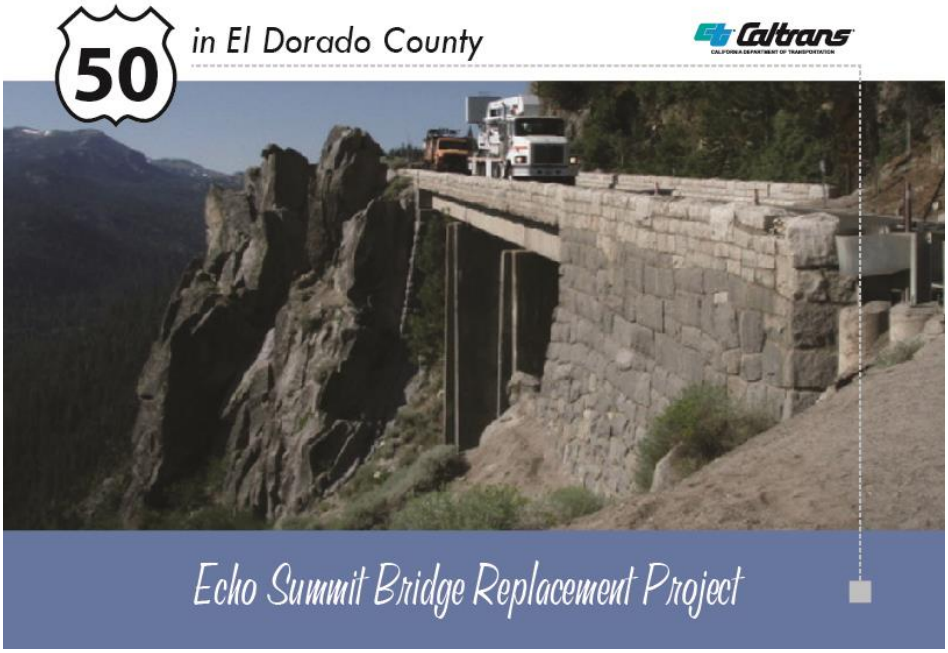
Echo Summit Sidehill Viaduct Replacement Project

EL DORADO COUNTY, CALIFORNIA
03–ED–50 (PM 67.3)
EFIS: 03-1300-0135
EA: 03-3F530

Initial Study with Proposed Mitigated Negative Declaration



Prepared by the
State of California Department of Transportation

October 2016

General Information about This Document

What is in this document:

The California Department of Transportation (Caltrans) has prepared this Initial Study, which examines the potential environmental impacts of the proposed project located in El Dorado County, California. The document tells you why the project is being proposed, how the existing environment could be affected by the proposed project, and the proposed avoidance, minimization, and/or mitigation measures.

What you should do:

- Please read this document.
- Additional copies of this document are available for review at:
  - ❖ Caltrans District 3 Office of Environmental Management located at 703 B St., Marysville, CA 95901 during weekdays between 8:00 a.m. and 5:00 p.m.;
  - ❖ El Dorado County Library, 345 Fair Lane, Placerville, CA 95667; and
  - ❖ South Lake Tahoe Library, 1000 Rufus Allen Blvd. South Lake Tahoe, CA 96150.
- This document may be downloaded at the following website: http://www.dot.ca.gov/dist3/departments/envinternet/eldorado.htm
- We would like to hear what you think. If you have any comments regarding the proposed project, please send your written comments to Caltrans by the deadline.
- Submit comments via postal mail to:

  Napassakorn Pongsmas, Environmental Coordinator
  Office of Environmental Management (M-2)
  California Department of Transportation
  703 B Street
  Marysville, CA 95901

- Send comments via e-mail to: napassakorn.pongsmas@dot.ca.gov.
- Be sure to send comments by the deadline: November 3, 2016.

What happens next:

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

For individuals with sensory disabilities, this document can be made available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Steven Nelson, Public Information Office, California Department of Transportation, 703 B St., Marysville, CA 95901; (530) 741-4566. Voice, or use the California Relay Service TTY number, 711.

SCH: 2015022055
03-ED-50-PM 67.3
03-1300-0135
03-3F530

Echo Summit Sidehill Viaduct Replacement Project

INITIAL STUDY with Proposed Mitigated Negative Declaration

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

THE STATE OF CALIFORNIA
Department of Transportation

Suzanne Melim 10/3/2016

Suzanne Melim, Office Chief
North Region Environmental Services, District 3
State of California Department of Transportation
CEQA Lead Agency

Date

State of California
Department of Transportation

SCH: 2015022055
03-ED-50-PM 67.3
03-1300-0135
03-3F530

Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to replace the Echo Summit Sidehill Viaduct (Bridge #25-0044) at post mile 67.3 on U.S. Highway 50 in El Dorado County with a new single-span bridge. The project also includes upgrading existing metal beam guardrail to the current standards, constructing concrete transition barriers from the new bridge rail to the upgraded guardrail, grinding the asphalt concrete at the bridge approach, and placing a smooth transition from the approach roadway to the new portland cement concrete deck. Also, pot holing, paving, and striping may be completed on a selected detour route in order to prepare for detoured traffic during construction.

Determination

Caltrans has include the Mitigated Negative Declaration (MND) to give notice to interested agencies and the public that it is Caltrans' intent to adopt a Mitigated Negative Declaration for this project. This does not mean that Caltrans' decision regarding the project is final. This MND is subject to modification based on comments received by interested agencies and the public. Caltrans has prepared an Initial Study for this project and, pending public review, has determined from this study that the proposed project would not have a significant effect on the environment for the following reasons:

The proposed project would have **no effect** on existing and future land use, the coastal zone, wild and scenic rivers, parks and recreational facilities, growth, farmlands/timberlands, relocations and real property acquisition, environmental justice, hydrology and floodplain, geology/soils/seismic/topography, paleontology, natural communities, wetlands and other waters, plant species, animal species, threatened and endangered species, and invasive species.

The proposed project would have **less than significant effects** on community character and cohesion, utilities/emergency services, traffic and transportation/pedestrian and bicycle facilities, visual/aesthetics, cultural resources, water quality and stormwater runoff, hazardous waste/materials, air quality, and noise.

Suzanne Melim, Office Chief
North Region Environmental Services, District 3
State of California Department of Transportation
CEQA Lead Agency

Date

Table of Contents

Chapter 1 – Proposed Project **1**

1.1 Purpose and Need 2

1.2 Project Description 2

1.3 Project Alternatives 7

1.3.1 Common Features of the Build Alternatives 7

Design Features 7

Traffic Control 7

Official Detour Routes 8

1.3.2 Unique Features of Build Alternatives 10

1.3.3 No-Build (No-Action) Alternative 11

1.4 Comparison of Alternatives 11

1.5 Alternatives Considered but Eliminated from Further Discussion 12

1.6 Permits and Approvals Needed 13

Chapter 2 – Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures **14**

HUMAN ENVIRONMENT 16

2.1 Visual/Aesthetics 16

2.2 Cultural Resources 23

CONSTRUCTION IMPACTS 25

HUMAN ENVIRONMENT 25

2.3 Community/Economic Condition 25

2.4 Emergency Services 30

2.5 Traffic and Transportation 33

PHYSICAL ENVIRONMENT 36

2.6 Water Quality and Storm Water Runoff Impacts 36

2.7 Hazardous Waste/Materials Impacts 43

2.8 Air Quality 45

2.9 Noise 48

2.10 Climate Change (CEQA) 51

Chapter 3 – Comments and Coordination **61**

3.1 Coordination 61

3.1.1 Scoping Process....61
3.1.2 Consultation and Coordination with Public Agencies....61
3.1.3 Public Participation....62
3.2 Draft Environmental Document....62
Chapter 4 – List of Preparers 63
Appendix A – CEQA Checklist 65
Appendix B – Title VI Policy Statement 74
Appendix C – Avoidance, Minimization, and/or Mitigation Measures 75
Appendix D – List of Technical Studies and References 83

List of Figures

Firgure 1.1: Project Vicinity 4
Figure 1.2: ESL – Construction Site and Staging Areas 5
Figure 1.3: ESL – Construction Site 6
Figure 1.4: Traffic Season and Construction Window....8
Figure 1.5: Detour Routes....9
Figure 2.1: Scenic Resources – Rock Outcropping at Southern End of Viaduct....18
Figure 2.2: Potential Rock Removal at South Abutment....19
Figure 2.3: View South from the Vehicle Pullout 19
Figure 2.4: Potential Rock Removal Beneath Bridge....20
Figure 2.5: Existing Echo Summit Sidehill Viaduct, View South 21
Figure 2.6: Visual Simulation of the New Bridge, View South....21
Figure 2.7: Visual Simulation of the New Concrete Barrier and the Expansive View from a Passenger's Eye Level from the New Bridge Under Alternatives 2 and 3....22
Figure 2.8: Emergency Services 31
Figure 2.9: California Greenhouse Gas Forecast 55
Figure 2.10: Mobility Pyramid....56

List of Tables

Table 1: Summary of Alternatives 12
Table 2.1: Noise Abatement Criteria 49
Table 2.2: Noise Levels of Common Activities 49

Chapter 1 – Proposed Project

Introduction

The California Department of Transportation (Caltrans) proposes to replace the Echo Summit Sidehill Viaduct (Bridge #25-0044) at post mile (PM) 67.3 on U.S. Highway (US) 50 in El Dorado County (see figure 1.1 for project vicinity and location maps). Caltrans is the Lead Agency under the National Environmental Policy Act (NEPA) and for the California Environmental Quality Act (CEQA).

Initially, alternatives brought under consideration involved rehabilitation and replacement of the existing viaduct. The alternatives required as many as a total of 360 working days. Out of the 360 days, US 50 would be fully closed for 66 days and partially closed (one-way reverse traffic) for 120 days. Based on the preliminary environmental assessment of number of working days, lane closure, and project location, Caltrans initially determined that an Environmental Assessment (EA) under NEPA and an Environmental Impact Report (EIR) under CEQA were appropriate for the project.

A Notice of Preparation (NOP) dated February 9, 2015, was submitted to the State Clearinghouse (SCH) on Febraury 13, 2015. The SCH# 2015022055 was assigned to the project on the same date. The NOP was also submitted to Responsible Agencies[1] and other reviewing agencies for review and comment on the scope and content beginning February 13, 2016 and ending March 16, 2015.

Also, as a part of scoping process, a Public Notice was published in *Tahoe Daily Tribune* on February 11, 2015, to inform the public of the availability of the NOP and to invite the public to discuss and comment on the project in a public meeting organized at the South Lake Tahoe City Council Chambers on February 26, 2015.

After detailed environmental studies were completed and the Accelerated Bridge Construction (ABC) method[2] was introduced, Caltrans developed alternatives that greatly reduced the number of construction and full/partial closure days required and had no significant impacts to environment. Consequently, Caltrans concluded that an Initial Study (IS) with Proposed Mitigated Negative Declaration (MND) under CEQA[3] could be used to discuss the potential impacts and record how these impacts could be avoided, minimized and/or mitigated to a level of less than signficant.

The project is programmed in the 2016 *State Highway Operation and Protection Program* (*SHOPP*) in the *Bridge Rehabilitation Program* (20.10.201.110) at an estimated cost of $6

[1] A public agency other than Caltrans that has discretionary approval over the project (Caltrans 2014).

[2] Under ABC method, precast (PC) or prefabricated members, such as PC/steel girder, PC deck, PC column, and PC abutment are fabricated at off-site location. These elements are assembled at the construction site. ABC method reduces construction time and traffic delay by reducing the amount of work to be performed at the construction site.
For more information, see *Accelerated Bridge Construction* by US Department of Transportation Federal Highway Administration (FHWA) at *http://www.fhwa.dot.gov/bridge/abc.*

[3] The proposed project is proceeded as Categorical Exclusion (CE) under NEPA.

million. It is also listed in the 2015-2018 *Federal Transportation Improvement Program* (*FTIP*) under *Grouped Projects for Bridge Rehabilitation and Reconstruction – SHOPP Bridge Preservation Program*. Construction is anticipated to start in 2019.

1.1 Purpose and Need

The purpose of the project is to replace the Echo Summit Sidehill Viaduct (Bridge #25-0044) at PM 67.3 on US 50 in El Dorado County.

The Echo Summit Sidehill Viaduct was identified in the Structures Maintenance & Investigation (SM&I) list of outstanding work due to its poor condition and ongoing problems including high corrosive chloride contents in the concrete deck surface and bridge superstructure and substructure, concrete spalling, and severe transverse and longitudinal cracks in the concrete deck. Bridge replacement was recommended in the Caltrans SM&I Structure Replacement and Improvement Needs (STRAIN) report.

1.2 Project Description

Caltrans proposes to replace the Echo Summit Sidehill Viaduct at PM 67.3 on US 50 in El Dorado County with a new single-span bridge. The existing vaiduct has a significant history of scaling, cracking, delaminations, and fracture of the superstructure and substructure caused by freeze/thaw cycles and deicing salt exposure.

Based on the latest inspection performed on October 20, 2010, the asphalt concrete (AC) surface is cracking over the abutment and joints. It is slightly rutted and also has longitudinal and alligator cracks that have been previously sealed. The overhang area under the bridge rail is heavily scaled with numerous cracks and spalls with exposed corroded reinforcement material throughout. The girders exhibit random and tranverse cracking on their bottom flanges throughout the structure. The girders also exhibit bearing-area cracking and spalling at bearing locations, primarily at the pier walls. The diaphrams between the girders, especially the end diaphrams over the piers, are heavily scaled and exhibit random cracking. The pier walls are in poor condition. The previous areas of rehabilitation featuring air-blown mortar have all begun to heavily scale, delaminate, and spall. Corrosion of the reinforcement material is obvious throughout. The downhill right noses of the pier walls both exhibit heavy spalling, exposing corroded reinforcement material over lengths of up to ten feet (Caltrans 2015).

Echo Summit Sidehill Viaduct has been identified in the Caltrans Bridge Inspection Records Information System (BIRIS) as needing a major rehabilitation or replacement. The most current BIRIS report dated October 13, 2014, recommends replacement over rehabilitation. The new bridge will have two traffic lanes and shoulder on each side.

Caltrans is currently considering three build alternatives and a no-build (no action) alternative as follow:

- Alternative 1: Construct New Bridge (Existing Retaining Wall) under Accelerated Bridge Construction Method,

- Alternative 2: Construct New Bridge (New Retaining Wall) under Accelerated Bridge Construction Method, and

- Alternative 3: Construct New Bridge (New Retaining Wall) under Conventional Bridge Construction Method.

- No-build alternative.

Depending on the alternative and final configuration chosen, the following items of work are included in the project: bridge removal, bridge work, road cut/fill, detours, grinding, equipment staging area, ground disturbance, vegetation removal, noise attenuation, drilling, seasonal construction window, night work, traffic control, and other miscellenous work as needed to construct the project. Pot holing, paving, and striping may be completed on a selected detour route in order to prepare for detoured traffic during the construction.

The proposed project will also include upgrading existing metal beam guardrail (MBGR) to the current standards, constructing the concrete transition barriers from the new bridge rail to the upgraded guardrail, grinding the asphalt concrete at the bridge approaches; and placing a smooth transition from the approach roadway to the new portland cement concrete (PCC) deck.

All construction-related activities will occur at five separate locations; construction site at PM 67.3, staging area #1 at PM 66.54, staging area #2 at PM 66.74, staging area #3 at PM 67.7, and Johnson's Pass Road.

INDEX OF PLANS

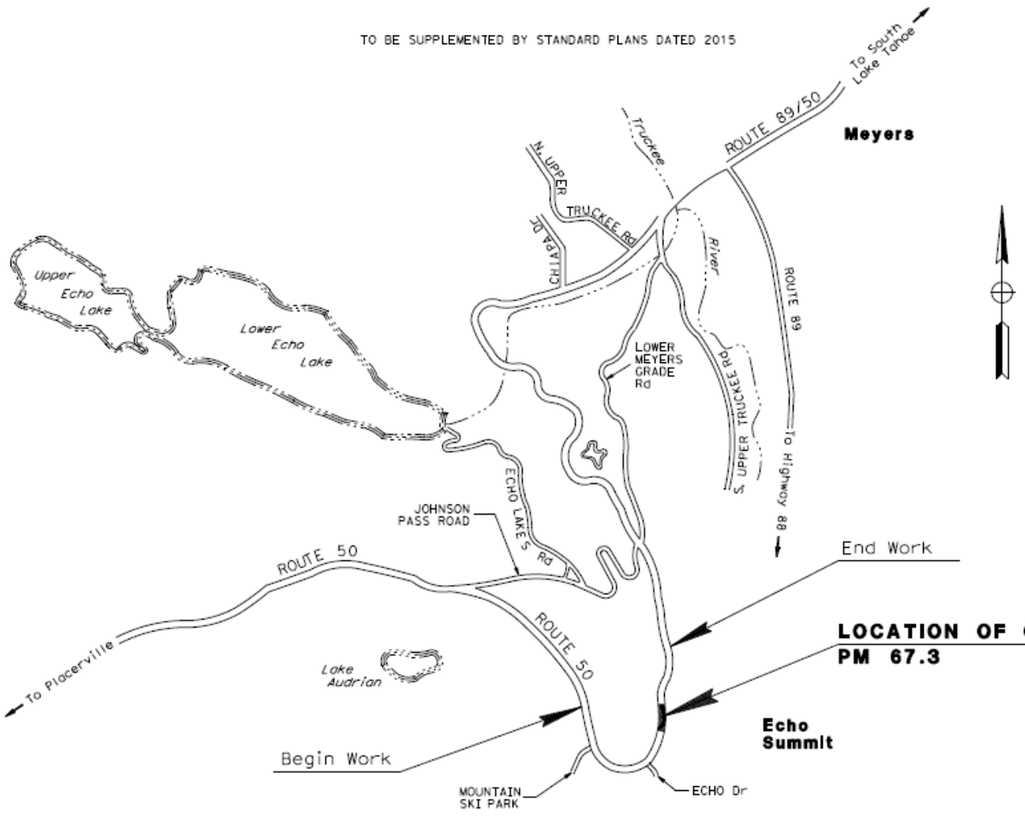
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY

IN EL DORADO COUNTY
NEAR MEYERS AT ECHO SUMMIT VIADUCT

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2015

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	ED	50	67.3		



PROJECT ENGINEER
REGISTERED CIVIL ENGINEER
xx/xx/xx

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR EMPLOYEES SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

Exp. xx/xx/xxx CIVIL STATE OF CALIFORNIA

For Design Preliminary Study Only

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

NO SCALE

CONTRACT No.	03-3F5304
PROJECT ID	0313000135

Figure 1.1: Project Vicinity

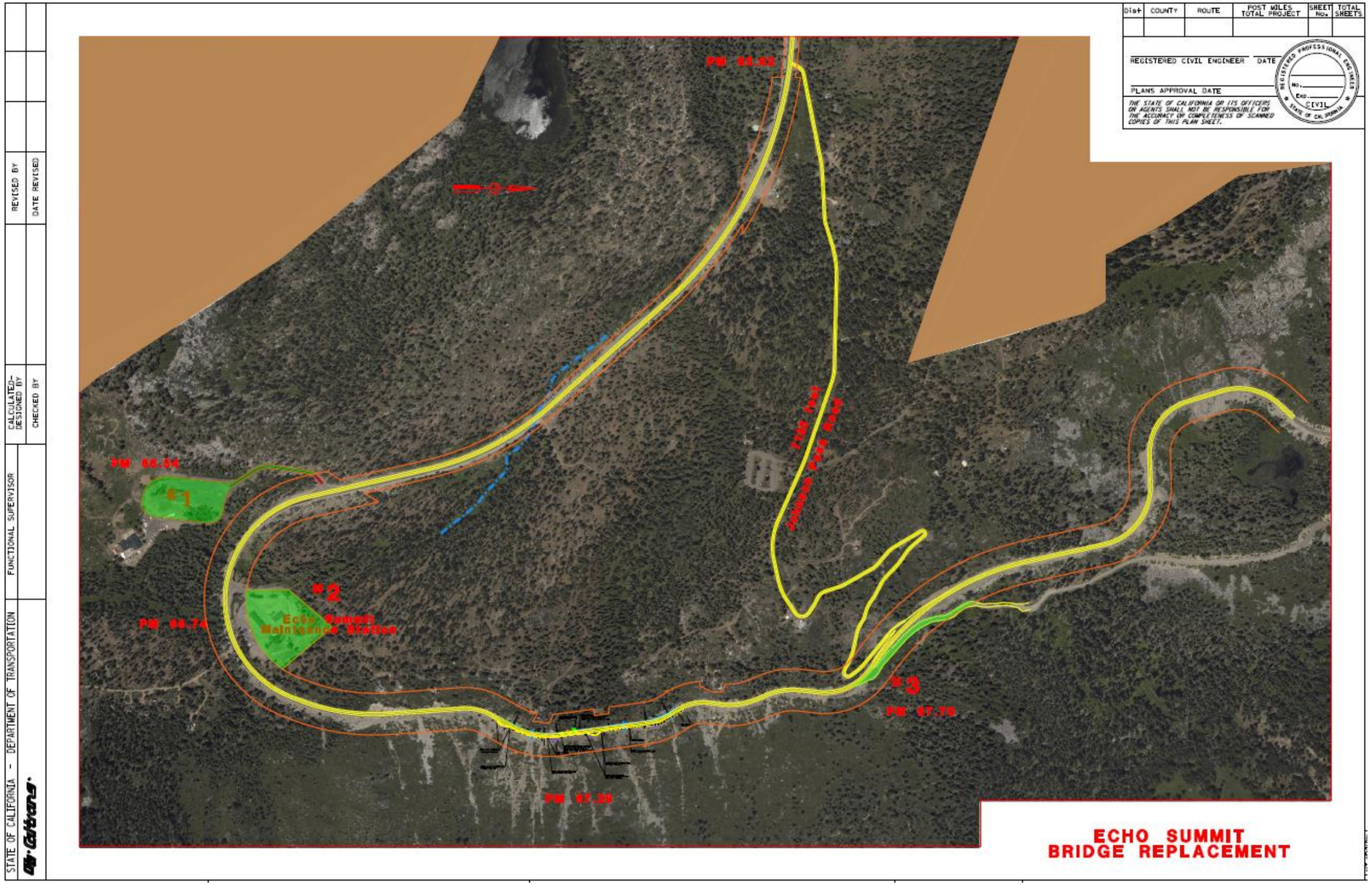


Figure 1.2: ESL – Construction Site and Staging Areas

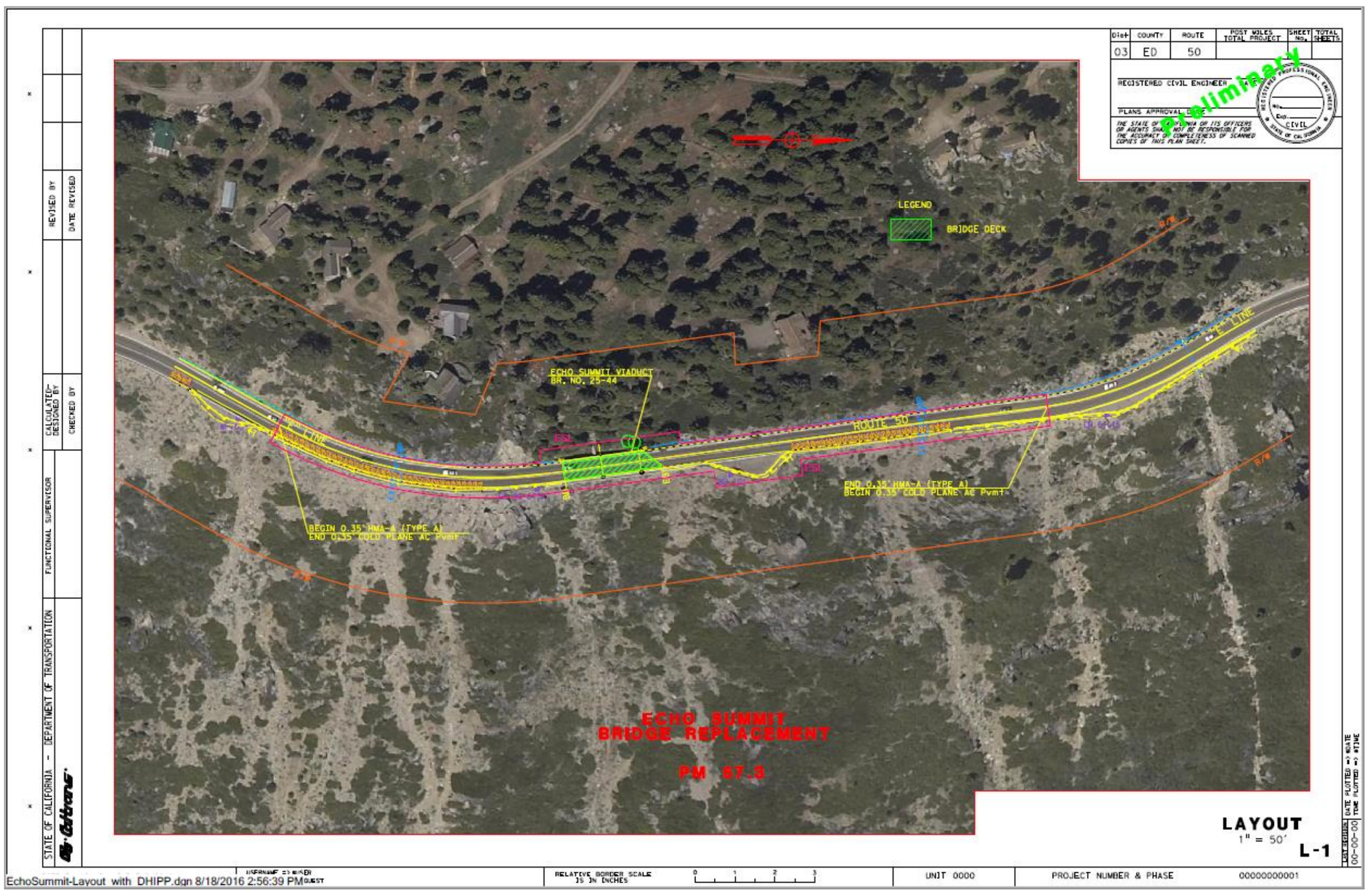


Figure 1.3: ESL – Construction Site

1.3 Project Alternatives

During the development of all projects, alternatives are considered to the extent necessary to minimize items such as cost and potential environmental impacts, or to maximize public benefits. Generally, the concept and scope of the project alternatives can include location, geometric features, staging, construction impacts, sensitive areas, and/or a mix of modes.

As mentioned previously, Caltrans is considering three build alternatives and a no action alternative. Each alternative is discussed further below.

1.3.1 Common Features of the Build Alternatives

Design Features

Under the three viable build alternatives, the existing three-span reinforced concrete viaduct will be demolished and replaced with a new single-span bridge.

The new bridge would contain two 12-foot minimum lanes with shoulder and 36-inch tall concrete barrier wall on each side.[4] There will be horizontal clearance between the bridge and the hillside and also vertical clearance between the bridge and the ground beneath to allow falling rocks and snow to pass behind and under the bridge. There will be one overside drain at each end of the new bridge. The original profile and grade of US 50 would remain the same for all three build alternatives. A small portion of the rock outcropping on the southern end and underneath the existing viaduct would be removed[5] (see figures 2.1, 2.2, 2.3, and 2.4).

The proposed project also includes replacing existing metal beam guardrail (MBGR) with concrete barrier wall that meets the current standards, constructing concrete transition barriers from the new bridge rail to the upgraded guardrail, grinding the asphalt concrete at the bridge approaches, and placing a smooth transition from the approach roadway to the new PCC deck.

Traffic Control

Traffic control measures would be needed for all build alternatives. At a minimum, a detour would be necessary during the full-closure period for key construction operations such as delivery and erection of steel girders.

[4] On November 13, 2015, the Federal Register published the *Manual for Assessing Safety Hardware (MASH) Transition*, a notice filed by FHWA to announce the intent to require that all bridge rails, transitions, all other longitudinal barriers, all other terminals, sign supports, and all other breakaway hardware on all national highway system are per MASH 2015 criteria by December 31, 2019. (FHWA, 2016)

According to MASH 2015, the bridge rail within the project area must comply with Test Level 4 (TL-4) because the regulatory speed limit at the project location is higher than 45 mile/hour. TL-4 requires that the top of the bridge rail is at least 36 inches above the roadway Finish Grade.

[5] See also section *2.2 Visual/Aesthetics*.

Once a preferred alternative is identified, a Lane Closure Chart will be developed based on the traffic volume during the peak traffic and non-peak traffic season. The chart will identify the hours when one-lane closure with reverse traffic control is allowed on US 50 (see also *Figure 1.4: Traffic Season and Construction Window*). Outside the full-closure period, US 50 would be fully open for traffic during the weekend.

Figure 1.4: Traffic Season and Construction Window

Official Detour Routes

There would be two official (signed) detour routes[6] between Sacramento and the Lake Tahoe Basin as shown in *Figure 1.5: Detour Routes* below.

Travelling from Sacramento eastward to the Lake Tahoe Basin, a driver may choose between the official detour routes below.

[6] Caltrans has considered including local route(s) as official detour options. The route(s) was removed from the consideration for one or more of the following reasons:

- The route(s) was/were not owned by Caltrans;
- The route(s) do(es) not have the strength sufficient for highway-type loading such as a vehicle over 16 feet, axle to axle. Sorting these vehicles from the traffic stream could be expensive and aggravate traffic delay;
- The slowdown of traffic to enter the local routes could cause significant delays on US 50;
- The geometrics, alignment, and safety standard do not meet with Caltrans standards; and
- The increased traffic volume could significantly affect the residents along the local routes.

- Official Detour Route 1 - US 50 east, State Route (SR) 16 east, SR 49 south, SR 88 east, SR 89 north, and US 50, respectively, or

- Official Detour Route 2 - US 50 east, SR 49 south, SR 88 east, SR 89 north, and US 50.

Figure 1.5: Detour Routes

Johnson's Pass Road is not one of the Caltrans-designated official detour routes because it does not meet current standards for highway-type loading. Its proximity to the project area, however, makes the road a viable option for local residents driving personal vehicles. Consequently, only local residents and emergency vehicles weighing no more than 8,000 lbs or measuring no longer than 25 linear feet (lf) would be allowed to use Johnson's Pass Rd during the full-closure period.

1.3.2 Unique Features of Build Alternatives

Alternative 1: Construct New Bridge (Existing Retaining Wall) under Accelerated Bridge Construction Method

Under this alternative, the new bridge would be 26 feet wide, measured between barriers. The new bridge comprises precast/prestressed (PC/PS) elements. The total width of the bridge would be approximately 29.5 feet. There would be two 12-foot wide traffic lanes and one foot wide shoulders on each side. New wing walls would be constructed to tie into the existing retaining walls.

The Accelerated Bridge Construction (ABC) method would be used to minimize the Mobility Impact Time.[7] The construction would take approximately 117-152 working days to complete. Construction work would occur over two separate construction seasons.[8] Caltrans plans to complete the foundation work during the first season and the superstructure work during the second season.

US 50 would be fully closed for ten days in the second season.

Alternative 2: Construct New Bridge (New Retaining Wall) under Accelerated Bridge Construction Method

Under this alternative, the new bridge would be 30.75-foot wide, measured between barriers. The new bridge would comprise PC/PS elements. The total width of the bridge would be approximately 34.25 feet. There would be two 12-foot wide traffic lanes. The shoulder width would be approximately 5.75 feet on the east side and one foot on the west side. New retaining walls would be built at the ends of the bridge.

The ABC method would be used to minimize the Mobility Impact Time. The construction would take approximately 245-268 working days to complete. Construction would occur over two separate construction seasons. Caltrans plans to complete the foundation work during the first season and the superstructure work during the second season.

US 50 would be fully closed for a total of ten days during the second season for key construction operations such as the delivery and erection of PC/PS for each half of the bridge.

A portion of the rock outcropping on the southern end and underneath the viaduct (see figures 2.1, 2.2, 2.3, and 2.4) would be removed to accommodate the additional width of the new bridge.[9]

[7] Any period of time the traffic flow of the transportation network is reduced due to onsite construction activities (FHWA, 2015).

[8] Between May 1 of any year and October 15 of the same year. (See *Figure 1.6: Lane Closure and Construction Window).* Pending TRPA approval, the construction may begin two weeks before May 1 and/or stop two weeks after October 15.

[9] See also section *2.2 Visual/Aesthetics.*

Alternative 3: Construct New Bridge (New Retaining Wall) under Conventional Bridge Construction Method

Under this alternative, the new bridge would be 30.75 feet wide, measured between barriers. The new bridge would comprise steel girders and cast-in-place abutments, deck, and barrier rail. The total width of the bridge will be approximately 34.25 feet. There would be two 12-foot wide traffic lanes. The shoulder width would be approximately 5.75 feet on the east side and one foot on the west side. New retaining walls would be built at the ends of the bridge.

Under the conventional bridge construction method, the construction would take approximately 245-268 working days to complete. Construction would occur over two separate construction seasons. Clatrans plans to replace the eastbound half of the bridge during the first season and the westbound half of the bridge during the second season.

US 50 would be fully closed twice, for 30 days each time. The first 30-day full closure would be for the work on the east side of the bridge. The second 30-days would be for the work on the west side of the bridge. A portion of the rock outcropping at the southern end and underneath the viaduct (see figures 2.1, 2.2, and 2.3) would be removed to accommodate the additional width of the new bridge.[10]

1.3.3 No-Build (No-Action) Alternative

With the No-Action Alternative, Caltrans would not replace or rehabilitate the existing viaduct. This alternative would not meet the purpose of the proposed project. There would be no improvement as recommended by SM&I STRAIN report.

The deficient structural component would continue to deteriorate and the associated maintenance costs would increase. There is potential for unscheduled closure of the bridge due to safety.

1.4 Comparison of Alternatives

Table 1 below compares the three build alternatives side-by-side. All three build alternatives are proposing to construct a new bridge with two 12-foot wide lanes with shoulders on the both sides within two construction seasons. However, the application of ABC method brought forth the possibility that the construction could be done in fewer working days for each construction season, requiring less days of full closure on US 50, thereby reducing impacts to traveling public.

[10] See also section *2.2 Visual/Aesthetics*.

TABLE 1
Summary of Alternatives

VARIABLES	Alternative 1 Bridge with Existing Retaining Walls under ABC Method	Alternative 2 Bridge with New Retaining Walls under ABC Method	Alternative 3 Bridge with New Retaining Walls under Conventional Construction Method	Unit
Final Width	26	30.75	30.75	ft.
Number of Lanes	2	2	2	lanes
Lane Width	12	12	12	ft.
Approximated Shoulder Width (West Side)	1	1	1	ft.
Approximated Shoulder Width (East Side)	1	5.75	5.75	ft.
Number of Construction Seasons	2	2	2	seasons
Days of Construction Work[a]	117-152	245-268	245-268	working days
Days of Full Closure[a]	10	10	60	Days
Days of One-Way Reversible Traffic[a]	81-110	177-194	141-158	Days
Days US 50 is Fully Open to Traffic[a]	26-32	58-64	44-50	Sat.-Sun.
Preliminary Construction Cost Estimate	5.99	7.51	7.61	Million $US
Daily Road User Cost Estimate[b]	15.17-19.71	30.19-32.86	36.99-39.66	Million $US

[a] Estimated

[b] Vehicle operating cost, travel time cost, and emissions cost combined

After the public circulation period, Caltrans will consider all comments received and select a preferred alternative and make the final determination of the project's effect on the environment. Under CEQA, if no unmitigable significant adverse impacts are identified, the Department will prepare a MND.

1.5 Alternatives Considered but Eliminated from Further Discussion

Caltrans considered an alternative to rehabilitate the existing Echo Summit Sidehill Viaduct. Under this alternative, Caltrans would make improvements to the structure of the viaduct only and the existing lane widths would remain the same. The estimated cost of this alternative was comparable to the cost of the full bridge replacement. The total estimated cost was $6.07 million.

Even with rehabilitation, the problems of scaling, cracking, delaminations, and fracture would continue. As the bridge become older, these problems will occur more often.

1.6 Permits and Approvals Needed

The following permits, reviews, and approvals would be required for project construction would be required for all three build alternatives:

Agency	Permit/Approval	Status
Tahoe Regional Planning Authority (TRPA).	TRPA Construction Permit.	Permit will be obtained prior to the approving of the project for construction.
State Historic Preservation Office (SHPO).	Concurrence with the Findings of No Adverse Effect (FNAE).	Consultation with SHPO initiated. The documents are to be signed by SHPO and Caltrans.

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

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

Human Environment

- **Land Use** – The proposed project is not in conflict with any local land use plans. There is no change in land use and/or zoning resulting from this project.[11]
    - Existing and Future Land Use – There will be no change in land ownership or use. The project is not in conflict with existing or future land use plans.[12]
    - Coastal Zone – The project is not located in a coastal zone.
    - Wild and Scenic Rivers – The project is not located in or adjacent to a designated Wild and Scenic River.
    - Parks and Recreational Facilities – The proposed project does not involve use of any parks and recreational facilities. The new bridge is located at the exact same location as the existing viaduct. Therefore, no adverse impacts on parks and/or recreational facilities is anticipated.
- **Growth** – The proposed project will replace an existing facility at the exact same location and will not encourage additional growth to the region and/or local communities.
- **Farmlands/Timberlands** – The proposed project is not within or adjacent to designated farmlands and/or timberlands.
- **Community Impact** –The project does not have the potential for impacts on the following:

[11] The proposed project is located in El Dorado County. It is a part of the Lake Tahoe Region and under the Tahoe Regional Planning Agency (TRPA) jurisdiction.

The project area is located within the *Plan Area (PA) 140 Echo Summit*.

A Plan Area Statements (PAS) Map is available at http://www.trpa.org/wp-content/uploads/F23.pdf. An electronic version of PAS 140 Map is available at http://gis.trpa.org/pasmap/. The TRPA PAS for the project area is available at http://www.trpa.org/wp-content/uploads/140.pdf.

Land use designation maps are available at https://www.edcgov.us/Government/LongRangePlanning/LandUse/GP5YReview/BAELandInventorySummary.aspx, under *Figure 4 Northeast Quadrant*.

[12] The proposed project will be constructed within land owned and operated by the United States Forest Service (USFS) under a Department of Transportation easement issued to Caltrans for use and maintenance of the roadway features.

List of the currently under development or approved area plans for the plan areas within the TRPA jurisdiction is available at http://www.trpa.org/ regional- plan/area-plans/.

- Relocation and Real Property Acquisition – The project does not require relocations or real property acquisition.

- Environmental Justice – The US Census database shows no populations listed under at risk criteria for income, ethnicity, or disability within the project limits. Therefore, the proposed project will not cause disproportional adverse effect on any minority or low-income population. All considerations under Title VI of the Civil Rights Act of 1964 and related statues have also been included in this project.[13]

- **Utilities** – The project will not disrupt any utilities in the area. No utility relocations or conflicts are anticipated as a result of the proposed project.

Physical Environment

- **Hydrology and Floodplain** – The project does not encroach into any existing Federal Emergency Management Agency (FEMA) designated floodplain[14] and would not increase drainage/runoff issues in El Dorado County.

- **Geology/Soils/Seismic/Topography** – Based on the project work, location, and discussion with Caltrans Engineers, there is no construction activity that will destabilize existing geologic unit[15] or increase existing landslide hazards. A *Structure Preliminary Geotechnical Report (SPGR)* completed in January 2013 shows that the potential for surface rupture at the construction site (due to fault movement) and/or soil liquefaction is insignificant.

- **Paleontology** – The ground within the project area is previously disturbed, therefore, there is no potential for adverse impacts to paleontological resources.

Biological Environment

- **Natural Communities** – The Natural Environmental Study (NES) - Minimal Impacts (MI) report determined there is no potential for adverse impacts to any natural communities.

- **Wetlands and Other Waters** – The NES (MI) report determined there are no jurisdictional waters or wetlands within the ESL.

- **Plant Species** – The NES (MI) report determined there is no potential for adverse impacts to any plant species.

[13] See *Appendix C: Title VI Policy Statement*.

[14] See also FEMA Flood Insurance Rate Map (FIRM) panel 06017C0634E. (Caltrans Hydraulics Branch, 2013)

[15] A volume of a certain kind of rock of a given age range (U.S. Geological Survey at http://geomaps.wr.usgs.gov/parks/gmap/. retrieved on July 19, 2016).

- **Animal Species** – The NES (MI) report determined there is no potential for adverse impacts to any plant species.

- **Threatened and Endangered Species** – The NES (MI) report determined there is no potential for adverse impacts to threatened and endangered species.

- **Invasive Species** – The NES (MI) report determined there is no potential for adverse impacts on invasive species.

The project has the potential for visual/aesthetics and construction-related impacts. The construction-related impacts, which are temporary in nature and would last only as long as the construction, comprise impacts to community/economic condition, traffic delay, water quality and storm water runoff, hazardous waste/material, air quality, and noise.

HUMAN ENVIRONMENT

2.1 Visual/Aesthetics

Regulatory Setting

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

State Scenic Highway Program

The California Scenic Highway Program, created by the California Legislature in 1963, was established to preserved and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. A highway is officially designated under this program when a local jurisdiction adopts a scenic corridor protection program, applies to Caltrans for scenic highway approval, and receives notification from Caltrans that the highway has been designated a scenic highway.

Tahoe Regional Planning Agency (TRPA)

The Tahoe Regional Planning Agency (TRPA) main mission is to protect Lake Tahoe and the basin for the benefit of current and future generations. The 1980 revised *Bi-State Compact*, between state and local agencies, gives TRPA the authority to adopt and enforce environmental quality standards known as Environmental Threshold Carrying Capacities (or Threshold Standards)[16] as a means to promote beneficial land use and conservation of the water of Lake Tahoe and resources of the surrounding area (TRPA 2011).

One of the primary objectives embodied in the TRPA revised *Bi-State Compact* is the preservation of the scenic values of the Lake Tahoe Basin, which are closely linked to the social

[16] An environmental standard necessary to maintain a significant scenic, recreational, educational, scientific or natural value of the region or to maintain public health and safety within the region (TRPA 2011).

and economic health of the region.[17] TRPA established threshold standards for the protection and enhancement of scenic quality, and evaluated performance in achieving those levels on a regional basis.

TRPA requires that the numerical threshold[18] assigned to each rated roadway segment or travel route, be maintained or improved. The two numerical thresholds applied to the project area are Travel Route Rating and has a high Scenic Quality Rating. According to the *2011 Threshold Evaluation*, the project area is in attainment for Travel Route Rating and has a high Scenic Quality Rating threshold (TRPA 2011). Consequently, it is necessary to construct the proposed project in a manner that would protect the scenic resources of the area.

Affected Environment

The proposed project is located on US 50 within the scenic region of the Lake Tahoe and provides access to recreational areas in the general area of South Lake Tahoe. This region is recognized for its picturesque natural setting and beauty. The views along this section of highway are spectacular. The viaduct itself can be viewed from the Christmas Valley Area, which is located south of the highway, at a lower elevation.

A Visual Impact Assessment (VIA) was completed by Caltrans Office of Landscape Architecture in August 2016. US 50 through the project limits is an Officially Designated State Scenic Highway. The sweeping vista, topography, rock outcroppings, curvilinear roadway, and forest hillsides contribute to the high visual quality of the corridor.

The existing rocks at the southern end of the bridge (PM 67.3) contribute to the high-quality views because of their distinctive form, close proximity to the roadway, and location within the primary viewing direction to the east. Similar distinctive rock formations cannot be found within close vicinity of the highway. Because these features are distinct and contribute to the vista at the location, these rocks are considered a scenic resource in accordance with CEQA guidelines. In addition, the view sensitivity is considered high along this corridor because of its State Scenic Highway designation.[19]

Environmental Consequences

The rock outcropping at the southern end of the viaduct is scenic resource in accordance with CEQA guidelines. The following sections discuss the extent of rock removal under each alternative. The new concrete barrier is discussed in the subsequential section.

[17] TRPA Compact: Public Law 96-551, December 19, 1980: Article I.

[18] There are three (3) types of Threshold Standards; Numerical Standard, Management Standard, and Policy Statements. Numerical Standard represents the condition to be achieved in numeric terms (TRPA 2011).

[19] A map of the Officially Designated State Scenic Highways and Historic Parkways is available at http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/index.htm.

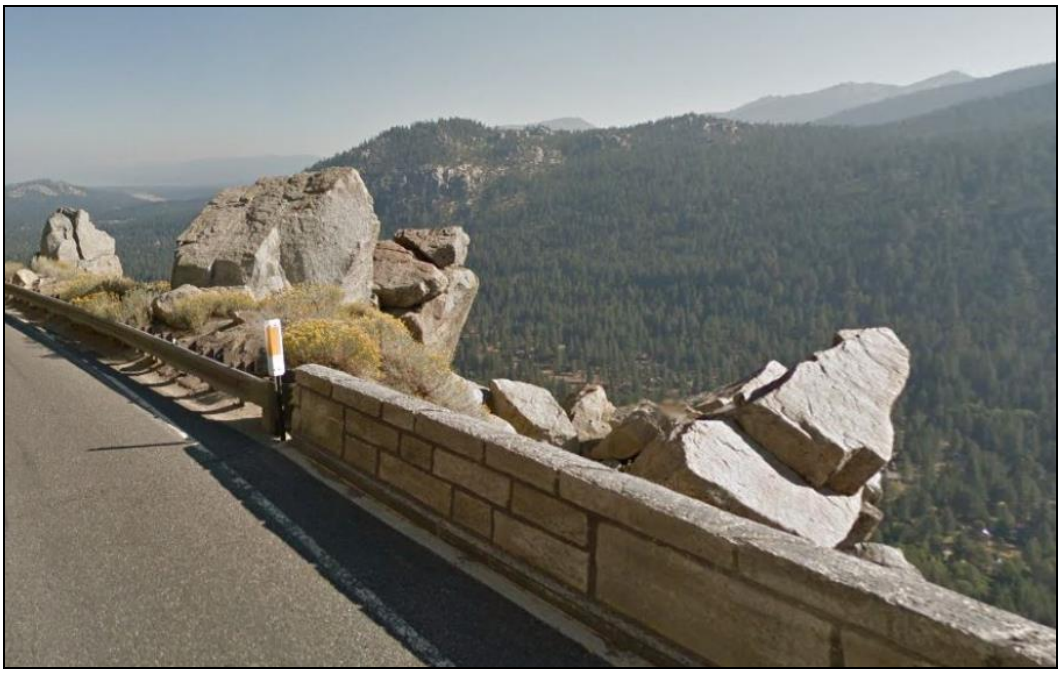


Figure 2.1: Scenic Resource – Rock Outcropping at Southern End of Viaduct

Rock Removal - Alternative 1

Under Alternative 1, the new bridge would be the same width as the existing viaduct; therefore, rock removal would be minimal and subject to the stability of the rock. As a result, Alternative 1 would not result in a significant visual impact.

Rock Removal - Alternatives 2 and 3

Under these alternatives, the new bridge would be wider than the existing viaduct; therefore, the rock formations at the southern end and underneath the viaduct would be partially removed to make space for the new abutment (see figures 2.2, 2.3, and 2.4). The quantity of rock removed depends on the geological characteristics of the rocks and the final width of the new bridge.[20]

At the south end of the new bridge, only the portion of rock that interferes with the widened abutment is planned for removal (*Figure 2.2: Potential Rock Removal at South Abutment)*. This rock formation is located below the existing concrete barrier and is not visible from the roadway; however, is noticeable from the vehicle pullout (*Figure 2.3: View South from the Vehicle Pullout*).

[20] See also section *1.3.2 Unique Features of the Alternatives.*

Figure 2.2: Potential Rock Removal at South Abutment

Figure 2.3: View South from the Vehicle Pullout

Figure 2.4: Potential Rock Removal Beneath Bridge

Many of the rocks underneath the bridge would be removed to construct the widened structure (*Figure 2.4: Potential Rock Removal Beneath Bridge*). These rocks, however, appear to be original ground rocks or rocks that might have fallen from the top of the hill during the initial bridge construction. The removal of these rocks would not result in noticeable visual changes because these rocks are underneath the bridge; therefore, the visual impact would be insignificant. Figure 2.6 below provides a visual simulation of the new bridge at a conceptual design stage.

Figure 2.5: Existing Echo Summit Sidehill Viaduct, View South

Figure 2.6: Visual Simulation of the New Bridge, View South
(The figure shows the wider bridge under Alternative 2 and 3. The bridge under Alternative 1 would have the same width as the existing viaduct.)

New Concrete Barrier - Alternatives 1, 2 and 3

The new concrete barrier would be 36-inch tall for all alternatives to comply with FHWA's safety requirement that all bridge rails on the national highway system comply with the *Manual for Assessing Safety Hardware* (*MASH*) 2015 by December 31, 2019 (FHWA 2016). The impact of increasing the height of the concrete barrier from 2'-8" to 3'-0" would not be significant because the views of the valley would not be notably obstructed. From Christmas Valley, the four-inch change in barrier height would not be noticeable.

Figure 2.7 below provides a visual simulation of the new concrete barrier and the eye-level perspective for a passenger from the wider bridge under Alternatives 2 and 3. Under Alternative 1, the width of the bridge would remain the same and the view of the valley would be unchanged.

Figure 2.7: Visual Simulation of the New Concrete Barrier and the Expansive View from a Passenger's Eye Level from the New Bridge under Alternatives 2 and 3

In conclusion, although visual changes would occur, the overall characteristics that define the high quality of the area would remain. The sweeping vista, landforms, and forest would not be affected. Therefore, the proposed project would not affect the qualities important to its designation as a Scenic Highway.

Avoidance, Minimization, and/or Mitigation Measures

Because of the potential reduction of visual quality along this State Scenic Highway, the following mitigation measures will be incorporated into the design:

1. Preserve the existing rock formation located at PM 67.3 to the greatest extent possible;

2. When rock removal is required, all efforts shall be made to preserve as much of the formation as possible;

3. All proposed MBGR shall be colorized per TRPA guidelines so that it blends into the surrounding environment; and

4. The bridge aesthetic treatment and new bridge rail shall visually match the existing barrier treatment by following the technique implemented for *Echo Summit Rock Wall Parapet Replacement/Water Quality Improvement Project* described below:[21]

    4.1 The Contractor shall create a form liner taken from a cast mold of the intact portions of the existing rock wall parapets for use in replicating the existing parapet features onto the new retaining wall, wing walls, and concrete barrier. The form liner shall be of a design pattern that depicts the original design of the historical cut rock (ashlar) wall that is to be replaced and the staining of the parapets shall reflect the texture and color of the historical rock retaining wall as well;

    4.2 The maximum relief on the textured concrete surface will be limited to 5/8 inch. Color and design shall also be in keeping with the original rock wall parapets; and

    4.3 The new retaining wall, wing walls, and concrete barrier will mimic the existing rock parapets in color as well as texture by using concrete dyes and stains.

2.2 Cultural Resources

Regulatory Setting

The term “cultural resources” as used in this document refers to all “built environment” resources (structures, bridges, railroads, water conveyance systems, etc.), culturally important resources, and archaeological resources (both prehistoric and historic), regardless of significance. Laws and regulations dealing with cultural resources include:

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

[21] The project included the replacement of seven rock parapet walls on US 50 from Robbins Run Sidehill to Rockwall Sidehill 2 (PM 66.7/67.8) with a modified concrete barrier that mimics the original historic cut rock (ashlar) wall in texture and color.

rights-of-way. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the State Historic Preservation Officer (SHPO) before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the National Register or are registered or eligible for registration as California Historical Landmarks.

Affected Environment

No known archaeological resources that are eligible for or listed in the NRHP, California Historical Landmarks, California Inventory of Historic Resources, California Points of Historical Interest, or California Register of Historical Resources are present within the proposed project boundaries.

Two historic properties, Upper Meyers Grade (which includes the Echo Summit Sidehill Viaduct [Bridge No. 25-0044)]) and Johnson's Pass Road, were identified within the project's area of potential effects (APE).

The proposed project would affect the Echo Summit Sidehill Viaduct, found eligible for listing in the NRHP in 2005 as a contributing element of the Upper Meyers Grade. The full length of Johnson's Pass Road has not been surveyed or evaluated and is, for the purposes of this undertaking only, being treated as eligible for listing in the NRHP under Criterion A at the state level of significance, and is a historical resource under CEQA.

The Echo Summit Sidehill Viaduct was previously evaluated for individual eligibility in 1986 as part of the Caltrans Historic Highway Bridge Survey. At the time, the bridge was just under 50 years of age, and it was formally determined ineligible for the NRHP. In 1997, reevaluation for individual eligibility was warranted, in addition to consideration in the context of the potentially eligible one-mile section of U.S. Highway 50 (i.e., Upper Meyers Grade). It was found that the bridge did not appear to possess individual significance for association with important events or people or as an engineering achievement, and while enhanced by attractive masonry wing abutments, the bridge did not appear to possess adequate aesthetic qualities for eligibility as an individual property. The bridge did not possess an adequate level of significance in itself to qualify for individual eligibility under criteria A, B, or C. However, when the bridge was examined in the context of Upper Meyers Grade, it was found to be an intact, virtually unaltered, contributing component of that road. The bridge therefore qualifies as a contributing element of the Upper Meyers Grade, which is eligible for the NRHP (determination 2007). The period of significance is the construction date of 1939. As a result of the 2005-2006 Caltrans Statewide Bridge Inventory Update, the viaduct was upgraded to eligible status under *Category 2* only due to its association with the Upper Meyers Grade.

Johnson's Pass Road is considered eligible for the NRHP for its association with transportation in the Lake Tahoe Basin. In 1852, Colonel J.C. Johnson found a shorter, easier, and more direct route over the precipitous Sierra near Meyers Grade, which became known as Johnson's Cut-off. This shortcut opened up the American River Canyon route, largely superseding the Carson Pass-Mormon Emigrant Trail. Johnson's Cut-off was short but steep, climbing from the valley straight up to Johnson's Pass, north of Echo Summit, in less than a mile, at a grade of

over 25 percent. The road was so steep that wagons had to be unhitched and lifted with a block and tackle in some places. Between 1858 and 1861, most wagons instead used the Hawley Grade, which reached Echo Summit in a longer but gentler climb from the south. Then in 1860, the road over Johnson's Pass was realigned and rebuilt, drawing wagon traffic and the Pony Express back to the northern route. The new wagon road from Meyers up to Johnson's Pass was called Meyers Grade. For the most part, this road remained the primary route over the summit until the current Meyers Grade over Echo Summit was built in 1939.

Environmental Consequences

Caltrans has applied the Criteria of Adverse Effect to the proposed undertaking pursuant to Stipulation X.A of the Section 106 PA and 36 CFR Part 800.5(a)(1). An undertaking is considered to have an adverse effect when it may alter, directly or indirectly, any of the characteristics that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

Caltrans, in accordance with Stipulation X.B.2 of the PA, has determined a Finding of No Adverse Effect without Standard Conditions is appropriate for the project. Caltrans will continue consultation with its Cultural Studies Office (CSO) and the SHPO on the determination of effects.

Avoidance and/or Minimization Measures

The proposed bridge replacement would have no adverse effect on Upper Meyers Grade or Johnson's Pass Road; therefore, avoidance and/or minimization measures are not required

CONSTRUCTION IMPACTS

The demolition of the existing viaduct and the construction of the new bridge can generate temporary impacts on community/economic condition, traffic delay, water quality and storm water runoff, hazardous waste/material, air quality, and noise. These impacts begin when the construction starts and ends when the construction is completed.

The following sections discuss the temporary impacts during construction of the proposed project. The avoidance, minimization and/or mitigation measures for the anticipated impacts on each resource are also included.

HUMAN ENVIRONMENT

2.3 Community/Economic Condition

Regulatory Setting

Under CEQA, an economic or social change by itself is not a significant effect on the environment. However, if a social or economic change is related to a physical change, then social or economic change may be considered in determining whether the physical change is

significant. Since this project would result in temporary physical change to the environment during the construction period, when US 50 is not fully open for traffic, it is appropriate to consider changes to community character and cohesion in assessing the significance of the project's effects.

Affected Environment

The area of high construction activity for this proposed project is located at PM 67.3[22] on US 50, which is the main corridor connecting the San Francisco Bay, the Sacramento Valley, and the Lake Tahoe Basin. US 50 is heavily travelled by seasonal visitors, local commuters, and commercial truckers, who support the local economy of the South Lake Tahoe region.

Tourism is the major contributor to the regional economy. Visitors who travel to the Lake Tahoe area affect the regional economy in several ways. Visitors directly purchase goods and services from local businesses, which supports local employment, earnings, and sales revenue. Local businesses procure goods and services from suppliers, some of whom are also in the region, generating additional employment, income, and sales. The most active season for visitation is during the summer, when the tourists can visit wineries, outdoor recreational activities such as hiking, boating, and golf (Economic& Planning System, 2013). However, gaming revenue declined by 35% between 2005 and 2011 (Economic & Planning Systems, 2013).

The tourism industry as a whole also support local governments through tax payments such as local sales taxes and transient occupancy taxes (TOT). Its demand for public services expands the range of public services beyond the level needed by basin residents alone (Murphy et al., 2000).

The *Lake Tahoe Basin Prosperity Plan* (Lake Tahoe Basin Prosperity Plan Steering Committee, 2010) and the *Lake Tahoe Sustainable Communities Program Document Series #9* on Economic Development Strategy (California Strategic Growth Council, 2014) defined Visitor Services, Health and Wellness, and Environmental Technology (Green Business and Environmental Research and Education) as the three (3) main industries in the region. Together, they account for an estimated 70% of employments in the Lake Tahoe Basin. The economic base also includes information services, company management, and also manufacturing and warehousing.

Environmental Consequences

Construction of the proposed bridge could temporarily impede access to the southern part of the Lake Tahoe Basin. The stability and sustainability of the Lake Tahoe economy as a whole depends on revenue from tourism. Actions that substantially delay visitor access to the region over extended period are likely to affect local business revenues, employment, and tax revenues.

[22] The project area as a whole stretches over approximately 1.2 miles (see also section *1.2 Project Description*).

An assessment completed in September, 2016 identified the potential that temporary traffic delay[23] and trip reduction[24] resulting from lane closures would induce a decrease in tourism-related sales and tax revenues for the area immediately east and west of the project area. It is possible that the impacts would be more substantial for the area on the east of the project area than on the west. In addition, traffic delays would likely cause inconvenience to Tahoe Region business owners and travelers passing through the project area. The changes in circulation will result in the diminished sales to these groups.

The extent of the impacts varies according to the length of the construction schedules and the type of lane closure planned under each alternative.

Based on past projects in the area, Caltrans has assumed for the purpose of this project that the alternative with the fewest closures or delays would result in the least effect on community/economic condition. Caltrans considered different construction methods and design features to reduce roadway closures and delays for each of the three alternatives.

Impacts from Full-Closure

During periods of full-closure, circulation and access can become inconvenient for residents and businesses located on both side of the project area. Some travelers would decide to cancel their trips. This would lead to diminished sales by tourist-dependent businesses in the South Lake Tahoe. Businesses in communities along US 50 on the *Affected Route* (see *Figure 1.6: Detour Routes*), would experience reduction in sales during the full-closure period. Meanwhile, businesses in communities along the *Official Detour Routes* would expect sales revenue increase (see subsection *Full-closure Period Impact* in the *Temporary and Transportation* section for discussion on potential traffic delay during construction).

Full closure of the highway at the construction zone in Alternative 1 (ten days) would create circulation and access problems for residents and businesses located on both sides of Echo Summit. For example, residents living west of Echo Summit would not be able to easily reach the South Lake Tahoe area for shopping, medical appointments, or jobs during the full closure periods.

For the South Lake Tahoe region and the Tahoe Basin as a whole, sales would be temporarily reduced in many businesses. A 21.8% reduction in trips[25] suggests that a one-time loss of sales in this region would be:

[23] Approximately 1.26 to 1.41 hours longer for a car and 1.66 to 1.83 hours longer for a truck (Caltrans 2016).

[24] Caltrans estimated 30% trip reduction on westbound traffic and 25% trip reduction on east bound traffic during the full-closure hours (Caltrans 2016).

[25] Estimated 20% of westbound and 25% of eastbound travelers would decide to travel at a different time of the year to avoid the construction period of the proposed project.

An order-of magnitude estimate for this proposed project is completed based on the following assumptions:

- Average occupancy of vehicles is three persons;
- 80% of the motorists traveling on US 50 over Echo Summit are tourists heading to or from Tahoe Basin destinations. The remaining 20% of trips are business-related;
- 20% of the motorists using US 50 would travel at a different time of the year to avoid construction effects (thereby, not affecting annual visitor sales totals; and

- Alternative 1 – Estimated 0.8% of annual sales during the second construction season;
- Alternative 2 – Estimated 0.8% of annual sales during the second construction season; and
- Alternative 3 – Estimated 2.5% of annual sales during both construction seasons

For the area along the *Official Detour Route* and *Affected Route*, changes in the traffic volume suggests that trip-related spending by pass-by motorists changes by a similar proportion.[26] Assuming the daily spending over the closure period is similar to average daily spending over the course of the year, there would be:

- Alternative 1 – Estimated $49,800 reduction in annual sales during the second construction season;
- Alternative 2 – Estimated $49,800 reduction in annual sales during the second construction season; and
- Alternative 3 – Estimated $596,800 reduction in annual sales (both seasons combined).

In term of tax revenue, decreased sales would result in the loss of TOT revenue for South Lake Tahoe and El Dorado County combined.

- Alternative 1 – Estimated 1.3% TOT loss during the second construction season;
- Alternative 2 – Estimated 1.3% TOT loss during the second construction season; and
- Alternative 3 – Estimated 4.0% of annual sales during both construction seasons.

Impacts from One-Lane Closure

For all alternatives, when only one traffic lane is open to public, reverse traffic control[27] would be implemented. The anticipated delays for travelers in both directions is no longer than 20 minutes.[28] It is unlikely that drivers would take a detour route to avoid the project area. This would result in negligible impacts to tourism, business, and tax revenue (see subsection *Impact during One-Lane Closure Period* in the *Traffic and Transportation* section for discussion on potential traffic delay during construction).

- Average daily spending by tourists visiting the South Lake Tahoe region is $189 per visitor, representing an average of estimated daily spending per person for gaming and non-gaming visitors.

[26] Trip-related spending by tourists could increase at businesses in several locations along the *Official Detour Routes* and *Other Alternative Route*. This additional spending would be spread over several communities over a large geographic area.

[27] Travelers' vehicles are guided through the construction site by a pilot vehicle.

[28] *Caltrans Standard Special Provision Section 12-4.02C(7): Traffic Control System Requirements.*

Avoidance and/or Minimization Measure

In addition to the Traffic Management Strategies included in *Traffic and Transportation* section, the following public outreach programs are recommended in order to minimize the inconvenience that may occur.

1. During the project planning stages and before construction begins, an informational website (http://www/dot.ca.gov/dist3/Projects/3F530/prjindex.htm) will be provided for the public. This website would include project description, schedule, and contact information to keep the public well-informed;

2. Develop a Public Involvement Plan, based on the draft Tahoe Basin Public Communications and Outreach Guidelines, to outline ways to coordinate public involvement with other agencies, identify interested stakeholders, and suggest strategies for public outreach and communication.

3. To minimize any potential inconvenience, implement the following public relations programs:

   3.1 Paid media in the following formats:

   - Newspaper advertisements that provide updates on lane closure and key developments that would impact traffic prior to the actual lane closure dates;

   - Television advertisements that provide the audience with updates on lane closure and key developments that would impact traffic prior to the actual lane closure and construction dates;

   - Radio programs that provide the audience with updates on lane closure and key developments that would impact traffic prior to the actual lane closure and construction dates; and

   - Project website (www.way2tahoe.com) would be set up with information on the official detour routes. The website would be maintained, updated, and expanded to include a link to access environmental document at http://www.dot.ca.gov/dist3/departments/envinternet/eldorado.htm. Informational mailers and brochures would consistently refer readers to the website;

   3.2 Public relations to provide the local business community with updates on lane closure, key developments that would affect traffic, and other project-related information.

   - Focused emails providing project updates would be available for anyone who sign up for email alerts. This service would be referenced in

newspaper advertisements, television advertisements, radio programs, and press releases;

- Focused mailers with updates on the progress of the project and any key developments that would impact traffic to:
    - The California and Nevada Trucking Associations,
    - The Owner Operated Independent Drivers Associations,
    - The Teamsters local chapters,
    - The Lake Tahoe Visitors Authority,
    - The South Lake Tahoe Lodging Association,
    - The South Shore Transit Management Association,
    - Tahoe-Douglas Visitors Authority,
    - The Nevada Hotel and Lodging Association,
    - Greyhound,
    - The major charter bus operators in the San Francisco Bay area and Sacramento area, and
    - Other representative organizations and stakeholder; and
- Press release/traffic alerts with information on the progress of the project and any key developments that would impact traffic would be sent to local newspapers, magazines, radio stations, television stations, and television networks serving the Reno/Tahoe, Sacramento, and Bay Area.

2.4 Emergency Services

Affected Environment

The nearest emergency services are located in the vicinity of the City of South Lake Tahoe (see figure 2.8).

Fire Department

The Lake Valley Fire Protection District (LVFPD) provides fire and emergency services in the project area. The LVFPD boundaries run from the El Dorado County/Alpine County and El Dorado County/Placer County borders on SR 89, past Echo Summit along US 50, to the Nevada-California border, and west to Twin Bridges (LVFPD 2016).

Additionally, the USFS provides fire protection for the El Dorado National Forest and wilderness areas within and surrounding the project area (U.S. Department of Agriculture 2016).

Medical Services

Emergency medical services are available at a local hospital located at 2170 South Avenue in the City of South Lake Tahoe.

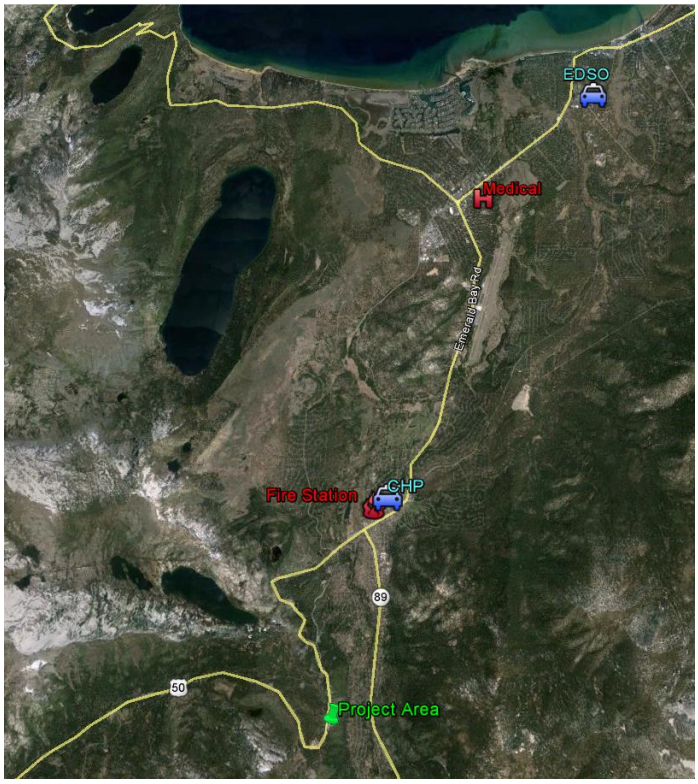


Figure 2.8: Emergency Services

Law Enforcement

Law enforcement services in the vicinity of the project area are provided by El Dorado County Sheriff's Office (EDSO) and the California Highway Patrol (CHP). The nearest EDSO branch is located at 1360 Johnson Boulevard in the City of South Lake Tahoe. The nearest CHP station is located at 2063 Hopi Avenue in the City of South Lake Tahoe.

Environmental Consequences

For all alternatives, every effort would be made to allow police and fire vehicles to pass through the project area.

Nevertheless, there is a potential for response or evacuation delay due to traffic congestion at the project area and delays where active construction is underway.

Impacts during Full-closure Period

In the event that passing through the construction site[29] is not possible, emergency vehicles would be able to use Johnson's Pass Road to avoid the construction site and arrive at the area on the opposite end of the project area. Vehicle weight and length restrictions on Johnson's Pass Road, however, would limit emergency services providers to using only emergency vehicles weighing no more than 8,000 lbs or measuring no more than 25 lf.

The extent of the impacts is subject to the length of lane closure periods under each alternative. The full-closure period would be ten days in total for Alternatives 1 and 2. The full-closure period would be 60 days in total for Alternative 3.

Impacts during One-Lane Closure Period

For Alternative 1, emergency vehicles would use Johnson's Pass Road to avoid the construction site and access the area on the other side of the project area. Vehicle weight and length restrictions on Johnson's Pass Road, however, would limit emergency services providers to using only emergency vehicles weighing no more than 8,000 lbs or measuring no more than 25 lf.

For Alternatives 2 and 3, emergency vehicles would be able to pass through the project area. All efforts will be made to allow police and fire vehicles to pass through the project area immediately; therefore, the impacts to emergency services would not be significant.

Avoidance and/or Minimization Measures

The following measures would be implemented to ensure public safety during construction.

1. Caltrans *Standard Special Provisions* (SSP)[30] and *Non-Standard Special Provision* (nSSP) will require the Contractor to coordinate with local emergency agencies/workers prior to construction and through construction. As part of this condition, a plan for emergencies, to include any agreed upon detour plan, would be developed;

2. The Caltrans Construction Resident Engineer (RE) shall ensure the required emergency plan includes provisions to cease operations and allow the roadway to be used as an escape route in case of an emergency event such as forest fire; and

3. When an emergency occurs, the RE and CHP have the authority and responsibility to suspend and modify work for the safety of the public, as provided by the Public Safety Specifications in the Caltrans standard plans.

[29] The proposed project area comprises the construction site, there staging areas, and Johnson's Pass Road. (See also section *1.2 Project Description*.)

[30] Unless stated otherwise, "SSP" shall refer to the 2015 edition of the document throughout this Initial Study.

2.5 Traffic and Transportation

Regulatory Setting

Caltrans, as assigned by FHWA, directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of federal-aid highway projects (see 23 Code of Federal Regulations [CFR] 652). It further directs that the special needs of the elderly and the disabled must be considered in all federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

In July 1999, the U.S. Department of Transportation (USDOT) issued an Accessibility Policy Statement pledging a fully accessible multimodal transportation system. Accessibility in federally assisted programs is governed by the USDOT regulations (49 CFR Part 27) implementing Section 504 of the Rehabilitation Act (29 United States Code [USC] 794). FHWA has enacted regulations for the implementation of the 1990 Americans with Disabilities Act (ADA), including a commitment to build transportation facilities that provide equal access for all persons. These regulations require application of the ADA requirements to federal-aid projects, including Transportation Enhancement Activities.

Affected Environment

US 50 is a major thoroughfare for travelers entering or leaving California. Within the State of California, it is the main corridor connecting the Lake Tahoe Basin to the Sacramento Valley. The route is heavily travelled by seasonal visitors, local commuters, and commercial truckers.

Caltrans Travel Forecasting and Modeling estimated that approximately 1,830 vehicles, maximum, will travel past the construction site at any hour during the summer peak-traffic season during the proposed construction years (2019 and 2020).[31] Caltrans further estimates that approximately 8,970[32] vehicles, in average, will travel past the construction site each day during construction.

The two most pronounced areas of congestion within the vicinity of the project area are at the US 50/SR 89 intersection in South Lake Tahoe (eight miles from the construction site[33]) and on US 50 near Stateline (13 miles from the construction site).

There could be approximately 12 projects under construction concurrently with the proposed project. One of these projects would be constructed on US 50 immediately northeast of the proposed project. There are also ten other projects located along other routes that connect to the *Official Detour Routes* and *Effected Route.*

[31] Between Memorial Day of any year and Labor Day of the same year.

[32] Average Annual Daily Traffic (AADT).

[33] Project area comprise the construction site, where the bridge will be located, at PM 67.3 and the staging areas at PM 66.74 and PM 67.70.

Environmental Consequences

Construction-related activities may slow down the traffic along the segments of US 50 immediately east and west of the construction site at PM 67.3 and staging areas at PM 66.74 and PM 67.70. The proposed project is located approximately eight and 13 miles from the areas of pronounced congestion, suggesting that the relatively short traffic delays at the project site and staging areas will have little effect on traffic jamming at the two areas of pronounced congestion mentioned in the *Affected Environment* above.

Traffic could be slowed along the segments of US 50 immediately east and west of the project area. Slow-moving construction vehicles accessing or leaving the project area could also impede through traffic flow on the highway.

The extent of traffic delay resulting from the proposed project is subject to the lane-closure schedule set up for each alternative.

Impact during Full-closure Period

A Trip-Distribution Estimate completed by Caltrans Office of Transportation Management Planning in August 2016 estimated increase traffic volumes along the official detour routes.

Depending on the *Official Detour Route* a driver chooses to travel, the total travel length would increase 43 to 58 mi (approximately 1.26 to 1.41 hours[34] longer by car or 1.66 to 1.83 hours longer by truck).

The circulation and access can also become inconvenient for residents and businesses located on both sides of the project area. The local roads would remain accessible for the local residents, which would help improve the situation.

Impact during One-Lane Closure Period

When reversible traffic control[35] is implemented, the delays for travelers in both directions would be limited up to 20 minutes.[36] In general, the travelers would experience a shorter delay time.

Given the increases in distance and time involved in using the detour routes, it is unlikely that many travelers choose to use the official detour routes to avoid the anticipated maximum 20-minute delays at the construction site during the one-way alternate traffic period (see *Figure 1.5: Detour Routes*).

Combined Impact with Concurrently Constructed Projects

Because there may be other projects under construction at the same time as the proposed project, the combined impacts related to these projects could include temporary road closures

[34] *Detour Delay Study* by Caltrans Transportation Management Planning.

[35] Travelers' vehicles are guided through the construction site by a pilot vehicle.

[36] SSP *Section 12-4.02C(7): Traffic Control System Requirements.*

and traffic delays, potentially resulting in compounded delays and impaired traffic circulation and access to local businesses, commercial and tourist destinations, and public recreational areas. Closures and delays occurring at the same time as construction of the proposed project would further increase travel times for motorists traveling to and from the Tahoe Basin on US 50 or alternate routes.

Avoidance and/or Minimization Measure

In addition to the public outreach programs discussed in the *Community Character and Cohesion* section, the following measures will minimize the traffic delay.

1. Construction bidding measures and incentive/disincentive provisions to expedite construction of the proposed project;

2. Coordinate with projects within and near the project area to avoid or minimize conflicts with other projects. This coordination needs to extend to projects in both Caltrans District 3 and District 10;

3. Coordinate with El Dorado County to address traffic impact concerns within the vicinity of the proposed project and along the official detour routes;

4. Identify adequate public outreach funding for the public outreach program;

5. Use the Caltrans maintenance division to plow and maintain Johnson's Pass Road, as required;

6. Hold trucks prior to the work area. The holding locations would be determined at the Plans, Specifications and Estimate (PS&E) Phase;

7. The following Traffic Management Plan (TMP) are also recommended:

    7.1 One-way traffic control shall be in accordance with *Caltrans Standard Plan* (*CSS*)[37] 2015 Sheet T-13;

    7.2 During the one-lane closure period, advance flaggers are recommended in areas with inadequate approaching sight distance. A minimum of one paved traffic lane, not less than 11-foot wide, shall be open for use by public traffic during construction;

    7.3 A Motorist Information Plan (MIP) prepared by the Project Engineer in consultation with Traffic Operations would be required;

    7.4 Lane closure would be limited to no more than 0.625 mile;

    7.5 Use SSP *Section 12-4.02C(7) Traffic Control System Requirements* to limit the traffic delay to no longer than 20 minutes;

[37] Unless stated otherwise, "CSS" shall refer to the 2015 edition of the document throughout this Initial Study.

7.6 For traffic handling purposes, coordinate with adjacent projects in District 3, District 10, and local agency jurisdictions would be required to avoid conflicts with other projects in the Tahoe Basin and along the *Official Detour Route* and *Other Alternative Route*;

7.7 A Construction Zone Enhanced Enforcement Program (COZEEP) would be required;

7.8 Portable changeable message signs (PCMS) would be required in the direction of traffic during the construction. The PCMS must be placed seven (7) days prior to any closure; and

7.9 SSPs, lane closure charts and cost estimate would be developed consequential to the preferred alternative and prior to the completion of PS&E.

PHYSICAL ENVIRONMENT

2.6 Water Quality and Storm Water Runoff

Regulatory Setting

Federal Requirements: Clean Water Act

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (U.S.) from any point source[38] unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act (CWA). Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. The following are important CWA sections:

- Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.

- Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the U.S. to obtain certification from the state that the discharge will comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).

- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Boards (RWQCB) administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and municipal separate storm sewer systems (MS4s).

[38] A point source is any discrete conveyance such as a pipe or a man-made ditch.

- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the United States. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

The goal of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."

The USACE issues two types of 404 permits: General and Standard permits. There are two types of General permits: Regional permits and Nationwide permits. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of the USACE's Standard permits. There are two types of Standard permits: Individual permits and Letters of Permission. For Standard permits, the USACE decision to approve is based on compliance with U.S. Environmental Protection Agency's Section 404(b)(1) Guidelines (U.S. Environmental Protection Agency [EPA] Code of Federal Regulations [CFR] 40 Part 230), and whether the permit approval is in the public interest. The Section 404(b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S. and not have any other significant adverse environmental consequences. According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent[39] standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the U.S. In addition, every permit from the USACE, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4. A discussion of the LEDPA determination, if any, for the document is included in the *Wetlands and Other Waters* section.

State Requirements: Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the CWA and regulates discharges to waters of the state. Waters of the state include more than just waters of the U.S., like groundwater and surface waters not considered waters of the U.S. Additionally, it prohibits discharges of "waste" as defined, and this definition is broader than the CWA definition of "pollutant." Discharges under the Porter-Cologne Act are permitted by Waste Discharge

[39] The U.S. EPA defines "effluent" as "wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall."

Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

The State Water Resources Control Board (SWRCB) and Regional Water Quality Control Boards (RWQCBs) are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA and regulating discharges to ensure compliance with the water quality standards. Details about water quality standards in a project area are included in the applicable RWQCB Basin Plan. In California, Regional Boards designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect these uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on that use. In addition, the SWRCB identifies waters failing to meet standards for specific pollutants. These waters are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-point source controls (NPDES permits or WDRs), the CWA requires the establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

State Water Resources Control Board and Regional Water Quality Control Boards

The SWRCB administers water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWCQBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

- **National Pollutant Discharge Elimination System (NPDES) Program**

    - *Municipal Separate Storm Sewer Systems (MS4s)*

      Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of storm water discharges, including Municipal Separate Storm Sewer Systems (MS4s). An MS4 is defined as “any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that is designed or used for collecting or conveying storm water.” The SWRCB has identified the Department as an owner/operator of an MS4 under federal regulations. The Department’s MS4 permit covers all Department rights-of-way, properties, facilities, and activities in the state. The SWRCB or the RWQCB issues NPDES permits for five years, and permit requirements remain active until a new permit has been adopted.

      The Department’s MS4 Permit (Order No. 2012-0011-DWQ) was adopted on September 19, 2012 and became effective on July 1, 2013. The permit has three basic requirements:

1. The Department must comply with the requirements of the Construction General Permit (see below);

2. The Department must implement a year-round program in all parts of the State to effectively control storm water and non-storm water discharges; and

3. The Department storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices (BMPs), to the Maximum Extent Practicable, and other measures as the SWRCB determines to be necessary to meet the water quality standards.

To comply with the permit, the Department developed the Statewide Storm Water Management Plan (SWMP) to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities within the Department for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices the Department uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs. The proposed project will be programmed to follow the guidelines and procedures outlined in the latest SWMP to address storm water runoff.

- *Section 401 Permitting*

Under Section 401 of the CWA, any project requiring a federal license or permit that may result in a discharge to a water of the United States must obtain a 401 Certification, which certifies that the project will be in compliance with state water quality standards. The most common federal permits triggering 401 Certification are CWA Section 404 permits issued by the USACE. The 401 permit certifications are obtained from the appropriate RWQCB, dependent on the project location, and are required before the USACE issues a 404 permit.

In some cases, the RWQCB may have specific concerns with discharges associated with a project. As a result, the RWQCB may issue a set of requirements known as WDRs under the State Water Code (Porter-Cologne Act) that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. WDRs can be issued to address both permanent and temporary discharges of a project.

- **Lahontan Region General Permit**

The project area is located within the jurisdiction of the Lahontan RWQCB (LRWQCB). The LRWQCB has the authority to implement water quality protection

standards through the issuance of permits for discharges to water bodies within their jurisdiction.

The Lake Tahoe Hydrologic Unit General Permit (Order No. R6T-2016-0010) regulates discharges of pollutants in storm water associated with construction activity to waters of the U.S. within the Lake Tahoe Hydrologic Unit from construction sites that disturb one or more acres of land surface, or that are part of a common plan of development or sale that disturbs one or more acres of land surface.

The LRWQCB developed the requirements in this General Permit based on information for similar construction-associated discharges, the Statewide General Permit Order No. 2009-0009-DWQ,[40] and the requirements contained in Order No. R6T-2011-0019.[41] The requirements of this General Permit are consistent with Effluent Limitations Guidelines (ELG) and New Source Performance Standard (NSPS) for the Construction and Development point source category.

Affected Environment

According to the *Water Quality Assessment Exemption* (*WQAE*) document completed on March 4, 2016, the project site is located in the "Undefined" Hydrologic Sub-Area (HSA) 634.10, which is a sub-area to the Lake Tahoe Hydrologic Unit. The principal receiving water body downstream from the project area is the *Upper Truckee River (Below Christmas Valley)*, which is a sediment-sensitive water body. As a result, the project area is considered to have a "high" receiving water risk.[42] The proposed project is subject to compliance with the *Caltrans Statewide NPDES Permit* (Order No. 2012-0011-DWQ, NPDES No. CAS000003)[43] and the *Updated Waste Discharge Requirements and NPDES Permit for Storm Water/Urban Runoff Discharges from El Dorado County, Placer County, and the City of South Lake Tahoe within the Lake Tahoe Hydrologic Unit* (Order No. R6T-2011-101A, NPDES No. CAG616001).

According to the *2012 Integrated Report (CWA Section 303[d] List/ 305[b] Report)*, the pollutant/stressor of concern for the Upper Truckee River are iron and phosphorus.[44] (California

[40] Statewide National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities.

[41] The General Waste Discharge Requirements and National Pollutant Discharge Elimination System General Permit for Discharge of Storm Water Discharge Associated with Construction Activity In the Lake Tahoe Hydrologic Unit, Counties of Alpine, El Dorado, and Placer.

[42] The level of receiving water risk is based on whether an area drains into waterbodies that are either: 1) 303(d) listed as being impaired for sediment/siltation or turbidity; 2) have a USEPA-approved sediment-related TMDL; or 3) have all three beneficial uses of COLD, SPWN, and MIGR. Because the Upper Truckee River meets the first criteria, the project area is considered to have a "high" receiving water risk. (CalEPA 2012, USEPA 2009, and RWQCB Lahontan Region 2015)

[43] Statewide National Pollutant Discharge Elimination System (NPDES) Permit issued by the State Water Resources Control Board.

[44] A map of 303(d) List and TMDLs 2012 is available online under *Caltrans Water Quality Planning Tool* at http://svctenvims.dot.ca.gov/wqpt/wqpt.aspx.

Environmental Protection Agency [CalEPA], 2012) The TMDL[45] value on iron and phosphorus for the Upper Truckee River was approved by CalEPA in 2015. The TMDL value for iron was incorporated into the region's water quality objectives (RWQCB Lahontan Region 2015).

Phosphorus is one of the Target Design Constituents (TDCs)[46] listed in Caltrans' *Storm Water Quality Handbooks: Project Planning and Design Guide (PPDG)*. (Caltrans 2010) The handbook provides a list of TDCs and discusses approved Treatment BMPs capable of treating these constituents. The beneficial uses of Upper Truckee River[47] can be affected by four TDCs.[48] However, phosphorus is the only TDC that is a pollutant/stressor of concern for the receiving water bodies of the proposed project.

It is Caltrans' requirement that treatment must be considered when an affected water body within the project limits is on the 303(d) list for the one or more of the TDCs (Caltrans 2010).

Environmental Consequences

The primary pollutants of concern for the proposed project are iron and phosphorus from the disturbed construction areas. The discharge of storm water runoff from the construction site has the potential to affect water quality standards, water quality objectives, and beneficial uses of the Truckee River.

Sources that could potentially contribute to receiving water impairment include, but are not limited to, sediment deposition and non-storm water discharges from vehicles, equipment cleaning agents, fueling and maintenance activities, waste materials and materials handling, and also storage activities.

With appropriate temporary Construction Site BMPs deployed during construction activities, no temporary or permanent water quality impacts are anticipated.

Avoidance and/or Minimization Measures

The following are recommendations to avoid water quality impacts and ensure National Pollutant Discharge Elimination System permit compliance, for the duration of the project.

1. The project shall adhere to the conditions of the Statewide NPDES Permit Order No. 2012-0011-DWQ, NPDES Permit No. CAS000003 and all adopted amendments to this Permit. This Statewide NPDES Permit regulates storm water and non-storm water

[45] The sum of waste load allocation for point and non-point sources. An implicit margin of safety included.

[46] Pollutants identified during Departmental runoff characterization studies to be discharging with a load or concentration that commonly exceed the allowable standards, but which is treatable by current approved Treatment Best Management Practices (BMPs). Caltrans TDCs are phosphorus, nitrogen, total copper, dissolved copper, total lead, dissolved lead, total zinc, dissolved zinc, sediments, and general metals (unspecified metals) (Caltrans 2010).

[47] The beneficial uses for the Upper Truckee River include agricultural supply (AGR), cold freshwater habitat (COLD), commercial and sport fishing (COMM), groundwater recharge (GWR), fish migration (MIGR), municipal and domestic supply (MUN), navigation (NAV), water contact recreation (REC-1), noncontact water recreation (REC-2), fish spawning (SPWN), and wildlife habitat (WILD) (RWQCB Lahontan Region 2015).

[48] The four TDCs are iron, lead, phosphorus, and nitrogen.

discharges from Caltrans' properties and facilities,[49] and discharges associated with operation and maintenance of the State highway system. Provision E.2.f.4 of this permit states that Caltrans shall comply with:

1.1 The Regional Water Boards for the management of pavement grindings,

1.2 All State and local regulations, including Titles 22 and 27 of the California Code of Regulations, and

1.3 LRWQCB and TRPA restriction on the reuse and placement of reclaimed asphalt concrete (RAC), asphalt concrete, and concrete grinding as shoulder backing within the Lake Tahoe Hydrologic Unit;

2. Adherence to the conditions of the General Permit Order No. R6T-2011-101A, NPDES No. CAG616001 and all adopted amendments for the discharge of pollutants to waters of the United States;

3. Should the total land or soil disturbance equal one (1) or more acre, the project shall adhere to the requirements in Order No. R6T-2016-0010, CAG616002[50] for the discharge of pollutants to the waters of the United States;

4. Adherence to the Tahoe Regional Planning Agency (TRPA) Code of Ordinances;

5. Adherence to the following recommendations to prevent receiving water pollution as a result of construction activities and/or operations from this project:

5.1 Follow all applicable Caltrans' guidelines and requirements regarding water pollution control and general specifications for preventing, controlling, and abating water pollution in streams, waterways, and other bodies of water;[51]

5.2 The Contractor shall prepare a Water Pollution Control Program (WPCP) including appropriate temporary construction site BMPs to implement effective handling, storage, use and disposal practices during construction activities;

5.3 The Contractor shall implement spill prevention and controls; materials, waste and non-storm management controls; and manage dewatering activities at the construction site;[52] and

[49] Include, but not limit to, maintenance stations/yards, equipment storage areas, storage facilities, fleet vehicle parking and maintenance areas, and warehouses with material storage areas.

[50] The *General Waste Discharge Requirements and NPDES General Permit for Storm Water Discharges Associated with Construction Activity in the Lake Tahoe Hydrologic Unit, Counties of Alpine, El Dorado and Placer*.

[51] CSS Section 13.

[52] Ibid. Section 13-4 *Job Site Management*.

5.4 Existing drainage facilities should be identified and protected by the application of appropriate Construction Site BMPs; and

6. Adherence to additional requirements that have historically applied to the Department's permits and to the Statewide permit in the Lahontan Region. These region-specific requirements are:

    6.1 Unless granted a variance by the Lahontan Regional Water Board Executive Officer, there shall be neither removal of vegetation nor disturbance of existing ground surface conditions between October 15 of any year and May 1 of the following year, except when there is an emergency situation that threatens the public health or welfare. This prohibition applies to the Lake Tahoe and Truckee River Hydrologic Unit;

    6.2 The Department shall participate in early project design consultations for all projects within the Lake Tahoe and Truckee River Hydrologic Units;

    6.3 The Department shall solicit (via the NPDES Coordinator) Lahontan Regional Water Board staff review when the proposed project development/design is at 20 to 30-percent design level (Project Approval & Environmental Document), 60-percent design level, and 90-percent design level (Plan, Specifications and Estimate);

7. By October 15[53] of each year, all disturbed areas must be permanently stabilized or temporarily winterized to prevent excess sediment and/or other pollutants from discharging off the project area. Winterized refers to implementing appropriate BMPs to prevent and minimize erosion and soil movement from the project area into storm water. In addition, the winterization must be done in a manner that would remain effective until May 1 of the following year.

2.7 Hazardous Waste/Materials Impacts

Regulatory Setting

Hazardous materials, including hazardous substances and wastes, are regulated by many state and federal laws. Statutes govern the generation, treatment, storage and disposal of hazardous materials, substances, and waste, and also the investigation and mitigation of waste releases, air and water quality, human health and land use.

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

[53] Pending TRPA approval, the end of construction season may be extended for up to two weeks after October 15.

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

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

California regulates hazardous materials, waste, and substances under the authority of the CA Health and Safety Code and is also authorized by the federal government to implement RCRA in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires clean-up of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and clean up contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

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

Affected Environment

Caltrans Office of Environmental Engineering completed an *Initial Site Assessment* (*ISA*) in May 2016. The ISA is a result of discussions with the environmental coordinator and also a review of the project plan, previous studies on the vicinity of the project, and Geotracker database search.

The proposed project is not located within a Cortese listed site, which is a list of properties that either contain or may contain hazardous material.

Environmental Consequences

An ISA completed by a Caltrans Hazardous Waste Specialist on May 10, 2016 identified the potential for hazardous waste in the project area with respect to:

- Lead-contaminated soil that may exist within and near Caltrans R/W due to historical use of leaded gasoline, leaded airline fuels, waste incineration, and so on. The areas of primary concern in relation to highway facilities are soils along routes with historically high vehicle emissions due to large traffic volumes, congestion, or stop and go situations;

- Asbestos-containing materials;

- Level of lead and chromium exists in the yellow-color traffic stripes; and

- Hazardous chemicals exist in the wood posts associated with metal beam guardrail.

Avoidance and/or Minimization Measure

The following measures are recommended to avoid and/or minimize the hazardous waste/material impacts during the construction.

1. Use Caltrans Standard Special Provisions (SSP)[54] *Section 7-1.02K(6)(j)(ii)* to specify the handling, removing, and disposing of earth material containing lead. This SSP also requires the Contractor to submit a Lead Compliance Plan prepared by a certified industrial hygienist to Caltrans for review and approval;

2. Studies to test the bridge deck is to be completed per the National Emission Standards for Hazardous Air Pollutants (NESHAP) requirement prior to the approval of the proposed project for construction. The Contractor shall also provide a written notification to the U.S. EPA and El Dorado County of demolition regardless of the presence or absence of asbestos;

3. The grindings, which consist of the roadway material and the yellow-color traffic strips, shall be removed and disposed of in accordance with SSP *Section 36-4 Residue Containing Lead from Paints*;

4. Use SSP *Section 14-11.14 Treated Wood Waste* to address the handling, storing, transporting, and disposing of treated wood waste; and

5. Use SSP *Section 7-1.02K(6)(j)(ii) Earth Material Containing Lead* to address the handling, removing, and disposing of earth material containing lead.

2.8 Air Quality

Regulatory Setting

The Federal Clean Air Act (FCAA), as amended, is the primary federal law that governs air quality while the California Clean Air Act is its companion state law. These laws, and related regulations by the U.S. EPA and California Air Resources Board (ARB), set standards for the concentration of pollutants in the air. At the federal level, these standards are called National

[54] Unless stated otherwise "SSP" shall refer to the 2015 edition of the document.

Ambient Air Quality Standards (NAAQS). NAAQS and state ambient air quality standards have been established for six transportation-related criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM), which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM_{10}) and particles of 2.5 micrometers and smaller ($PM_{2.5}$), and sulfur dioxide (SO_2). In addition, national and state standards exist for lead (PB) and state standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H_2S), and vinyl chloride. The NAAQS and state standards are set at levels that protect public health with a margin of safety, and are subject to periodic review and revision. Both state and federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition.

Federal air quality standards and regulations provide the basic scheme for project-level air quality analysis under the NEPA. In addition to this environmental analysis, a parallel "Conformity" requirement under the FCAA also applies.

Conformity

The conformity requirement is based on Federal Clean Air Act Section 176(c), which prohibits the USDOT and other federal agencies from funding, authorizing, or approving plans, programs or projects that do not conform to State Implementation Plan (SIP) for attainting the NAAQS. "Transportation Conformity" applies to highway and transit projects and takes place on two levels: the regional—or, planning and programming—level and the project level. The proposed project must conform at both levels to be approved.

Conformity requirements apply only in nonattainment and "maintenance" (former nonattainment) areas for the NAAQS, and only for the specific NAAQS that are or were violated. U.S. EPA regulations at 40 CFR 93 govern the conformity process. Conformity requirements do not apply in unclassifiable/attainment areas for NAAQS and do not apply at all for state standards regardless of the status of the area.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the NAAQS for carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), and in some areas (although not in California) sulfur dioxide (SO_2). California has attainment or maintenance areas for all of these transportation-related "criteria pollutants" except SO_2, and also has a nonattainment area for lead (Pb); however, lead is not currently required by the FCAA to be covered in transportation conformity analysis. Regional conformity is based on emission analysis of Regional Transportation Plans (RTPs) and Federal Transportation Improvement Programs (FTIPs) that include all transportation projects planned for a region over a period of at least 20 years for the RTP) and 4 years (for the TIP). RTP and FTIP conformity uses travel demand and emission models to determine whether or not the implementation of those projects would conform to emission budgets or other tests at various analysis years showing that requirements of the Clean Air Act and the SIP are met. If the conformity analysis is successful, the Metropolitan Planning Organization (MPO), FHWA, and Federal Transit Administration (FTA), make determinations that the RTP and FTIP are in conformity with the SIP for achieving the goals of the FCAA. Otherwise, the projects in the RTP

and/or FTIP must be modified until conformity is attained. If the design concept, scope, and "open-to-traffic" schedule of a proposed transportation project are the same as described in the RTP and FTIP, then the proposed project meets regional conformity requirements for purposes of project-level analysis.

Conformity analysis at the project-level includes verification that the project is included in the regional conformity analysis and a "hot-spot" analysis if an area is "nonattainment" or "maintenance" for carbon monoxide (CO) and/or particulate matter (PM_{10} or $PM_{2.5}$). A region is "nonattainment" if one or more of the monitoring stations in the region measures a violation of the relevant standard and the U.S. EPA officially designates the area nonattainment. Areas that were previously designated as nonattainment areas but subsequently meet the standard may be officially redesignated to attainment by U.S. EPA and are then called "maintenance" areas. "Hot-spot" analysis is essentially the same, for technical purposes, as CO or particulate matter analysis performed for NEPA purposes. Conformity does include some specific procedural and documentation standards for projects that require a hot-spot analysis. In general, projects must not cause the "hot-spot" related standard to be violated, and must not cause any increase in the number and severity of violations in nonattainment areas. If a known CO or particulate matter violation is located in the project vicinity, the project must include measures to reduce or eliminate the existing violation(s) as well.

Affected Environment

El Dorado County is listed as an area of nonattainment area for two (2) NAAQS pollutants.[55]

The proposed project, however, is exempt from all air quality conformity analysis per table 2 of 40 CFR § 93.126, subsection *Safety: Widening narrow pavements or reconstructing bridges (no additional travel lanes)*.

Environmental Consequences

The proposed project may result in the generation of short-term construction-related air emissions, including fugitive dust and exhaust emissions from construction equipment. Fugitive dust, sometimes referred to as windblown dust or PM_{10}, would be the primary short-term construction impact. It may be generated during excavation, grading, and hauling activities. However, both fugitive dust and construction equipment exhaust emissions would be temporary and transitory in nature.

Avoidance and/or Minimization Measure

The following measures are recommendations to avoid and/or minimize air quality impacts during the construction of the proposed project:

1. Use CSS *Section 7-1.02C Emission Reduction* to require the Contractor to comply with the emission reduction regulations mandated by the California Air Resources Board;

[55] NAAQS are health standards for Carbon Monoxide, Lead, Nitrogen Dioxide, Ozone, Particular matter less than 10 micrometers, and Particular matter less than 2.5 micrometers (FHWA 2016).

2. Use CSS 2010 *Section 14-9.02 Air Pollution Control* to require the Contractor to comply with all pertinent rules, regulations, ordinances, and statues of the local air district; and

3. Use CSS 2010 *Section 14-9.03 Dust Control* to address the prevention and alleviation of dust.

2.9 Noise

Regulatory Setting

NEPA of 1969 and the CEQA provide the broad basis for analyzing and abating highway traffic noise effects. The intent of these laws is to promote the general welfare and to foster a healthy environment. The requirements for noise analysis and consideration of noise abatement and/or mitigation, however, differ between NEPA and CEQA.

California Environmental Quality Act

CEQA requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless those measures are not feasible. The CEQA noise analysis is included at the end of this section.

National Environmental Policy Act and 23 CFR 772

For highway transportation projects with FHWA (and the Department, as assigned) involvement, the Federal-Aid Highway Act of 1970 and the associated implementing regulations (23 CFR 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations include noise abatement criteria (NAC) that are used to determine when a noise impact would occur. The NAC differ depending on the type of land use under analysis. For example, the NAC for residences (67 dBA) is lower than the NAC for commercial areas (72 dBA).

Table 2.1 lists the noise abatement criteria for use in the NEPA 23 CFR 772 analysis. Table 2.2 lists the noise levels of common activities to enable readers to compare the actual and predicted highway noise levels discussed in this section with common activities.

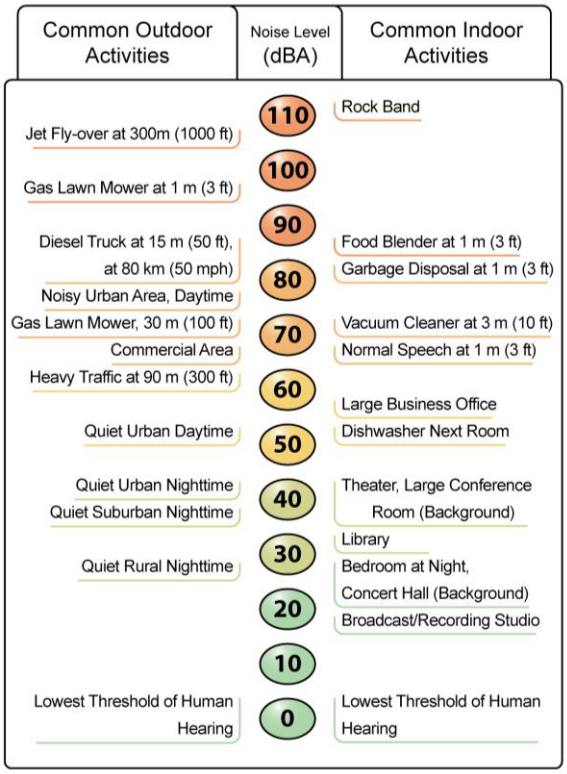
According to Caltrans' *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, May 2011*, a noise impact occurs when the predicted future noise level with the project substantially exceeds the existing noise level (defined as a 12 dBA or more increase) or when the future noise level with the project approaches or exceeds the NAC. Approaching the NAC is defined as coming within 1 dBA of the NAC.

TABLE 2.1
Noise Abatement Criteria

Activity Category	NAC, Hourly A- Weighted Noise Level, Leq(h)	Description of activity category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B[1]	67 (Exterior)	Residential.
C[1]	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A–D or F.
F	No NAC—reporting only	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical, etc.), and warehousing.
G	No NAC—reporting only	Undeveloped lands that are not permitted.

[1] Includes undeveloped lands permitted for this activity category.

TABLE 2.2
Noise Levels of Common Activities



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

Caltrans' *Traffic Noise Analysis Protocol* sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. A minimum 5 dBA reduction in the future noise level must be achieved for an abatement measure to be considered feasible. Other considerations include topography, access requirements, other noise sources, and safety considerations. The reasonableness determination is basically a cost-benefit analysis. Factors used in determining whether a proposed noise abatement measure is reasonable include: residents' acceptance and the cost per benefited residence.

Affected Environment

Currently, there are residences within approximately 150 feet, horizontally, and 170 feet, vertically,[56] from the construction site.

Environmental Consequences

The proposed project is exempt from traffic noise impact analysis per 23 CFR § 772. A TRPA-approved construction project will be exempt from TRPA Code of Ordinances, providing that the construction activities are limited to the hours of 8:00 AM to 6:30 PM.

During construction, however, there may be noise generated from the contractors' equipment and vehicles. The noise will be intermittent and temporary, lasting the length of the construction season.

Avoidance and/or Minimization Measure

In order to ensure that construction noise does not exceed the threshold capacity for Noise Control standards, Caltrans requires the Contractor to:

1. Adhere to all pertinent rules, regulations, ordinances, and plans set forth in TRPA Plan Area Statement for Plan Area 139 and 140; and

2. Conform to the provisions of Caltrans Standard Specifications (CSS) 2010 *Section 14-8.02 Noise Control* as following:

    2.1 Do not exceed 86 dBA maximum sound level (LMax) at 50 feet from the job site activities from 9 PM to 6 AM;

[56] The construction is located at approximately 7,280 feet above sea level. The nearest residence is located at approximately 7,450 feet above sea level (www.topozone.com retrieved on July 12, 2016).

2.2 Equip an internal combustion engine with manufacturer-recommended muffler; and

2.3 Do not operate an internal combustion engine on the job site without the appropriate muffler.

2.10 Climate Change (CEQA)

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas (GHG) emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF_6), HFC-23 (fluoroform), HFC-134a (s, s, s, 2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the U.S., the main source of GHG emissions is electricity generation, followed by transportation. In California, however, transportation sources (including passenger cars, light-duty trucks, other trucks, buses, and motorcycles make up the largest source of GHG-emitting sources. The dominant GHG emitted is CO_2, mostly from fossil fuel combustion.

There are typically two terms used when discussing the impacts of climate change: “Greenhouse Gas Mitigation” and “Adaptation.” "Greenhouse Gas Mitigation" is a term for reducing GHG emissions to reduce or "mitigate" the impacts of climate change. “Adaptation" refers to the effort of planning for and adapting to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels)[57].

There are four primary strategies for reducing GHG emissions from transportation sources: 1) improving the transportation system and operational efficiencies, 2) reducing travel activity, 3) transitioning to lower GHG-emitting fuels, and 4) improving vehicle technologies/efficiency. To be most effective, all four strategies should be pursued cooperatively. [58]

Regulatory Setting

This section outlines state and federal efforts to comprehensively reduce GHG emissions from transportation sources.

[57] http://climatechange.transportation.org/ghg_mitigation/.

[58] http://www.fhwa.dot.gov/environment/climate_change/mitigation/.

State

With the passage of several pieces of legislation including State Senate and Assembly bills and Executive Orders (EOs), California launched an innovative and proactive approach to dealing with GHG emissions and climate change.

Assembly Bill 1493 (AB 1493), Pavley, Vehicular Emissions: Greenhouse Gases, 2002: This bill requires the ARB to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year.

EO S-3-05 (June 1, 2005): The goal of this EO is to reduce California's GHG emissions to 1) year 2000 levels by 2010, 2) year 1990 levels by 2020, and 3) 80 percent below the year 1990 levels by 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32.

Assembly Bill 32 (AB 32), Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 sets the same overall GHG emissions reduction goals as outlined in EO S-3-05, while further mandating that ARB create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases."

Executive Order S-20-06 (October 18, 2006): This order establishes the responsibilities and roles of the Secretary of the California Environmental Protection Agency (Cal/EPA) and state agencies with regard to climate change.

Executive Order S-01-07 (January 18, 2007): This order set forth the low carbon fuel standard for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by 2020.

Senate Bill 97 (SB 97) Chapter 185, 2007, Greenhouse Gas Emissions: This bill required the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the CEQA Guidelines for addressing GHG emissions. The amendments became effective on March 18, 2010.

Senate Bill 375 (SB 375), Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires the California Air Resources Board (CARB) to set regional emissions reduction targets from passenger vehicles. The MPO for each region must then develop a "Sustainable Communities Strategy" (SCS) that integrates transportation, land-use, and housing policies to plan for the achievement of the emissions target for their region.

Senate Bill 391 (SB 391) Chapter 585, 2009 California Transportation Plan: This bill requires the State's long-range transportation plan to meet California's climate change goals under AB 32.

Federal

Although climate change and GHG reduction are a concern at the federal level, currently no regulations or legislation have been enacted specifically addressing GHG emissions reductions

and climate change at the project level. Neither the U.S. EPA nor the FHWA has issued explicit guidance or methods to conduct project-level GHG analysis. [59] FHWA supports the approach that climate change considerations should be integrated throughout the transportation decision-making process–from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process will assist in decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project-level decision-making. Climate change considerations can be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

The four strategies outlined by FHWA to lessen climate change impacts correlate with efforts that the state is undertaking to deal with transportation and climate change; these strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and a reduction in travel activity.

Climate change and its associated effects are also being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, such as the "National Clean Car Program" and EO 13514 - *Federal Leadership in Environmental, Energy and Economic Performance*.

EO 13514 (October 5, 2009): This order is focused on reducing greenhouse gases internally in federal agency missions, programs and operations, but also directs federal agencies to participate in the Interagency Climate Change Adaptation Task Force, which is engaged in developing a national strategy for adaptation to climate change.

U.S. EPA's authority to regulate GHG emissions stems from the U.S. Supreme Court decision in *Massachusetts v. EPA* (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, U.S. EPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six greenhouse gases constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing Act and EPA's assessment of the scientific evidence that form the basis for EPA's regulatory actions. U.S. EPA in conjunction with the National Highway Traffic Safety Administration (NHTSA) issued the first of a series of GHG emission standards for new cars and light-duty vehicles in April 2010.[60]

The U.S. EPA and the NHTSA are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced GHG emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing the first-ever GHG regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle GHG regulations.

[59] To date, no national standards have been established regarding mobile source GHGs, nor has U.S. EPA established any ambient standards, criteria or thresholds for GHGs resulting from mobile sources.

[60] http://www.c2es.org/federal/executive/epa/greenhouse-gas-regulation-faq.

The final combined standards that made up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards implemented by this program are expected to reduce GHG emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

On August 28, 2012, U.S. EPA and NHTSA issued a joint Final Rulemaking to extend the National Program for fuel economy standards to model year 2017 through 2025 passenger vehicles. Over the lifetime of the model year 2017-2025 standards this program is projected to save approximately four billion barrels of oil and two billion metric tons of GHG emissions.

The complementary U.S. EPA and NHTSA standards that make up the Heavy-Duty National Program apply to combination tractors (semi trucks), heavy-duty pickup trucks and vans, and vocational vehicles (including buses and refuse or utility trucks). Together, these standards will cut greenhouse gas emissions and domestic oil use significantly. This program responds to President Barack Obama's 2010 request to jointly establish greenhouse gas emissions and fuel efficiency standards for the medium- and heavy-duty highway vehicle sector. The agencies estimate that the combined standards will reduce CO2 emissions by about 270 million metric tons and save about 530 million barrels of oil over the life of model year 2014 to 2018 heavy duty vehicles.

Project Analysis

An individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its *incremental* change in emissions when combined with the contributions of all other sources of GHG.[61] In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (CEQA Guidelines Sections 15064(h)(1) and 15130). To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects to make this determination is a difficult, if not impossible, task.

The AB 32 Scoping Plan mandated by AB 32 includes the main strategies California will use to reduce GHG emissions. As part of its supporting documentation for the Draft Scoping Plan, the ARB released the GHG inventory for California (forecast last updated: October 28, 2010). The forecast is an estimate of the emissions expected to occur in 2020 if none of the foreseeable measures included in the Scoping Plan were implemented. The base year used for forecasting emissions is the average of statewide emissions in the GHG inventory for 2006, 2007, and 2008.

[61] This approach is supported by the AEP: *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), as well as the South Coast Air Quality Management District (Chapter 6: The CEQA Guide, April 2011) and the U.S. Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).

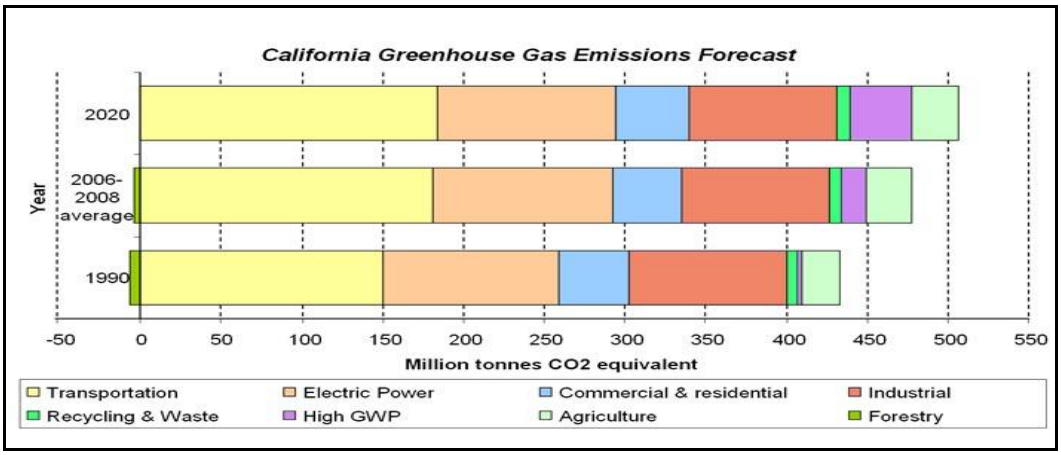


Figure 2.9: California Greenhouse Gas Forecast

Source: http://www.arb.ca.gov/cc/inventory/data/forecast.htm

Caltrans and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California's GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation, Caltrans has created and is implementing the Climate Action Program at Caltrans that was published in December 2006.[62]

The purpose of the proposed project is to replace an existing three-span viaduct with a new single-span bridge. There will be no change in roadway capacity. However, construction emissions will be unavoidable.

Construction Emissions

Greenhouse gas emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by on-site construction equipment, and emissions arising from traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events.

CEQA Conclusion

While construction would result in a slight increase in GHG emissions during construction, it is anticipated that the project would not result in any increase in operational GHG emissions. It is

[62] Caltrans Climate Action Program is located at the following web address: http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf

Caltrans' determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination with regard to the project's direct impact and its contribution on the cumulative scale related to climate change. However, Caltrans is firmly committed to implementing measures to help reduce GHG emissions, as discussed below.

Greenhouse Gas Reduction Strategies

Caltrans continues to be involved on the Governor's Climate Action Team as the ARB works to implement Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. Many of the strategies the Department is using to help meet the targets in AB 32 come from then-Governor Arnold Schwarzenegger's Strategic Growth Plan for California. The Strategic Growth Plan targeted a significant decrease in traffic congestion below 2008 levels and a corresponding reduction in GHG emissions, while accommodating growth in population and the economy. The Strategic Growth Plan relies on a complete systems approach to attain CO_2 reduction goals: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements as shown in *Figure 2.9: The Mobility Pyramid.*

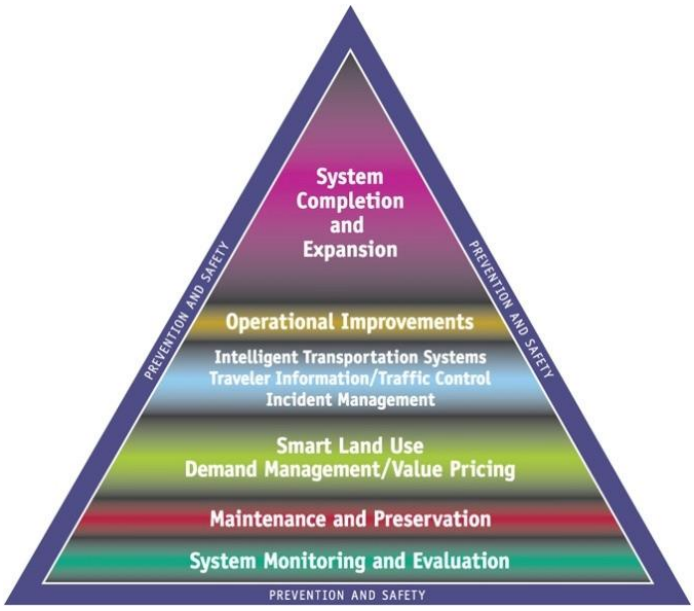


Figure 2.10: Mobility Pyramid

Caltrans is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high-density housing along transit corridors. Caltrans works closely with local jurisdictions on planning activities, but does not have local land use planning authority. Caltrans assists efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks; Caltrans is doing this by supporting ongoing research efforts at universities, by supporting legislative efforts to increase fuel economy, and by

participating on the Climate Action Team. It is important to note, however, that control of fuel economy standards is held by the U.S. EPA and ARB.

Caltrans is also working towards enhancing the State's transportation planning process to respond to future challenges. Similar to requirements for regional transportation plans under Senate Bill (SB) 375 (Steinberg 2008), SB 391(Liu 2009) requires the State's long-range transportation plan to meet California's climate change goals under Assembly Bill (AB) 32.

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce greenhouse gas (GHG) emissions. The CTP defines performance-based goals, policies, and strategies to achieve our collective vision for California's future, statewide, integrated, multimodal transportation system.

The purpose of the CTP is to provide a common policy framework that will guide transportation investments and decisions by all levels of government, the private sector, and other transportation stakeholders. Through this policy framework, the CTP 2040 will identify the statewide transportation system needed to achieve maximum feasible GHG emission reductions while meeting the State's transportation needs.

Climate Change (June 22, 2012): is intended to establish a Department policy that will ensure coordinated efforts to incorporate climate change into Departmental decisions and activities.

Caltrans Activities to Address Climate Change (April 2013)[63] provides a comprehensive overview of activities undertaken by Caltrans statewide to reduce greenhouse gas emissions resulting from agency operations.

Reduction Strategies

The following measure will also be included, as necessary, in the project to reduce the GHG emissions and potential climate change impacts from the project:

1. The Contractor shall keep engines properly tuned, limit engine idling, and avoid unnecessary concurrent equipment use;

2. Lane closure will be schedules during period of lower traffic volume in order to lower the idling time;

3. Public outreach will be conducted with the goal to reduce traffic through the project area during construction in order to lower the idling time; and

4. The Contractor shall comply with the more stringent of state or local rules, ordinances, and regulations in regards to air quality restrictions.

[63] http://www.dot.ca.gov/hq/tpp/offices/orip/climate_change/projects_and_studies.shtml.

Adaptation Strategies

"Adaptation strategies" refer to how Caltrans and others can plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damage to roadbeds from longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

At the federal level, the Climate Change Adaptation Task Force, co-chaired by the White House Council on Environmental Quality (CEQ), the Office of Science and Technology Policy (OSTP), and the National Oceanic and Atmospheric Administration (NOAA), released its interagency task force progress report on October 28, 2011[64], outlining the federal government's progress in expanding and strengthening the Nation's capacity to better understand, prepare for, and respond to extreme events and other climate change impacts. The report provides an update on actions in key areas of federal adaptation, including: building resilience in local communities, safeguarding critical natural resources such as freshwater, and providing accessible climate information and tools to help decision-makers manage climate risks.

Climate change adaptation must also involve the natural environment as well. Efforts are underway on a statewide-level to develop strategies to cope with impacts to habitat and biodiversity through planning and conservation. The results of these efforts will help California agencies plan and implement mitigation strategies for programs and projects.

On November 14, 2008, then-Governor Arnold Schwarzenegger signed EO S-13-08, which directed a number of state agencies to address California's vulnerability to sea level rise caused by climate change. This EO set in motion several agencies and actions to address the concern of sea level rise.

In addition to addressing projected sea level rise, the California Natural Resources Agency (Resources Agency) was directed to coordinate with local, regional, state and federal public and private entities to develop The California Climate Adaptation Strategy (Dec 2009)[65], which summarizes the best-known science on climate change impacts to California, assesses California's vulnerability to the identified impacts, and then outlines solutions that can be implemented within and across state agencies to promote resiliency.

The strategy outline is in direct response to EO S-13-08 that specifically asked the Resources Agency to identify how state agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events. Numerous other state agencies were involved in the creation of the Adaptation Strategy document, including the

[64] http://www.whitehouse.gov/administration/eop/ceq/initiatives/adaptation.

[65] http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF

California Environmental Protection Agency; Business, Transportation and Housing; Health and Human Services; and the Department of Agriculture. The document is broken down into strategies for different sectors that include: Public Health; Biodiversity and Habitat; Ocean and Coastal Resources; Water Management; Agriculture; Forestry; and Transportation and Energy Infrastructure. As data continues to be developed and collected, the state's adaptation strategy will be updated to reflect current findings.

The National Academy of Science was directed to prepare a Sea Level Rise Assessment Report[66] to recommend how California should plan for future sea level rise. The report was released in June 2012 and included:

- Relative sea level rise projections for California, Oregon and Washington taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge and land subsidence rates.

- The range of uncertainty in selected sea level rise projections.

- A synthesis of existing information on projected sea level rise impacts to state infrastructure (such as roads, public facilities and beaches), natural areas, and coastal and marine ecosystems.

- A discussion of future research needs regarding sea level rise.

In 2010, interim guidance was released by The Coastal Ocean Climate Action Team (CO-CAT) as well as Caltrans as a method to initiate action and discussion of potential risks to the states infrastructure due to projected sea level rise. Subsequently, CO-CAT updated the Sea Level Rise guidance to include information presented in the National Academies Study.

All state agencies that are planning to construct projects in areas vulnerable to future sea level rise are directed to consider a range of sea level rise scenarios for the years 2050 and 2100 to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. Sea level rise estimates should also be used in conjunction with information on local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge and storm wave data.

Executive Order S-13-08 also directed the Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea level rise affecting safety, maintenance and operational improvements of the system, and economy of the state. Caltrans continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

Currently, Caltrans is working to assess which transportation facilities are at greatest risk from climate change effects. However, without statewide planning scenarios for relative sea level rise and other climate change effects, Caltrans has not been able to determine what change, if any, may be made to its design standards for its transportation facilities. Once statewide

[66] *Sea Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future* (2012) is available at http://www.nap.edu/catalog.php?record_id=13389.

planning scenarios become available, Caltrans will be able review its current design standards to determine what changes, if any, may be needed to protect the transportation system from sea level rise.

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. Caltrans is an active participant in the efforts being conducted in response to EO S-13-08 and is mobilizing to be able to respond to the National Academy of Science Sea Level Rise Assessment Report.

Chapter 3 – Comments and Coordination

3.1 Coordination

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation, the level of analysis required, and to identify potential impacts, avoidance, minimization, and/or mitigation measures, and also related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including Interagency consultations and Project Development Team (PDT) meetings. This chapter summarizes the results of Caltrans' efforts to fully identify, address and resolve project-related issues through early and continuing coordination.

3.1.1 Scoping Process

Caltrans has been working with the community, interested local parties, and agencies during the development of this project. A public outreach meeting was held in February 2015 at the City of South Lake Tahoe City Council of Chambers. Later, Caltrans issued a news release in May 2015 to announce the public outreach meeting held on May 21, 2015 in Meyers at the California Conservation Corps office to inform the public of the upcoming project studies.

3.1.2 Consultation and Coordination with Public Agencies

Federal Endangered Species Act (FESA) Consultation Summary

A Caltrans Biologist conducted an Information, Planning, and Conservation System (IPac) and also NatureServe Explorer search for the project limits and the surrounding areas to identify threatened or endangered species, critical habitat, and migratory birds. The query was included in the NES (MI) in *Table 1: Listed, Proposed Species, and Critical Habitat Potentially Occurring or Known to Occur in the Project Area.* The query was updated on September 22, 2016.

California Endangered Species Act (CESA) Consultation Summary

A Caltrans Biologist conducted a California Natural Diversity Database (CNDDB) search for the project limits and the surrounding areas. The query was included in the NES (MI) in *Table 1: Listed, Proposed Species, and Critical Habitat Potentially Occurring or Known to Occur in the Project Area.* The query was updated on September 22, 2016.

California Department of Fish and Wildlife: Native Plants Consultation Summary

A Caltrans Biologist conducted a California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants for the Truckee USGS 7.5' quadrangle *Echo Lake*. The query was included in the NES (MI) in *Table 1: Listed, Proposed Species, and Critical Habitat Potentially Occurring or Known to Occur in the Project Area.* The query was updated on September 22, 2016.

Cultural Resources Consultation Summary

Caltrans has determined that the proposed project will have no adverse effects on cultural resources. Caltrans will continue consultation with Cultural Study Office (CSO) and the State Historic Preservation Officer (SHPO) on the assessment of effects.

Native American Consultation Summary

As part of federal and state requirements, Caltrans initiated consultation with the Native American community on February 19, 2016. A Caltrans Archaeologist wrote to Darrel Cruz, the Tribal Historic Preservation Officer (THPO) for the Washoe Tribe of California and Nevada notifying him of the project, soliciting information the tribe might have on the presence of cultural resources within or adjacent to the project area, and asking if the tribe had any concerns. Caltrans received a response from Mr. Cruz and the Washoe Tribe stating they were not aware of any cultural resources in the project area and that they did not have any concerns.

3.1.3 Public Participation

A public meetings will be held during the circulation of this Draft Initial Study with Proposed Mitigated Negative Declaration to present alternatives for public comment. The meeting will provide interested idividuals, businesses, and agencies an opportunity to review and comment on the scope and alternatives of the proposed project.

3.2 Draft Environmental Document

The Initial Study with Proposed MND will be made available for public and agency review and comment for 30 days between October 5, 2016 and November 3, 2016. Caltrans has ensured that the document will be made available to all appropriate parties and agencies, including the following: 1) Responsible agencies, 2) Trustee agencies that have resources affected by the project, 3) other state, federal and local agencies which have regulatory jurisdiction, or that exercise authority over resources which may be affected by the project, 4) the general public. Copies of the document will be made available at the Caltrans District 3 Office of Environmental Management (M-2) located at 703 B St., Marysville, CA 95901, the El Doraro County Library, 345 Fair Lane, Placerville, CA 95667, the South Lake Tahoe Library, 1000 Rufus Allen Blvd. South Lake Tahoe, CA 96150, and via the Internet at http://www.dot.ca.gov/dist3/departments/envinternet/nevada.htm. Other than the archaeological study, which is confidential, techical studies prepared by Caltrans staff are also available for review upon request.

Chapter 4 – List of Preparers

The following Caltrans staff contributed to the preparation of this Initial Study.

Angela Shepard, Associate Environmental Planner. Contribution: Project Environmental Coordinator (2015-2016).

Brenda Harwell, Transportation Engineer. Contribution: Project Engineer.

Brenda Powell-Jones, Senior Environmental Planner. Contribution: *Climate Change* section author.

Clark A. Peri, Senior Transportation Engineer. Contribution: Project Manager.

Darrell S. Naruto, Transportation Engineer. Contribution: *Water Quality Assessment (WQA)* preparer.

Gail St. John, Senior Environmental Planner. Contribution: Acting Environmental Branch Chief and Environmental Document reviewer.

Gurdeep Bhattal, Hydraulics Engineer. Contribution: *Preliminary Drainage Report*.

Jacqueline Martin, Engineering (Geological). Contribution: *Structure Preliminary Geotechnical Report (SPGR).*

Jason Lynch, Senior Bridge Engineer. Contribution: Structures design.

Joan Fine, Associate Environmental Planner (Architectural History). Contribution: Preparer of *Finding of Effect (FOE)* and *Historic Property Survey Report (HPSR)*.

Joyce Loftus, Senior Transportation Engineer. Contribution: Traffic Operation and Traffic Managemnt Planning information.

Kenneth Russo, Associate Environmental Planner (Natural Sciences). Contribution: Project Biologist and *Natural Environmental Study (Minimal Impacts) (NES [MI])* preparer.

Kyoung-Hyeog Lee, Senior Bridge Engineer. Contribution: Structural design.

Larry Chiea, Associate Environmental Planner. Contribution: Document reviewer.

Laura Loeffler, Senior Environmental Planner. Contribution: Community Impact Assessment Task Order Manager.

Maggie Ritter, Associate Environmental Planner. Contribution: Project Environmental Coordinator (2012-2014).

Napassakorn Pongsmas, Environmental Planner. Contribution: Project Environmental Coordinator (2016-Present) and Environmental Document author.

Nicki Johnson, Landscape Associate. Contribution: *Visual Impact Assessment (VIA)* preparer.

Nina Roscow, Associate Environmental Planner. Contribution: Project Environmental Coordinator (2014-2015).

Rajive Chadha, Transportation Engineer. Contribution: *Initial Site Assessment (ISA)* preparer.

Saeid Zandian, Transportation Engineer. Contribution: Traffic Noise and Air Quality Impact Memorandum preparer.

Sam Batakji, Transportation Engineer. Contribution: Traffic Operation and Traffic Managemnt Planning information.

Steven Vo, Transportation Engineer. Contribution: Travel forecasting and modeling.

Suzanne Melim, Supervising Environmental Planner. Office Chief, North Region Environmental Services. Contribution: Document review and approval.

Trina-Dee Florence, Transportation Engineering Technician. Contribution: Visual simulations.

William Larson, Associate Environmental Planner (Archaeology). Contribution: Preparer of *Archaeological Resource Compliance Memo.*

Appendix A – CEQA Checklist

CEQA Environmental Checklist

03-ED-50	PM 67.3	03-1300-0135 03-3F530
Dist.-Co.-Rte.	PM/PM	EFIS/EA

Supporting documentation of all California Environmental Quality Act (CEQA) checklist determinations is provided in Chapter 2 of this Initial Study (IS). Documentation of "No Impact" determinations is provided at the beginning of Chapter 2. Discussion of all impacts, avoidance, minimization, and/or mitigation measures is under the appropriate topic headings in Chapter 2. A NO IMPACT answer in the last column reflects this determination. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista	☐	☒	☐	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic 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?	☐	☐	☐	☒

"No Impact" determinations in this section are based on the project scope, field reviews, and VIA.

II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

"No Impact" determinations in this section are based on the project scope and field review.

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:

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?	☐	☐	☐	☒

"No Impact" determinations in this section are based on the project scope, field reviews, and Traffic Noise and Air Quality Impact Memo.

IV. BIOLOGICAL RESOURCES: Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

"No Impact" determinations in this section are based on the project scope and the NES (MI).

V. CULTURAL RESOURCES: Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

"No Impact" determinations in this section are based on the project scope, HPSR, and ASR.

VI. GEOLOGY AND SOILS: Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	☒
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
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 waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

"No Impact" determinations in this section are based on project scope, field review, and SPGR.

VII. GREENHOUSE GAS EMISSIONS: Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document. While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the body of the environmental document.

VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

"No Impact" determinations in this section are based on project scope, field reviews, and ISA.

IX. HYDROLOGY AND WATER QUALITY: Would the project:

a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	☒
e) Create or contribute runoff water which would exceed the capacity of existing or planned 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?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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	☐	☐	☐	☒

"No Impact" determinations in this section are based on project scope, field reviews, and WQA.

X. LAND USE AND PLANNING: Would the project:

a) Physically divide an established community?	☐	☐	☐	☒
b)Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

"No Impact" determinations in this section are based on project scope and field reviews.

XI. MINERAL RESOURCES: Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

"No Impact" determinations in this section are based on project scope and field reviews.

XII. NOISE: Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

***"No Impact" determinations in this section are based on the project scope, field reviews, and Traffic Noise and Air Quality Impact Memo*.**

XIII. POPULATION AND HOUSING: Would the project:

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

***"No Impact" determinations in this section are based on the project scope and field reviews*.**

XIV. PUBLIC SERVICES:

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities? (Medical Service)	☐	☐	☒	☐

***"No Impact" determinations in this section are based on the project scope and field reviews*.**

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XV. RECREATION:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

"No Impact" determinations in this section are based on the project scope and field reviews.

XVI. TRANSPORTATION/TRAFFIC: Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards 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) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

"No Impact" determinations in this section are based on the project scope and traffic operation data.

XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
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?	☐	☐	☐	☒

"No Impact" determinations in this section are based on the project scope and field reviews

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

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

Appendix B – Title VI Policy Statement

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-5266
FAX (916) 654-6608
TTY 711
www.dot.ca.gov

Flex your power!
Be energy efficient!

March 2013

NON-DISCRIMINATION
POLICY STATEMENT

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

For information or guidance on how to file a complaint based on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, please visit the following web page: http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

Additionally, if you need this information in an alternate format, such as in Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, 1823 14th Street, MS-79, Sacramento, CA 95811. Telephone: (916) 324-0449, TTY: 711, or via Fax: (916) 324-1949.

MALCOLM DOUGHERTY
Director

"Caltrans improves mobility across California"

Appendix C – Avoidance, Minimization and/or Mitigation Measures

Community/Economic Condition

Minimization Measures

1. During the project planning stages and before construction begins, an informational website (http://www/dot.ca.gov/dist3/Projects/3F530/prjindex.htm) will be provided for the public. This website would include project description, schedule, and contact information to keep the public well-informed;

2. Develop a Public Involvement Plan, based on the draft Tahoe Basin Public Communications and Outreach Guidelines, to outline ways to coordinate public involvement with other agencies, identify interested stakeholders, and suggest strategies for public outreach and communication.

3. To minimize any potential inconvenience, implement the following public relations programs:

   3.1 Paid media in the following formats:

   - Newspaper advertisements that provide updates on lane closure and key developments that would impact traffic prior to the actual lane closure dates;

   - Television advertisements that provide the audience with updates on lane closure and key developments that would impact traffic prior to the actual lane closure and construction dates;

   - Radio programs that provide the audience with updates on lane closure and key developments that would impact traffic prior to the actual lane closure and construction dates; and

   - Project website (www.way2tahoe.com) would be set up with information on the official detour routes. The website would be maintained, updated, and expanded to include a link to access environmental document at http://www.dot.ca.gov/dist3/departments/envinternet/eldorado.htm. Informational mailers and brochures would consistently refer readers to the website;

   3.2 Public relations to provide the local business community with updates on lane closure, key developments that would affect traffic, and other project-related information.

   - Focused emails providing project updates would be available for anyone who sign up for email alerts. This service would be referenced in

newspaper advertisements, television advertisements, radio programs, and press releases;

- Focused mailers with updates on the progress of the project and any key developments that would impact traffic to:
    - The California and Nevada Trucking Associations,
    - The Owner Operated Independent Drivers Associations,
    - The Teamsters local chapters,
    - The Lake Tahoe Visitors Authority,
    - The South Lake Tahoe Lodging Association,
    - The South Shore Transit Management Association,
    - Tahoe-Douglas Visitors Authority,
    - The Nevada Hotel and Lodging Association,
    - Greyhound,
    - The major charter bus operators in the San Francisco Bay area and Sacramento area, and
    - Other representative organizations and stakeholder; and
- Press release/traffic alerts with information on the progress of the project and any key developments that would impact traffic would be sent to local newspapers, magazines, radio stations, television stations, and television networks serving the Reno/Tahoe, Sacramento, and Bay Area.

Emergency Services

Avoidance and/or Minimization Measures

1. Caltrans SSP and nSSP will require the Contractor to coordinate with local emergency agencies/workers prior to construction and through construction. As part of this condition, a plan for emergencies, to include any agreed upon detour plan, would be developed;

2. The Caltrans RE shall ensure the required emergency plan includes provisions to cease operations and allow the roadway to be used as an escape route in case of an emergency event such as forest fire; and

3. When an emergency occurs, the RE and CHP have the authority and responsibility to suspend and modify work for the safety of the public, as provided by the Public Safety Specifications in the Caltrans standard plans.

Traffic and Transportation

Minimization Measures

1. Construction bidding measures and incentive/disincentive provisions to expedite construction of the proposed project;

2. Coordinate with projects within and near the project area to avoid or minimize conflicts with other projects. This coordination needs to extend to projects in both Caltrans District 3 and District 10;

3. Coordinate with El Dorado County to address traffic impact concerns within the vicinity of the proposed project and along the official detour routes;

4. Identify adequate public outreach funding for the public outreach program;

5. Use the Caltrans maintenance division to plow and maintain Johnson's Pass Road, as required;

6. Hold trucks prior to the work area. The holding locations would be determined at the Plans, Specifications and Estimate (PS&E) Phase;

7. The following Traffic Management Plan (TMP) are also recommended:

    7.1 One-way traffic control shall be in accordance with CSS Sheet T-13;

    7.2 During the one-lane closure period, advance flaggers are recommended in areas with inadequate approaching sight distance. A minimum of one paved traffic lane, not less than 11-foot wide, shall be open for use by public traffic during construction;

    7.3 A MIP prepared by the Project Engineer in consultation with Traffic Operations would be required;

    7.4 Lane closure would be limited to no more than 0.625 mile;

    7.5 Use SSP *Section 12-4.02C(7) Traffic Control System Requirements* to limit the traffic delay to no longer than 20 minutes;

    7.6 For traffic handling purposes, coordinate with adjacent projects in District 3, District 10, and local agency jurisdictions would be required to avoid conflicts with other projects in the Tahoe Basin and along the *Official Detour Route* and *Other Alternative Route*;

7.7 A COZEEP would be required;

7.8 PCMS would be required in the direction of traffic during the construction. The PCMS must be placed seven days prior to any closure; and

7.9 SSPs, lane closure charts and cost estimate would be developed consequential to the preferred alternative and prior to the completion of PS&E.

Visual/Aesthetics

Minimization and Mitigation Measures

1. Preserve the existing rock formation located at PM 67.3 to the greatest extent possible;

2. When rock removal is required, all efforts shall be made to preserve as much of the formation as possible;

3. All proposed MBGR shall be colorized per TRPA guidelines so that it blends into the surrounding environment; and

4. The bridge aesthetic treatment and new bridge rail shall visually match the existing barrier treatment by following the construction technique implemented for *Echo Summit Rock Wall Parapet Replacement/Water Quality Improvement Project*[67] described below:

   4.4 The Contractor shall create a form liner taken from a cast mold of the intact portions of the existing rock wall parapets for use in replicating the existing parapet features onto the new retaining wall, wing walls, and concrete barrier. The form liner shall be of a design pattern that depicts the original design of the historical cut rock (ashlar) wall that is to be replaced and the staining of the parapets shall reflect the texture and color of the historical rock retaining wall as well;

   4.5 The maximum relief on the textured concrete surface will be limited to 5/8-inch. Color and design shall also be in keeping with the original rock wall parapets; and

   4.6 The new retaining wall, wing walls, and concrete barrier will mimic the existing rock parapets in color as well as texture by using concrete dyes and stains.

[67] The project included the replacement of the parapet, i.e., concrete barrier, which mimic the original historic cut rock (ashlar) wall in texture and color of seven rockwalls located on US 50 from Robbins Run Sidehill to Rockwall Sidehill 2 (PM 66.7/67.8).

Water Quality and Storm Water Runoff

Avoidance and Minimization Measures

Pollutant Discharge Elimination System permit compliance, for the duration of the project.

1. The project shall adhere to the conditions of the Statewide NPDES Permit Order No. 2012-0011-DWQ, NPDES Permit No. CAS000003 and all adopted amendments to this Permit. This Statewide NPDES Permit regulates storm water and non-storm water discharges from Caltrans' properties and facilities,[68] and discharges associated with operation and maintenance of the State highway system. Provision E.2.f.4 of this permit states that Caltrans shall comply with:

    1.1 The Regional Water Boards for the management of pavement grindings,

    1.2 All State and local regulations, including Titles 22 and 27 of the California Code of Regulations, and

    1.3 LRWQCB and TRPA restriction on the reuse and placement of RAC, asphalt concrete, and concrete grinding as shoulder backing within the Lake Tahoe Hydrologic Unit;

2. Adherence to the conditions of the General Permit Order No. R6T-2011-101A, NPDES No. CAG616001 and all adopted amendments for the discharge of pollutants to waters of the United States;

3. Should the total land or soil disturbance equal one or more acre, the project shall adhere to the requirements in Order No. R6T-2016-0010, CAG616002[69] for the discharge of pollutants to the waters of the United States;

4. Adherence to the TRPA Code of Ordinances;

5. Adherence to the following recommendations to prevent receiving water pollution as a result of construction activities and/or operations from this project:

    5.1 Follow all applicable Caltrans' guidelines and requirements regarding water pollution control and general specifications for preventing, controlling, and abating water pollution in streams, waterways, and other bodies of water;[70]

[68] Include, but not limit to, maintenance stations/yards, equipment storage areas, storage facilities, fleet vehicle parking and maintenance areas, and warehouses with material storage areas.

[69] The *General Waste Discharge Requirements and NPDES General Permit for Storm Water Discharges Associated with Construction Activity in the Lake Tahoe Hydrologic Unit, Counties of Alpine, El Dorado and Placer*.

[70] CSS Section 13.

5.2 The Contractor shall prepare a WPCP including appropriate temporary construction site BMPs to implement effective handling, storage, use and disposal practices during construction activities;

5.3 The Contractor shall implement spill prevention and controls; materials, waste and non-storm management controls; and manage dewatering activities at the construction site;[71] and

5.4 Existing drainage facilities should be identified and protected by the application of appropriate Construction Site BMPs; and

6. Adherence to additional requirements that have historically applied to the Department's permits and to the Statewide permit in the Lahontan Region. These region-specific requirements are:

    6.1 Unless granted a variance by the Lahontan Regional Water Board Executive Officer, there shall be neither removal of vegetation nor disturbance of existing ground surface conditions between October 15 of any year and May 1 of the following year, except when there is an emergency situation that threatens the public health or welfare. This prohibition applies to the Lake Tahoe and Truckee River Hydrologic Unit;

    6.2 The Department shall participate in early project design consultations for all projects within the Lake Tahoe and Truckee River Hydrologic Units;

    6.3 The Department shall solicit (via the NPDES Coordinator) Lahontan Regional Water Board staff review when the proposed project development/design is at 20 to 30-percent design level (Project Approval & Environmental Document), 60-percent design level, and 90-percent design level (Plan, Specifications and Estimate);

7. By October 15 [72] of each year, all disturbed areas must be permanently stabilized or temporarily winterized to prevent excess sediment and/or other pollutants from discharging off the project area. Winterized refers to implementing appropriate BMPs to prevent and minimize erosion and soil movement from the project area into storm water. In addition, the winterization must be done in a manner that would remain effective until May 1 of the following year.

[71] Ibid. Section 13-4 *Job Site Management*.

[72] Pending TRPA approval, the end of construction season may be extended for up to two weeks after October 15.

Hazardous Waste/Materials

Minimization Measures

1. Use SSP *Section 7-1.02K(6)(j)(ii)* to specify the handling, removing, and disposing of earth material containing lead. This SSP also requires the Contractor to submit a Lead Compliance Plan prepared by a certified industrial hygienist to Caltrans for review and approval;

2. Studies to test the bridge deck is to be completed per the NESHAP requirement prior to the approval of the proposed project for construction. The Contractor shall also provide a written notification to the U.S. EPA and El Dorado County of demolition regardless of the presence or absence of asbestos;

3. The grindings, which consist of the roadway material and the yellow-color traffic strips, shall be removed and disposed of in accordance with SSP *Section 36-4 Residue Containing Lead from Paints*;

4. Use SSP *Section 14-11.14 Treated Wood Waste* to address the handling, storing, transporting, and disposing of treated wood waste; and

5. Use SSP *Section 7-1.02K(6)(j)(ii) Earth Material Containing Lead* to address the handling, removing, and disposing of earth material containing lead.

Air Quality

Minimization Measures

1. Use CSS *Section 7-1.02C Emission Reduction* to require the Contractor to comply with the emission reduction regulations mandated by the California Air Resources Board;

2. Use CSS 2010 *Section 14-9.02 Air Pollution Control* to require the Contractor to comply with all pertinent rules, regulations, ordinances, and statues of the local air district; and

3. Use CSS 2010 *Section 14-9.03 Dust Control* to address the prevention and alleviation of dust.

Noise

Minimization Measures

1. Adhere to all pertinent rules, regulations, ordinances, and plan set forth in TRPA Plan Area Statement for Plan Area 139 and 140; and

2. Conform to the provisions of CSS 2010 *Section 14-8.02 Noise Control* as following:

    2.1 Do not exceed 86 dBA LMax at 50 feet from the job site activities from 9 PM to 6 AM;

2.2 Equip an internal combustion engine with manufacturer-recommended muffler; and

2.3 Do not operate an internal combustion engine on the job site without the appropriate muffler.

Climate Change

Minimization Measures

The following measure will also be included, as necessary, in the project to reduce the GHG emissions and potential climate change impacts from the project:

1. The Contractor shall keep engines properly tuned, limit engine idling, and avoid unnecessary concurrent equipment use;

2. Lane closure will be schedules during period of lower traffic volume in order to lower the idling time;

3. Public outreach will be conducted with the goal to reduce traffic through the project area during construction in order to lower the idling time; and

4. The Contractor shall comply with the more stringent of state or local rules, ordinances, and regulations in regards to air quality restrictions.

Appendix D – List of Technical Studies and References

California Department of Transportation. 2009. *Traffic Management Plan Data Sheet.*

California Department of Transportation. 2009. *Traffic Management Plan Data Sheet (Updated).*

California Department of Transportation. 2010. "Storm Water Quality Handbook: Project Planning and Design Guide." Sacramento: Caltrans Office of Storm Water Management – Design.

California Department of Transportation. 2013. *Preliminary Drainage Report.*

California Department of Transportation. 2014. *Traffic Volumes Book.*

California Department of Transportation. 2016. *Archaeological Survey Report for the Proposed Waterline Installation Project along Interstate 80 for the CHP Inspection Station Nevada County, California*.

California Department of Transportation. 2016. *Detour Delay.*

California Department of Transportation. 2016. *Environmental Assessment – Traffic Noise and Air Quality Impact.*

California Department of Transportation. 2016. *Historic Property Survey Report*.

California Department of Transportation. 2016. *Initial Site Assessment.*

California Department of Transportation. 2016. *Lane Closure Chart.*

California Department of Transportation. 2016. Message from Public Information Office to Environmental Management M-2 Branch. Transcipt in hand of Environmental Management M-2 Branch. *Information Request.*

California Department of Transportation. 2016. *Natural Environmental Study (Minimal Impacts).*

California Department of Transportation. 2015. *Standard Specifications 2015*. California: Publication Distribution Unit.

California Department of Transportation. 2015. *Structure Preliminary Geotechnical Report.*

California Department of Transportation. 2016. *Traffic Management Plan: Trip Distribution.*

California Department of Transportation. 2016. *Visual Impact Analysis.*

California Department of Transportation. 2016. *Water Quality Assessment Exemption.*

California Environmental Protection. Agency. 2012. *Final 2012 California Integrated Report (Clean Water Act Section 303(d) List / 305(b) Report)*. Report prepared by California State Water Resources Control Board.

Economic & Planning Systems, Inc. 2013 “Draft Report: Market Study for the Bay to Tahoe Basin Recreation and Tourism Travel Impact Study.” December 6. Prepared for Wood Rodgers.

GeoCon Consultant. 2002. *Closure Request Report: CHP Truckee Truck Inspection Station.* Report prepared for California Department of Transportation.

GeoCon Consultant. 2008. *Aerially Deposited Lead Site Investigation and Survey Report.* Report for California Department of Transportation.

ICF International. 2016. “Echo Summit Sidehill Viaduct Replacement Project: Economic Impact Report.” Prepared for California Department of Transportation.

Lake Tahoe Basin Prosperity Plan Steering Committee. 2010. *Lake Tahoe Basin Prosperity Plan.* Online content available at http://tahoeprosperity.org/wp-content/uploads/LTBPP_Final_Report.pdf.

Lake Valley Fire Protection District. 2016 *About Us.* Online content available at http://www.lakevalleyfire.org/about-us/district-boundaries.

Murphy, Dennis D., and Christopher M. Knopp, technical editors. 2000. “Lake Tahoe Watershed Assessment.” Vol. 1, ch. 6: Social, Economic, and Institutional Assessment. Gen. Tech. Rep. PSW-GTR-175. Albany, CA: Pacific Southwest Research Station, Forest Service, US Department of Agriculture. Online content available at http://www.fs.fed.us/psw/publications/documents/psw_gtr175/.

Regional Water Quality Control Board Lahontan Region, California. *Water Quality Control Plan for the Lahontan Region*. 2015.

Tahoe Regional Planning Agency. 2016. *Bi-State Compact.* Online content http://www.trpa.org/bi-state-compact/.

Tahoe Regional Planning Agency. 1980. *The Compact.* Online content availabel at http://www.trpa.org/wp-content/uploads/Bistate_Compact.pdf.

Tahoe Regional Planning Agency. 2011. *2011 Threshold Evaluation Report.* Online content http://www.trpa.org/regional-plan/threshold-evaluation/.

Tahoe Regional Planning Agency. 2014. *Lake Tahoe Sustainable Communities Program Document Series #9 (Economic Development Strategy).* Online content available at http://laketahoesustainablecommunitiesprogram.org/wp-content/uploads/2014/09/9-0-Economic-Development-Strategy_FINAL.pdf.

U.S. Department of Agriculture, U.S. Forest Services. 2016. *Welcome to the Lake Tahoe Basin Mgmt Unit.* Online content available at http://www.fs.usda.gov/ltbmu.

U.S. Environmental Protection Agency. *Middle Truckee River Watershed Sediment TMDL*. Report prepared by Dorothy Rice. 2009.

U.S. Transportation Federal Highway Administration. Department. *Accelerated Bridge Construction.* Online content http://www.fhwa.dot.gov/bridge/abc/. 2015.