOT	DOT	Prior to Construction	
Mitigation Measure B-2: If final design requires work within or adjacent to the riverine habitat found in the southern reach of the river, an assessment or survey will be conducted for the mountain yellow-legged frog in the spring prior to construction. If any detections are made, work will not be allowed in the area that would directly impact the Upper Truckee River or riverine habitat in which they exist.	DOT or its Consultant	DOT	Prior to Construction	
Mitigation Measure B-3: If final design requires work within 0.5 miles of the montane riparian habitat found along the Upper Truckee River, an assessment or survey will be conducted for the willow flycatcher in the spring prior to construction. If any detections are made, work will not be allowed within 0.5 miles of the occurrence during the breeding season.	DOT or its Consultant	DOT	Prior to Construction	
Mitigation Measure B-4: To comply with the Migratory Bird Treaty Act for the yellow warbler, construction will not occur on parcels with meadow or riparian habitat during the nesting season (June 1st - August 15th). If construction is necessary during the nesting season, an assessment or survey will be conducted for the yellow warbler in the spring prior to construction.	DOT or its Consultant	DOT	Prior to Construction	
Mitigation Measure B-5: If special status plant species are found prior to or during construction, these populations will be identified and protected with appropriate measures per TRPA and the USFS.	DOT or its Consultant	DOT	Prior to Construction	
Mitigation Measure B-6: The County will adopt and implement a Noxious Weed Mitigation Plan to decrease habitat vulnerability to or below pre-construction levels. The Plan includes pre-construction elements such as treatment of existing noxious weed populations identified in the Project area, as well as during and post-construction elements.	DOT or its Consultant	DOT	Prior to and During Construction	

MITIGATION MEASURE	IMPLEMENTING RESPONSIBILITY[1,3]	MONITORING RESPONSIBILITY[2,3]	TIMING AND FREQUENCY	VERIFICATION OF COMPLIANCE (INITIALS/DATE)
IV. BIOLOGICAL RESOURCES - Item IV-C Mitigation Measures				
Mitigation Measure B-7: The amount of disturbance will be minimized by restricting the contractor's access with equipment through the use of construction limit fencing. All disturbed areas will be stabilized and revegetated with native seed and compost. All revegetated areas will be irrigated for a minimum of two years following construction.	DOT or its Consultant	DOT	Prior to and During Construction	
Mitigation Measure B-8: Upon completion of the wetland delineation, Project design will be modified, as needed, to avoid or minimize impacts to wetlands and/or other WOUS. Should direct or indirect impacts to wetlands or WOUS be identified during final design. The County will obtain a 404 Permit and/or 401 Water Quality Certification and will implement the required mitigation measures. The County will obtain a TRPA EIP Project Permit and will implement the required mitigation measures related to the disturbance of SEZs (if applicable).	DOT or its Consultant	DOT	Prior to Construction	
Mitigation Measure B-9: Should any construction work be required in or adjacent to wetlands, it shall be conducted from existing pavement and/or confined to the smallest area possible to complete the work by restricting the contractor's access with equipment through the use of construction limit fencing. Post construction mitigation measures may include restoration, revegetation, enhancement of SEZ vegetation, removal of fill material, and removal of noxious weeds.	DOT or its Consultant	DOT	Prior to and During Construction	
Mitigation Measure B-10: All excavated material not required to complete the work shall be removed from the wetland areas and contained by appropriate BMP measures.	DOT or its Consultant	DOT	Prior to and During Construction	
V. CULTURAL RESOURCES				
No mitigation measures required.				

MITIGATION MEASURE	IMPLEMENTING RESPONSIBILITY[1,3]	MONITORING RESPONSIBILITY[2,3]	TIMING AND FREQUENCY	VERIFICATION OF COMPLIANCE (INITIALS/DATE)
VI. GEOLOGY AND SOILS - Item VI-B Mitigation Measures				
Mitigation Measure G-1: The contractor will be required to prepare and submit a Stormwater Pollution Prevention Plan (SWPPP) prior to construction. As part of the SWPPP, the contractor will be required to prepare an Emergency Action Plan, Temporary BMP Plan, Spill Contingency Plan, Dust Suppression Plan, and Dewatering Contingency Plan. The Emergency Action Plan will state the plan for dealing with a utility line breach. The Spill Contingency Plan will state the plan for dealing with accidental spills and must include the requirement for spill prevention kits to be available on site to contain any accidental spills. The Temporary BMP Plan will include design and specifications that clearly detail the required temporary construction BMPs that shall be installed prior to and throughout construction to prevent any erosion that may occur during a rain or wind event. The Dust Suppression Plan shall control dust to prevent transport of such materials off the project site, into any surface water, or into any drainage course. The Dewatering Contingency Plan will outline the steps that will be required if groundwater is intercepted. The SWPPP will be in accordance with the TRPA and Lahontan requirements for storm water pollution prevention.	DOT and its Contractor	DOT	Prior to and During Construction	
Mitigation Measure G-2: The contractor will also be required to attend the TRPA pre-grade inspection meeting onsite to ensure that BMPs are in place per the SWPPP before work commences.	DOT and its Contractor	DOT	Prior to Construction	
Mitigation Measure G-3: EDOT will also conduct daily inspections of BMP measures to ensure they are properly maintained and properly placed for maximum benefit. As part of this process, DOT and/or contractor will complete formal inspection forms for submittal to regulatory agencies to demonstrate deficiencies and that corrective action has been taken.	DOT and its Contractor	DOT	Prior to and During Construction	

MITIGATION MEASURE	IMPLEMENTING RESPONSIBILITY[1,3]	MONITORING RESPONSIBILITY[2,3]	TIMING AND FREQUENCY	VERIFICATION OF COMPLIANCE (INITIALS/DATE)
VII. HAZARDS AND HAZARDOUS MATERIALS - Item VII-A and Item VII-B Mitigation Measures				
Item VI-B Mitigation Measures will be implemented				
VIII. HYDROLOGY AND WATER QUALITY - Item VIII-A and Item VIII-F Mitigation Measures				
Item VI-B Mitigation Measures will be implemented				
IX. LAND USE AND PLANNING				
No mitigation measures required.				
X. MINERAL RESOURCES				
No mitigation measures required.				
XI. NOISE - Item XI-A Mitigation Measures				
Mitigation Measure N-1: In order to mitigate the impacts of increased ambient noise levels, construction noise emanating from all construction activities shall only occur between the hours of 8:00 am and 6:30 pm per TRPA Code, unless other hours are approved by TRPA.	DOT or its Contractor	DOT	During Construction	
Mitigation Measure N-2: All construction equipment and vehicles used for Project construction will be fitted with the factory installed muffling devices and will be maintained in good working order. EDOT will advise potentially affected residents of the proposed construction activities including duration, schedule of activities, and contacts for filing noise complaints. EDOT staff and/or contractor will attempt to respond to all noise complaints received within one working day and resolve the issue as soon as possible.	DOT or its Contractor	DOT	Prior to and During Construction	
XII. POPULATION AND HOUSING				
No mitigation measures required.				
XIII. PUBLIC SERVICES				
No mitigation measures required.				
XIV. RECREATION				
No mitigation measures required.				

MITIGATION MEASURE	IMPLEMENTING RESPONSIBILITY[1,3]	MONITORING RESPONSIBILITY[2,3]	TIMING AND FREQUENCY	VERIFICATION OF COMPLIANCE (INITIALS/DATE)
XV. TRANSPORTATION AND TRAFFIC - Item XV-A Mitigation Measure				
Mitigation Measure T-1: The contractor will be required to prepare a Traffic Control Plan for TRPA and El Dorado County review and approval. Elements of the plan will include appropriate use of signage, flaggers, traffic calming, and alternative routes to accommodate local and through traffic. In addition, EDOT would advise local residents regarding schedules for construction traffic detours through press releases and distribution of flyers in area neighborhoods well in advance of construction initiation. Access will not be prohibited, at any time, for local residents, school buses or emergency vehicles.	DOT or its Contractor	DOT	Prior to and During Construction	
XVI. UTILITIES AND SERVICE SYSTEMS				
No mitigation measures required.				

[1] The department listed in the Implementing Responsibility column is the department responsible for conducting the mitigation measure.

[2] The department listed in the Monitoring Responsibility column is responsible for verifying that compliance with the mitigation measure occurs and that all monitoring and reporting is completed.

[3] Responsible Entity: DOT-Department of Transportation

APPENDIX C:
TABLES

Table 1. Special Status Plant Species List and Habitat Analysis

Special Status Species	Regulatory Status (Federal; State; TRPA; CNPS)	Habitat Requirements	Identification Period	Potential for Occurrence in the Project Area and Results of Survey
Alpine dusty maidens *(Chaenactis douglasii* var. *alpine)*	2	Alpine boulders and rock fields. Open subalpine to alpine gravel and crevices, granitic substrate, from 8,900 to 11,200 feet.	July to September	Unlikely; outside of elevation range. Not encountered.
Bolander's candle moss *(Bruchia bolanderi)*	S, 2	Meadows in mixed conifer and subalpine communities, streams, wet meadows, from 5,577 to 9,186 feet.	Moss	Not encountered. May occur.
Branched collybia *(Dendrocollybia racemosa)*	S	Grows on decayed, blackened mushrooms or coniferous duff, usually within old growth stands.	Fall and Winter	Unlikely; site lacks suitable habitat. Not encountered. Documented in LTBMU.
Blandow's bog-moss *(Helodium blandowii)*	S, 2	Bogs and fens that are not too rich in iron. Elevation range 6,562 to 8,859 feet.	Moss	Unlikely; site lacks suitable habitat. Not encountered.
Broad-nerved hump-moss *(Meesia uliginosa)*	S, 2	Montane coniferous forests, meadows, and seeps. Elevation range 4,265 to 9,186 feet.	Moss	Documented in LTBMU. Not observed on site. May occur. Found within 5 miles of the site.
Common moonwort *(Botrychium lunaria)*	S, 2	Montane coniferous forest, meadows, and seeps. Elevation range 7,524 to 11,220 feet.	Fertile in August	Unlikely; outside of elevation range. Not encountered.
Cup Lake draba *(Draba asterophora* var. *macrocarpa)*	S, SI, 1B	Alpine boulder and rock fields in shade of granitic rocks in subalpine coniferous forest. Elevation range 8,202 to 9,235 feet.	Identifiable from July to August	Unlikely; outside of elevation range. Not encountered. Found within 5 miles of the site.
Galena Creek rockcress *(Arabis rigidissima* var. *demote)*	SI, 1B	Broad-leaved upland forest, upper montane conifierous forest on rocky substrates. Known in CA from only two occurrences near Martis Peak and in NV from eleven occurrences in the Carson Range. Elevation range 7,398 to 8,398 feet.	Identifiable in August	Unlikely; site lacks suitable habitat and is not within the known elevation range of this species. Not encountered.
Kellogg's lewisia (*Lewisia kelloggii* ssp. *hutchisonii*)	S	Ridge tops or flat open spaces with widely spaced trees and sandy granitic to erosive volcanic soil. Elevation range 5,000 to 7,000 feet.	June to July	Unlikely; site lacks suitable habitat. Not encountered.

Special Status Species	Regulatory Status (Federal; State; TRPA; CNPS)	Habitat Requirements	Identification Period	Potential for Occurrence in the Project Area and Results of Survey
Kellogg's lewisia *(Lewisia kelloggii* ssp. *kelloggii)*	S	Ridge tops or flat open spaces with widely spaced trees and sandy granitic to erosive volcanic soil. Elevation range 5,000 to 7,000 feet.	June to July	Unlikely; site lacks suitable habitat. Not encountered.
Long-petaled lewisia *(Lewisia longipetala)*	S, SI, 1B	Alpine boulder and rock fields in subalpine coniferous forest. Elevation range 8,325 to 9,740 feet.	Identifiable June to August	Unlikely; site lacks suitable habitat and is not within the known elevation range of this species. Not encountered. Found within 5 miles of the site.
Mariposa sedge (*Carex mariposana*) (also knows as *Carex paucifructus*)	SI	Meadows and slopes in coniferous forests. Elevation range 4,000 and 11,400 feet.	Identifiable June to August	Unlikely; no known occurrences in LTMBU. Not encountered.
Marsh skullcap *(Scutellaria galericulata)*	2	Lower montane coniferous forest, meadows and seeps, marshes and swamps. Elevation range from sea level to 6,900 feet.	Blooms June to September	Not observed on site. May occur. Found within 5 miles of the site.
Marsh willowherb *(Epilobium palustre)*	2	Bogs and fens, meadows and seeps. Known in California only from Grass Lake, in El Dorado County at 7,200 feet elevation.	Blooms July to August	Unlikely; site has marginal habitat. Not encountered. Found within 5 miles of the site.
Mingan moonwort *(Botrychium minganense)*	S, 2	Lower montane coniferous forest. Elevation range 4,950 to 6,039 feet.	Fronds mature June to September	Unlikely. Outside of elevation range. Not encountered.
Nuttall's pondweed *(Potamogeton epihydrus* ssp. *nuttallii)*	2	Marshes and swamps, associated freshwater habitats. Elevation range 1,320 to 6,270 feet.	Blooms July to August	Site has marginal habitat. Not encountered. May occur.
Oregon fireweed *(Epilobium oreganum)*	1B	Bogs and fens, montane coniferous forest. Elevation range 1,650 to 7,392 feet.	Blooms June to September	Not observed on site. May occur in riparian areas where the more common *Epilobium angustifolium* was observed. Found within 5 miles of the site.
Scalloped moonwort *(Botrychium crenulatum)*	S, 2	Lower montane coniferous forest, meadows and seeps, marshes and swamps. Elevation range 4,950 to 10,800 feet.	Fronds mature June to September	Not observed on site. May occur. Documented in LTBMU.

Special Status Species	Regulatory Status (Federal; State; TRPA; CNPS)	Habitat Requirements	Identification Period	Potential for Occurrence in the Project Area and Results of Survey
Shore sedge *(Carex limosa)*	2	Bog and fens, lower montane coniferous forest, meadows and seeps, marshes and swamps. Elevation range 3,960 to 8,910 feet.	Perennial herb, blooms June to August	Not observed on site. May occur. Found within 5 miles of the site.
Short-leaved hulsea *(Hulsea brevifolia)*	S, 1B	Lower and upper montane coniferous forests. Granitic or volcanic, sandy, or gravelly substrate. Elevation range 4,950 to 10,560 feet.	Blooms May to August	Not observed on site. May occur.
Slender moonwort *(Botrychium lineare)*	FC, S, 2	Upper montane coniferous forest. Elevation range from sea level to 10,640 feet.	Fronds mature June to September	Not observed on site. May occur.
Slender-leaved pondweed *(Potamogeton filiformis)*	2	Marshes and swamps, associated freshwater habitats. Elevation range 990 to 7,095 feet.	Blooms May to July	Site has marginal habitat. Not encountered. May occur.
Starved daisy *(Erigeron miser)*	S, 1B	Rocky places in upper montane coniferous forest. Elevation range 6,072 to 8,646 feet.	Identifiable during blooming phase which extends from June to October	Not observed on site. May occur.
Subalpine cryptantha *(Cryptantha crymophila)*	1B	Subalpine forest (volcanic, rocky). Elevation range 8,500 to 10,500 feet.	Identifiable from July to August	Unlikely; outside of elevation range. Not encountered.
Subalpine fireweed *(Epilobium howellii)*	S, 1B	Lower montane coniferous forest, meadows and seeps. Elevation range 6,600 to 8,910 feet.	Blooms July to August	Unlikely; outside of elevation range. Not encountered.
Tahoe draba *(Draba asterophora* var. *asterophora)*	S, SI, 1B	Alpine boulder and rock fields in crevices, and open talus slopes of decomposed granite in subalpine coniferous forest. Elevation range 8,325 to 11,670 feet.	Identifiable from July to August	Unlikely; outside of elevation range. Not encountered. Found within 5 miles of the site.
Tahoe yellow cress *(Rorippa subumbellata)*	FC, S, CE, SI, 1B	Shoreline supporting decomposed granitic soils; known only from the shoreline of Lake Tahoe. Elevation range 6,210 to 6,230 feet.	Identifiable during bloom phase which extends from May to September	Unlikely; site lacks suitable habitat and is not within the known elevation range of this species. Not encountered. Documented in LTBMU.

Special Status Species	Regulatory Status (Federal; State; TRPA; CNPS)	Habitat Requirements	Identification Period	Potential for Occurrence in the Project Area and Results of Survey
Three-ranked hump-moss *(Meesia triquetra)*	S, 2	Bogs and fens, meadows and seeps, upper montane coniferous forest. Elevation range 4,290 to 8,250 feet.	Moss	Not observed on site. May occur. Found within 5 miles of the site.
Tiehm's rockcress *(Arabis tiehmii)*	S; 1B	High elevation metavolcanic or decomposed granite ridges and steep slopes. Elevation range 9,745 to 11,775 feet.	Identifiable from July to August	Unlikely; site lacks suitable habitat and is not within the known elevation range of this species. Not encountered.
Torrey's buckwheat *(Eriogonum umbellatum* var. *torreyanum)*	S, 1B	Meadows and seeps, upper montane coniferous forest; volcanic, rocky soils. Elevation range 6,121 to 8,646 feet.	Identifiable from July to September	Not observed on site. May occur.
Upswept moonwort *(Botrychium ascendens)*	S, 2	Lower montane coniferous forest. Elevation range 4,950 to 6,039 feet.	Fertile July through August	Unlikely; outside of elevation range. Not encountered.
Veined water lichen *(Hydrothyria venosa)*	S	Mixed coniferous forest, bogs, fens, wet meadows, and seeps. Elevation range 4,000 to 8,000 feet.	Lichen	Not observed on site. May occur.
Water bulrush (*Scirpus subterminalis)*	2	Marshes and swamps, montane lake margins, in shallow water. Elevation range 2,460 to 7,660 feet.	Blooms from July to August	Site has marginal habitat. Not encountered. May occur. Found within 5 miles of the site.
Western goblin *(Botrychium montanum)*	S, 2	Lower montane coniferous forest. Elevation range 4,950 to 6,039 feet.	Fronds mature July to August	Unlikely; outside of elevation range. Not encountered.

Federally Listed Species:		**California State Listed Species:**	**Tahoe Regional Planning Agency:**	**CNPS List Categories:**
FE = federally endangered	FC = candidate	CE = California state endangered	SI = TRPA special interest species	1A = plants presumed extinct in CA 1B = plants rare, threatened, or endangered in CA and elsewhere
FT = federally threatened	PT = proposed threatened	CT = California state threatened		2 = plants rare, threatened, or endangered in CA, but common elsewhere
S = USFS sensitive	FPD = proposed for delisting	CR = California state rare		3 = plants about which we need more information
	FD = delisted	CSC = California species of special concern	**Other Special Status Listing:**	4 = plants of limited distribution
			SLC = species of local or regional concern or conservation significance	

Sources: Foothill Associates, NCE, El Dorado DOT 2007, TRPA 2007, CNPS 2001, CNDDB 2007.

Notes: No special status species were found within the project area.
The LTBMU does not currently support any plant species listed as threatened or endangered under the ESA.
Federal Species of Concern no longer exist as a category.

Table 2. Special-Status Wildlife Species Considered for the Christmas Valley 2 Erosion Control Project

Common Name and *Scientific Name*	Regulatory Status[1]			Habitat Associations	Potential for Occurrence
	Federal	State (CA)	Other		
Birds					
Northern goshawk *Accipiter gentilis*	FSS	SSC	TRPA	Yearlong residents and seasonal migrants. Usually nest on north-facing slopes near water and require mature conifer or aspen forests with large diameter trees, dense canopy cover, and an open under story interspersed with meadows or shrub patches. Open areas provide foraging opportunities, while logs, snags, and broken-top trees are used as "plucking posts" to de-feather prey. Goshawks maintain alternate nest sites and will often reuse old nest structures.	**Low.** Surveys conducted in 2006 for Christmas Valley Phase 1 did not detect any goshawks. In 2006, the USFS conducted surveys at Echo Lake and Hawley Grade, both of which found no detections or nests. Two historical territories within 3 miles of the project were last active in 1981. Suitable breeding habitat is not present on or adjacent to the project site.
Golden eagle *Aquila chrysaetos*		FP	TRPA	Yearlong migrants and residents. Requires open areas such as shrub habitats and meadows for hunting. Nests are built on platforms located on cliffs and large, open trees. Mountain terrains with wide plateaus, canyons, or cliffs are most suitable for golden eagles.	**Low.** No suitable breeding habitat in or adjacent to the project area. May occasionally pass through or forage in project vicinity.
Olive-sided flycatcher *Contopus cooperi*		SSC		Common migrant. Preferred nesting habitats include mixed conifer, montane hardwood-conifer, red fir, and lodgepole pine. Requires large, tall trees, usually conifers, for nesting and roosting sites; also lofty perches, typically the dead tips or uppermost branches of the tallest trees in vicinity, for singing posts and hunting perches.	**Known to occur.** During the 2007 field reconnaissance visit made by NCE biologist Madelyn Comer, olive-sided flycatchers were documented adjacent to, but not within, the project area.
Yellow warbler *Dendrocica petechia brewsteri*		SSC	MIS	Common seasonal migrants (summer breeding only). Nests are most often made in shrubs found in riparian areas dominated by willows. Very susceptible to brown-headed cowbird parasitism.	**Known to occur.** During the 2007 field reconnaissance visit made by NCE biologist Madelyn Comer, yellow warblers and appropriate nesting habitat were documented.
Willow flycatcher *Empidonax traillii*	FSS	SE		Rare to locally uncommon summer residents in the Sierra Nevada and Cascade Range. Suitable habitat typically consists of broad, flat meadows that support riparian deciduous shrubs (particularly willows) and retain soil moisture throughout the nesting season (May-July). Three critical habitat components are sufficient meadow size, access to water, and presence of willows. Suitable nesting habitat must have willows at least 6.5 feet high with foliage density of 50-70% and low, exposed branches present. Generally, willow flycatchers inhabit meadows larger than 20 acres at 2,000-8,000 feet in elevation and do not typically utilize willow clumps along steep terrain, or narrow bands bordered by conifer forests.	**Not likely to occur.** Marginal habitat on the eastern edge of the project boundary. Historic and recently occupied sites are located south of project area, near Grass Lake. Habitat in the project area is marginal, disturbed, and within an urban area. Nesting is not expected to occur in or near the project area.
Bald eagle *Haliaeetus leucocephalus*	FSS	SE FP	TRPA	Yearlong residents and migrants. Utilize shorelines along large bodies of water and river courses for both nesting and wintering. Snags, broken-topped trees, or rocks near water are required for	**Low.** In Lake Tahoe, the only known nesting sites are near Emerald Bay and Marlette Lake. Wintering sites are located in Taylor, Tallac, Pope,

Common Name and *Scientific Name*	Regulatory Status[1]			Habitat Associations	Potential for Occurrence
	Federal	State (CA)	Other		
				foraging and nesting. Most nests are located in large trees with open branches within 1 mile of a water body. Bald eagle territories support multiple alternate nests that are re-used from year to year. In Lake Tahoe, the only known nesting sites are near Emerald Bay and Marlette Lake. Wintering sites are located in Taylor, Tallac, Pope, and Upper Truckee Marshes.	and Upper Truckee Marshes. Individuals may forage and perch occasionally in project vicinity.
Osprey *Pandion haliaetus*			TRPA	Yearlong residents. Osprey diets are almost entirely fish; therefore, its range has a close association with open, calm, and clear waters for feeding. Platform nests are built atop large snags, living trees, and human structures. Tall, open trees called "pilot trees" are required nearby for landing approaches and flight practice for fledglings.	**Low.** Project site and vicinity may occasionally be used for foraging, but marginal habitat conditions and a lack of open water would prevent nesting in or near project area.
Bank swallow *Riparia riparia*		ST		Local populations have high imperilment and are suspected to be decreasing. Requires banks and cliffs with fine, sandy soils near water bodies. Feeds primarily over open riparian areas.	**Not expected to occur.** Detections were reported near the Tahoe Keys in the 60's and 70's (CNDDB 2008). Bank swallows could pass through or forage in the area, but there are not appropriate nesting sites in project vicinity.
Waterfowl *Various species*			TRPA	Species range from common, yearlong residents, to rare, seasonal migrants. Found in wetlands and waters such as lakes, creeks, drainages, marshes, and wet meadows. Breeding usually requires shallow-water areas with tall, dense herbaceous vegetation or low shrubbery for nest sites nearby.	**Likely to occur**. Riparian areas provide suitable foraging habitat for small numbers of waterfowl; however, nesting is unlikely due to existing disturbances and lack of appropriate nest sites.
Mammals					
Pallid bat *Antrozous pallidus*		SSC		Uncommon year-round residents. Only general habitat requirements known. These are dry shrub-lands, piñyon-juniper woodlands, and occasionally montane forests. Most common roost locations are caves, mines and rocky outcrops.	**Not expected to occur.** Only two detections have been made in Lake Tahoe: Cave Rock and possibly Heavenly Valley.
Sierra Nevada mountain beaver *Aplodontia rufa californica*		SSC		Localized populations in the Sierra Nevada. The Lake Tahoe population is unknown, but expected to be large. Typical habitat is montane riparian with moderate canopy cover, dense understory, and close proximity to water. Deep, friable soils are required for burrowing.	**Low.** Occurrences have not been documented in vicinity; however, appropriate beaver habitat is present along the Upper Truckee River.
Townsend's big-eared bat *Corynorhinus townsendii*	FSS	SSC		Uncommon. Require caves, mines, tunnels, or buildings for roosts. Other than available roost sites, and a tendency to occur in mesic uplands, little habitat associations have been defined. Studies suggest that these bats select roosts based on internal structural conditions, rather than surrounding vegetation components. Optimal roosts have large entrances (at least 6" by 12"), are 8-16 feet high, and have a large internal area that	**Not expected to occur.** No occurrences reported within Tahoe Basin.

Common Name and *Scientific Name*	Regulatory Status[1]			Habitat Associations	Potential for Occurrence
	Federal	State (CA)	Other		
				would permit flight.	
Spotted bat *Euderma maculatum*		SSC		Uncommon. Habitats occupied include arid deserts, grasslands and mixed conifer forests. Prefers to roost in rock crevices and cliffs.	**Not expected to occur.** No occurrences reported within Tahoe Basin.
California wolverine *Gulo gulo luteus*	FSS	ST FP		Locally uncommon. Two elements that define their habitat are the opportunity for natal dens (rock outcrops and caves at higher elevations) and areas free of human disturbance. Although wolverines use conifer forests for cover and wintering, they also rely heavily on non-forest alpine habitats, differentiating them from fisher and marten.	**Not expected to occur.** Insufficient suitable habitat in or adjacent to the project area. One historical wolverine occurrence within 3 miles of the project area was recorded in 1941, but it is not expected that populations or individuals have sustained since then.
Sierra Nevada snowshoe hare *Lepus americanus tahoensis*		SSC		Local population is unknown but suspected to be large and decreasing. Most common in montane riparian habitats with thickets of alders and willows, and in stands of young conifers interspersed with chaparral.	**Moderate**. Reported historical occurrence near Echo Lake. Suitable habitat is present along the Upper Truckee River and undeveloped lodgepole pine stands.
Western white-tailed jackrabbit *Lepus townsendii townsendii*		SSC		Uncommon to rare year-round resident. Preferred habitats are sagebrush, subalpine conifer, juniper, alpine dwarf-shrub, and perennial grassland. Also uses low sagebrush, wet meadow, and early successional stages of various conifer habitats.	**Low.** Could potentially forage in wet meadow and sagebrush habitat, but it is not likely they would den in the project area as existing disturbances and development levels are high.
Pacific fisher *Martes pennanti pacifica*	FC	SSC		Rare residents. Woody debris, vegetated understory, and continuous, dense canopy cover is essential for foraging and cover. Dens are made in cavities of large conifers; both snags and live trees are used. Rarely enter areas of low canopy cover or patches of large clearings.	**Not expected to occur.** Insufficient suitable habitat in or adjacent to the project area.
Mule deer *Odocoileus hemionus*			TRPA	Common to abundant migrants. Shrubs provide food, cover, and thermoregulation, making them essential habitat criteria. Openings interspersed through dense thickets and abundant edges are preferred. Access to water and mineral licks are also critical features to suitable habitat.	**Moderate**. Mule deer could occasionally use the small meadow located on the east/mid-section of project boundary for foraging, but they are not expected to use it as a fawning site due to high levels of existing human and urban exposure.

Common Name and *Scientific Name*	Regulatory Status[1]			Habitat Associations	Potential for Occurrence
	Federal	State (CA)	Other		
American badger *Taxidea taxus*		SSC		Local population is unknown but expected to be small and decreasing. Require friable soils and open shrub or herbaceous areas with sufficient prey (small mammals, reptiles, and some insects).	**Low.** Two specimens were trapped and collected near Echo Lake at an unspecified date (at least 20 years ago, CNDDB 2008). Appropriate habitat is present along Upper Truckee River but existing disturbances make their occurrence rare.
Sierra Nevada red fox *Vulpes vulpes necator*	FSS	ST		Very rare in Lake Tahoe. Their local population size has high imperilment, but numbers are suspected to be increasing. Although most habitats found in the Lake Tahoe Basin are suitable for Sierra Nevada red fox, they are very rare in this region. Habitats they are found in include wet meadows, sub-alpine conifers, lodgepole pine, red fir, aspen, montane chaparral, riparian, mixed conifer, and Jeffrey pine. Open areas for hunting and covered areas for den sites are required, making habitat edges ideal.	**Not expected to occur.** Presumed extirpated from the Tahoe Basin (Schlesinger and Romsos 2000).
Amphibians					
Yosemite toad *Bufo canorus*	FC	SSC		Endemic to California. Occur between 6,400 to 11,300 ft, but are most common above 8,000 ft. Preferred habitats are wet mountain meadows and lake shores, with lodgepole pines and small mammal burrows nearby for cover during inactive periods.	**Not expected to occur.** Outside of the known range for the species.
Mountain yellow-legged frog *Rana muscosa*	FC FSS			Local populations are unknown but suspected to be decreasing. They occur at elevations over 6000 ft and are seldom found more than a few feet from water. Prefers sunny riverbanks with sloping banks, submerged rocks and vegetation.	**Low.** The only location in the Tahoe Basin where mountain yellow-legged frogs have been consistently detected is in the Trout Creek drainage (Roth, Thayer et al. 2005). No suitable breeding habitat present in the project vicinity.
Northern leopard frog *Rana pipiens*	FSS	SSC		Locally, they have a high imperilment and are presumed to be extirpated from the basin because of a lack of sighting in the last 30 years. Occurs in or near permanent and semi-permanent water with submerged and emergent aquatic vegetation.	**Not expected to occur.** They are presumed to be extirpated from the basin because of a lack of sighting in the last 30 years (Schlesinger and Romsos 200).
Sierra Nevada yellow-legged frog *Rana sierrae*		SSC		Rare. Inhabits lakes, meadow streams, isolated pools, sunny riverbanks. Open stream and lake edges with a gentle slope up to a depth of 2-3 inches seem to be preferred.	**Not expected to occur.** No documented occurrences in this region, and the marginal riparian habitat within the project would not support this species.
Fish					
Lahontan cutthroat *Oncorhynchus clarki henshawi*	FT			Re-introduced, localized populations at the mouth of tributaries draining Fallen Leaf Lake, and the headwaters of the Upper Truckee River watershed. Occur in cool, flowing water and favor relatively silt free, rocky areas. Well-vegetated and stable stream banks are important for cover.	**Not expected to occur.** Extirpated from the Lake Tahoe Basin in 1938. Reintroduction efforts are under way in Fallen Leaf Lake, and the southern portions of the Upper Truckee River (Cobourn and Seagle 2004; Hodge 2000).

[1]Regulatory Status Codes

Federal:	**State (CA):**	**Other:**
FE =Federally Endangered under the ESA	ST = State Threatened under the CESA	TRPA =Tahoe Regional Planning Agency (TRPA) Special Interest Species
FT = Federally Threatened under the ESA	SE = State Endangered under the CESA	MIS = Management Indicator Species as designated under the Sierra Nevada Forests MIS 2007 Amendment
FC = Federal Candidate under the ESA	SCD = State Candidate for Delisting under the CESA	
FSS = US Forest Service Sensitive Species	SSC = Species of Special Concern under the California Department of Fish and Game	
	FP = Fully Protected under the California Department of Fish and Game	

Sources: California Natural Diversity Database, CADFG 2008; USFS-LTBMU; TRPA