

Appendix D Glossary of Technical Terms

This appendix briefly explains the technical terms and names used in this IS. A list of acronyms appears directly before Chapter 1.

Best Management Practice (BMP)	Any program, technology, process, operating method, measure or device that controls, prevents, removes or reduces pollution.
Basin Plan	A specific plan for control of water quality within one of the nine hydrologic basins of the state under the regulation of a Water Quality Control Board.
Cumulative effects	Project effects that are related to other actions with individually insignificant but cumulatively significant impacts.
Decibel	A numerical expression of the relative loudness of a sound.
Encroachment (floodplain)	An action within the limits of the 100-year floodplain.
Endangered	Plant or animal species that are in danger of extinction throughout all or a significant portion of its range.
Erosion	The wearing away of the land surface by running water, wind, ice, or other geological agents.
Floodplain (100-year)	The area subject to flooding by a flood or tide that has a 1 percent chance of being exceeded in any given year.
Habitat	The place or type of site where a plant or animal naturally or normally lives and grows.
Initial Study (IS)	Environmental review document prepared to comply with CEQA
Initial Site Assessment (ISA)	A Caltrans term for an initial study to determine hazardous waste issues on a project.
L_{eq}	A unit used for evaluation of sound impacts, L_{eq} is the measurement of the fluctuating sound level received by a receptor averaged over a time interval (usually 1 hour).
Level of Service (LOS)	A measurement of capacity of a roadway.

Mitigation	Compensation for an impact by replacement or provision of substitute resources or environments. Mitigation can include avoiding an impact by not taking a certain action, minimizing impacts by limiting the degree of an action, or rectifying an impact by repairing or restoring the affected environment.
Negative Declaration (ND)	Issued upon approval of the environmental review process under CEQA
NPDES	National Pollutant Discharge Elimination System. A permit regulated by the Regional Water Quality Control Board that is required if more than 1 acre of original ground is graded. One condition of this permit is that the contractor must submit a Storm Water Pollution Prevention Plan (SWPPP), which is similar to the Water Pollution Control Plan required by Caltrans' Standard Specification 7-1.01G.
Practicable	An action that is capable of being done after taking into consideration cost, existing technology and logistics in light of overall project purposes.
Receptors	Term used in air quality and noise studies that refers to houses or businesses that could be affected by a project.
Regulatory agency	An agency that has jurisdiction by law.
Responsible agency	A public agency other than the Lead Agency that has responsibility for carrying out or approving a project under CEQA.
Right-of-way	A general term denoting land, property, or interest therein, usually in a strip, acquired for or devoted to transportation purposes.
Riparian	Pertaining to the banks and other adjacent terrestrial (as opposed to aquatic) environs of freshwater bodies, watercourses, estuaries, and surface-emergent aquifers, whose transported freshwater provides soil moisture sufficient in excess of that available through local precipitation to potentially support the growth of vegetation.
RTP	Regional Transportation Plan, prepared by the Metropolitan Transportation Commission (MTC), the regional agency responsible for transportation planning and funding.

Special-status species	Plant or animal species that are either (1) federally listed, proposed for or a candidate for listing as threatened or endangered; (2) bird species protected under the Federal Migratory Bird Treaty Act; (3) protected under state endangered species laws and regulations, plant protection laws and regulations, Fish and Game codes, or species of special concern listings and policies; (4) recognized by national, state, or local environmental organizations (e.g., California Native Plant Society).
STIP	The State Transportation Improvement Program, updated every 2 years, is the California Transportation Commission's priorities for improvements on and off the state highway system.
SWPPP	A Storm Water Pollution Prevention Plan is prepared to evaluate sources of discharges and activities that may affect storm water runoff, and implement measures or practices to reduce or prevent such discharges.
Threatened	A species that is likely to become endangered in the foreseeable future in the absence of special protection.
Waters of the United States	As defined by the USACE in 33 Code of Federal Regulations 328.3(a): 1. All waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide; 2. All interstate waters including interstate wetlands; 3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce, including any such waters: (i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (iii) Which are used or could be used for industrial purposes

by industries in interstate commerce;

4. All impoundment of waters otherwise defined as waters of the United States under this definition;

5. Tributaries of waters identified in paragraphs 1-4;

6. The territorial seas;

7. Wetlands adjacent to waters (waters that are not wetlands themselves) identified in paragraphs 1-6.

Wetlands

When used in a formal context, such as in this IS, wetlands are areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances will support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas [33 CFR 328.3(b)].

Appendix E Title VI Policy Statement

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

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January 14, 2005

TITLE VI POLICY STATEMENT

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

A handwritten signature in black ink that reads "Will Kempton".

WILL KEMPTON
Director

Appendix F U.S. Fish and Wildlife Service Species List

This appendix contains the U.S. Fish and Wildlife Service list of species that might occur within the regional area surrounding the project limits.

SACRAMENTO FISH & WILDLIFE OFFICE
Endangered and Threatened Species
that may be affected by Projects in the
Lake Tahoe Basin

Database Last Updated: August 16, 2007

Report Date: November 12, 2007

Species of Concern - The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. See www.fws.gov/sacramento/es/spp_concern.htm for more information and links to these sensitive species lists.

Listed Species

Fish

Hypomesus transpacificus - delta smelt (T)

Oncorhynchus (=Salmo) clarki henshawi - Lahontan cutthroat trout (T)

Oncorhynchus mykiss - Central Valley steelhead (T)

Oncorhynchus tshawytscha - Central Valley spring-run chinook salmon (T)

Oncorhynchus tshawytscha - winter-run chinook salmon, Sacramento River (E)

Amphibians

Rana aurora draytonii - California red-legged frog (T)

Candidate Species

Amphibians

Bufo canorus - Yosemite toad (C)

Rana muscosa - mountain yellow-legged frog (C)

Mammals

Martes pennanti - fisher (C)

Plants

Rorippa subumbellata - Tahoe yellow-cress (C)

Species with Critical Habitat Proposed or Designated in this Region

None

Key:

- (E) *Endangered* - Listed as being in danger of extinction.
- (T) *Threatened* - Listed as likely to become endangered within the foreseeable future.
- (P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the [National Oceanic & Atmospheric Administration Fisheries Service](http://www.fws.gov/nmfs). Consult with them directly about these species.
- *Critical Habitat* - Area essential to the conservation of a species.
- (PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.
- (C) *Candidate* - Candidate to become a proposed species.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.

- (X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey [7½ minute quads](#). The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants on your list are ones that have actually been observed in the area covered by the list.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list.

For plant surveys, we recommend using the [Guidelines for Conducting and Reporting Botanical Inventories](#). The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal [consultation](#) with the Service.
- During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.
- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.
- Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species

and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our [critical habitat page](#) for maps.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U. S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6580.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be February 10, 2008.

Appendix G Avoidance and/or Minimization Summary

This appendix summarizes the avoidance and/or minimization measures discussed in Chapter 2. More detail on these measures is included in the resource area discussions in that chapter.

Land Use

Avoidance and minimization measures for potential impacts related to temporary, periodic travel delays during construction are addressed in Section 2.4.4.

Community Impacts

CI-1 Public Outreach

To provide public and motorist information on the project activities, a public involvement plan will be prepared and implemented that provides for communication and outreach measures specific to this segment of US 50. Information will be provided to potentially affected individuals and institutions in the local area, such as business and property owners, school districts, local agencies, and the Lake Tahoe Airport. If appropriate, the plan will provide for public informational meetings, events, and specific stakeholder coordination to notify and coordinate with the public about construction activities that might affect the community.

CI-2 Public and Private Property Access

Access to properties, driveways, or roads along US 50 will be maintained during construction but may be limited or reduced. Notification to occupants (or responsible parties) will be made whenever a property would be directly affected by construction activities.

Utilities/Emergency Services

As emergency vehicles will be allowed passage through any construction zone, no additional avoidance, minimization, and/or mitigation measures are proposed for emergency services.

UE-1 Coordinate Final Design and Construction Activities with Utility Service Providers

Any need for utility relocation will be identified during final design of the project. If a need to relocate utilities is identified, Caltrans will coordinate these activities with the utility service providers.

Traffic and Transportation Facilities

TT-1 Traffic Management Plan (TMP)

A TMP will be developed for the US 50 Segment 2 final design phase. The TMP outlines construction requirements and restrictions to minimize traffic delays and maximize safety within the construction areas. It will include strategies for public and motorist information, incident management, construction, demand management, and alternate routes (if available or practical). For example, a construction season map will be published each year to inform the public, local businesses, and local agencies of planned construction locations and activities. Elements of the TMP for this segment would typically include the following.

- During the peak summer travel season between July 1 and Labor Day, no lane closures would be allowed after noon on Fridays, or on weekends or holidays during this period. Work planned outside the highway travel lanes that does not impede normal traffic flow would not be subject to this restriction.
- Lane closure charts will be developed for each area of work to address any planned temporary lane changes or closures. These charts and schedules will be made available for public notification and information.
- Lane closures will be limited to 0.6 mile in length or less.
- Maximum delays caused by a single closure will be limited to 10 minutes for construction projects and 15 minutes for maintenance work. The cumulative delay for a given corridor will be limited to 30 minutes.
- Bicycle and pedestrian access will be maintained through construction zones whenever possible and as appropriate.
- Construction schedules and anticipated locations of construction activities will be coordinated with the local school district with regard to school bus schedules and bus stops. Every effort will be made to allow continued school bus access around construction areas to avoid or minimize delays in the daily bus schedules. If necessary, Caltrans will work with the school district to identify any temporary periods when unavoidable delays may occur, to allow the school district to temporarily adjust bus schedules.

Visual Resources

VA-1 Measures for Specific Project Components

Measures to minimize impacts associated with the following project components are listed below.

- **Infiltration basins.**
 - Each basin will be designed specifically for its site. The basin shape will be designed to maximize infiltration and minimize tree removal. Where feasible, basins will be irregularly shaped around trees. However, if it is determined that it is not feasible to maintain the long-term health of a tree, then the tree will be removed as part of basin construction.
 - Infiltration basins will be designed without harsh angles and will integrate features into surroundings through the use of curvilinear forms and contour grading.
 - All disturbed areas associated with basin construction will be revegetated using seeding, container planting, pine needle mulch, and temporary irrigation where required.
 - Logs and boulders, as appropriate, will be integrated into the basin design.
 - Infiltration basins will avoid the use of concrete or rock slope protection lining.
- **Maintenance pullouts.**
 - Where possible, the infiltration basin access ramps will be routed to minimize ground disturbance and vegetation removal.
- **Sand traps and sand vaults.**
 - Sand traps will be installed in the least visible locations feasible.
 - Sand trap structures will be painted or powder coated with an approved Standard Federal Color (Brown #30045 or Green #34108). The specific color will be selected to match the color of any existing elements in the immediate area.
 - All disturbed areas associated with sand trap installation will be revegetated using seeding, container planting, and/or pine needle straw.
 - Visible portions of sand vaults should be designed so that the tops of the structures can be paved over, leaving only the maintenance access visible.
 - Visible portions of sand vaults will be painted or powder coated with an approved Standard Federal Color that matches the color of existing elements in the immediate area.
- **Rock slope protection (end treatment of culverts).**
 - The selected rocks will include indigenous sizes, shapes, materials, and colors wherever feasible. Edges will have irregular shapes.
 - Culvert end treatments will be treated with environmentally benign stains to induce a weathered appearance that blends elements into the existing landscape.
 - Where required, containerized native plantings will be used to strategically blend into the landscape, and/or screen, culvert end treatments from view.
- **Curbs and gutters.**

- Any new curbs and gutters will be colored an earth tone to help blend the curbs into the existing roadside.

VA-2 General Design and Construction Measures

- Temporary erosion control measures will be used in all disturbed areas during construction to minimize permanent impacts.
- Permanent erosion control measures will be used in all disturbed areas during construction. All disturbed areas will receive a permanent seed mix composed of native plant species indigenous to the area. In addition, if required, a follow-up revegetation project will install containerized plants to supplement seeding. All removed plantings will be replaced in kind. All native vegetation removed will be replaced in ratios determined by Caltrans Environmental and Landscape Architecture Offices.
- All small trees, tree limbs, shrubs and other woody debris generated during clearing and grubbing operations will be chipped and stockpiled for future use as erosion control and in areas designated for revegetation.
- Compost will be incorporated where feasible.
- Any water quality improvement ditches required will be earthen- or rock-lined whenever possible.
- If required, fences used to limit access to basins or other highway features will be made of logs or wood rails to support visual continuity along the corridor.

VA-3 TRPA Scenic Values

Caltrans roadway and drainage improvements will consider TRPA scenic thresholds and incorporate design elements or improvements that do not degrade current values. Scenic values will be enhanced to the extent possible within the scope of the proposed work.

Cultural Resources

CR-1 Discovery of Archaeological Resources

No further archaeological work is necessary within the APE. Additional surveys would be required if the project changes to include areas not previously surveyed. The project does not warrant the completion of a formal discovery plan based on the absence of recorded, reported, or identified archaeological sites in and adjacent to resources during construction. If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find. TRPA will also be contacted if any cultural materials are identified during construction.

CR-2 Discovery of Human Remains

If human remains are discovered, California Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to PRC Section 5097.98, if the remains are thought to be Native American, the coroner will notify the NAHC, which will then notify the Most Likely Descendent. At this time, the person who discovered the remains will contact Jody Brown, Caltrans Environmental Branch Chief, so that Caltrans may work with the Most Likely Descendent on the respectful treatment and disposition of the remains. Further provisions of PRC Section 5097.98 are to be followed as applicable.

Water Quality and Storm Water Runoff

WS-1 Construction Measures

Soil erosion protection measures are recommended at sites with cross-culverts that are proposed for replacement or widening. Geotextile fabrics and erosion control blankets/mats are suggested BMPs that can be installed. In addition, a line of stacked sandbag/gravel bag berms can be placed along the channel banks to intercept and slow the flow of sediment-laden sheet flow runoff on road surfaces.

In addition, the following measures would be applied:

- TRPA and LRWQCB regulations limit grading to 3 cubic yards from October 15 to May 1 of each year. Unless a variance is obtained, construction activities will conform to this requirement.
- Pollution prevention measures will be implemented to protect surface water quality degradation to the existing surface water resources within the US 50 project limits, and to prevent erosion of bare soils and potential non-point source pollutant contribution.

Other construction BMPs may be considered where proposed modifications or grading of slopes may increase runoff and expose soils. Diversion of runoff may be considered during construction where it is necessary to direct storm water flow around a construction site. Temporary dewatering of a construction site may be necessary to remove accumulated storm water runoff.

WS-2 Groundwater Measures

The project is not anticipated to encounter groundwater, as excavation work should be minimal. However, if construction encounters groundwater or may involve non-storm water discharges, consultation with the LRWQCB or California Department of Toxic

Substances Control may be appropriate. A project-specific Waste Discharge Permit may be required if substantial dewatering will take place.

Soils, Soil Conservation, and Geology

SC-1 Purchase of Land Coverage Credits

Land coverage credits would be purchased to offset the increased pavement area that would result from the proposed construction of maintenance pullouts. According to TRPA Code Section 20.3C(3), land transfers to provide coverage for low-capability lands, LCDs 1-3, must be permanently retired as set forth in TRPA Code Section 20.3C(7). Caltrans is not on the TRPA individual parcel system and is creating coverage within state right-of-way or within land on which highway agreements exist. Any land transfer would be performed under the guidance of the California Tahoe Conservancy, a State of California land bank administration agency. Caltrans has existing coverage credits at the Conservancy's land bank via a Memorandum of Understanding dated October 18, 2000.

SC-2 Geotechnical Investigations

Proposed structures could require geotechnical investigation if they are located on potentially unstable soils and could present landslide, rockfall, liquefaction, or erosion hazards. The results of such investigations would be used in the design of individual project elements to ensure that there would be no adverse effects.

Hazardous Waste and Materials

HZ-1 Lead-Contaminated Soils

Because ADL was found to exist at non-hazardous levels, a modified version of Caltrans Non Standard Special Provisions (N-SSP # 07-330) will be included for this project. The N-SSP addresses the need for a lead compliance plan and other factors. This process would be performed during the Plans, Specifications and Estimates stage.

HZ-2 Subsurface Soil Contamination

If any soil disturbance activities are planned during construction adjacent to the sites identified above as having potential contamination, a site investigation may be required to determine if any contamination is present.

HZ-3 Disposal of Removed Materials

Any removal of yellow thermoplastic lane striping must be performed in accordance with a Lead Compliance Plan and disposed of at a Class I disposal facility.

Air Quality

AQ-1 Control Dust from Construction Activities

Typical dust control practices that may be required to reduce the amount of dust from construction emissions may include, but are not limited to, the following measures:

- Covering open-bodied trucks when used for transporting materials likely to give rise to airborne dust
- Watering disturbed (graded or excavated) surfaces as necessary, increasing frequency when weather conditions require
- Watering disturbed areas to form a compact surface after grading and earth working; using chemical dust suppressants when watering is not sufficient
- Limiting areas to be cleared to facilities required for the project and necessary equipment and materials stockpile areas
- Limiting the speed of construction equipment and vehicles on unpaved roads when conditions require
- Erosion control planting of exposed slopes after construction; and incorporating standard erosion control measures as part of the contract.

The dust control activities will comply with Section 10 of the Caltrans Standard Construction Specifications (Caltrans 2006a) and will be reviewed and approved of by TRPA.

AQ-2 Reduce Emissions from Construction Equipment

The following measures can reduce pollutant emissions in construction equipment exhaust:

- Keeping engines properly tuned
- Limiting engine idling
- Avoiding unnecessary concurrent usage of equipment.

Noise

NO-1 Standard Noise Control Measures

Noise control will conform to the provisions of Section 7-1.01I, “Sound Control Requirements,” of the Caltrans Standard Specifications. Section 7-1.01I requires the Contractor to comply with all local sound control and noise level rules, regulations, and ordinances that apply to any work performed pursuant to the project. The following standard construction noise control measures would be implemented to control construction noise.

- Noise-generating activities will be restricted at the construction site or in areas adjacent to the construction site associated with the project to the hours of 8:00 a.m. to 6:30 p.m.
- Contractors will equip internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- Contractors will limit or prohibit idling of internal combustion engines on equipment or vehicles that are not actively involved in construction activities.
- Staging of construction equipment will be avoided within 200 feet of residences and stationary noise-generating construction equipment, such as air compressors and portable power generators, will be located as far as practical from existing noise sensitive receptors.
- If necessary to avoid severe temporary noise impacts, temporary barriers may be used to screen stationary noise generating equipment when located immediately adjacent to noise sensitive land uses. The need for this measure would be determined by the resident engineer.
- A noise disturbance coordinator will be designated who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and would require that reasonable measures warranted to correct the problem be implemented. A telephone number for the disturbance coordinator will be posted at a conspicuous location at the construction site and included in the notice sent to neighbors regarding the construction schedule.

Wetlands and Other Waters of the United States

WE-1 On-Site Mitigation

Remaining impacts to wetlands, other jurisdictional waters of the U.S., and SEZs will be mitigated on-site if possible. Detailed wetland mitigation plans will be developed in consultation with the USACE.

WE-2 General Avoidance/Minimization Measures and BMPs

To ensure maximum avoidance, the measures listed below and included in their entirety in Section 2.20 will be followed.

- GE-01: Establishment of Environmentally Sensitive Areas (ESAs)
- GE-02: Construction Clean-up

- GE-03: Construction Scheduling (Project activities in jurisdictional wet areas will occur in the dry season, which is typically between July 15 and October 15 but depends on seasonal conditions)
- WQ-01: Avoidance of Aquatic Resources
- WQ-02: Timing of Aquatic Resource Activities
- WQ-03: Minimizing Disturbance of Aquatic Resources
- WQ-04: Erosion Control
- WQ-05: Prohibition of Construction Materials Entering Aquatic Resources
- WQ-06: On-Site Restoration
- HA-01: Avoidance of Habitat Disturbance
- HA-02: Revegetation of Disturbed Areas
- HA-06: Preservation of Existing Top Soil Layer
- WL-01: Ensure Fish Passage
- WL-02: Limit Vegetation Removal

Special-Status Animal Species

The following measures will be taken prior to and during construction to avoid or minimize direct and permanent effects to special-status wildlife and indirect effects to areas adjacent to the study area. Preconstruction surveys will be performed in the ESL where habitat for sensitive species exists to verify species presence/absence and assess the need for additional avoidance and minimization measures. If species are determined to be present, seasonal construction restrictions will be required to avoid breeding seasons and other periods when wildlife species are vulnerable. Construction contract specifications will include use of ESAs, shown on the maps in Appendix A, construction clean-up, weed control, restrictions on in-stream work, erosion control, and restoration of disturbed SEZs. Measures for specific species identified in Section 2.17.2 are summarized below.

AN-1 Preconstruction Surveys for Avian Species

No nesting of special-status birds was observed during the field surveys. However, potential habitat was identified, and TRPA has recorded habitat or occurrences for some species within or near the project study area. To ensure that species of concern are not using the study area at the time construction proceeds, preconstruction surveys will be performed within the ESL to verify absence. In addition, the preconstruction surveys will include a review of TRPA and Forest Service annual survey data to identify any new occurrences. The following potential buffer areas may be imposed on construction activities to minimize impacts if species are found to be present.

- Northern goshawk: If nesting northern goshawks are identified, construction will be prohibited within a 0.5-mile range of the nest during the breeding season (February 15 to September 15 or until fledging occurs).
- Blue grouse, yellow warbler, waterfowl: If nests are identified, construction activities will be prohibited within 150 feet of the nest during the nesting season (March 1 to August 31). Vegetation removal will be prohibited during the nesting season to minimize the effect to warblers and other migratory birds that have not yet started nesting. Vegetation that is removed outside of the nesting season will be restored to its preconstruction condition.
- California spotted owl: If nests are identified, construction will be prohibited within 0.25 mile of the nest sites during the nesting season (between March 1 and August 31).
- Peregrine falcon: If nests are found, construction will be prohibited within 0.25 mile of the nest during the nesting season (February 1 to August 15).

AN-2 General Measures and BMPs for Avian Species

The following general avoidance/minimization measures and BMPs are detailed in Section 2.20:

- HA-01: Avoidance of Habitat Disturbance
- HA-02: Revegetation of Disturbed Areas
- WL-02: Limit Vegetation Removal
- WL-03: Migratory Bird Preconstruction Surveys
- WL-04: Raptor and Owl Surveys

AN-3 General Measures and BMPs for Mammals

The following general avoidance/minimization measures and BMPs are detailed in Section 2.20:

- WQ-01: Avoidance of Aquatic Resources
- WQ-03: Minimizing Disturbance of Aquatic Resources
- HA-01: Avoidance of Habitat Disturbance
- HA-02: Revegetation of Disturbed Areas
- WL-02: Limit Vegetation Removal
- WL-05: Roosting, Denning, or Burrowing Mammal Surveys

AN-4 Preconstruction Survey for Sierra Nevada Snowshoe Hare

Project construction activities have the potential to impact forested and riparian areas that may provide cover for Sierra Nevada snowshoe hare. Preconstruction surveys will be conducted for Sierra Nevada snowshoe hare within the ESL in riparian areas where nest depressions may be located. Where Sierra Nevada snowshoe hare nest depressions are identified, construction within 250 feet of these areas will be prohibited between February 1 and July 1, and construction will be limited to daylight hours.

Threatened and Endangered Species

TE-1 Measures for Sierra Nevada Red Fox

As the project vicinity contains potential habitat for Sierra Nevada red fox, preconstruction surveys for dens will be conducted within the ESL. Construction will be prohibited within 250 feet of an identified active den during the breeding season (February 1 to May 31). Open trenches or other construction features that pose a risk of trapping animals will have escape ramps installed or will be covered at the end of each construction day.

In addition to the above specific measures the following general avoidance and minimization efforts (described in detail in Section 2.20) are applicable for the Sierra Nevada red fox:

- HA-01: Avoidance of Habitat Disturbance
- HA-02: Revegetation of Disturbed Areas
- WL-02: Limit Vegetation Removal
- WL-05: Roosting, Denning, or Burrowing Mammal Surveys (as described above)

Invasive Species

The following measures, which are described in Section 2.20, will be implemented to avoid the potential introduction of noxious weed material to the project site:

- HA-03: Construction Equipment Weed Control
- HA-05: Weed-Free Erosion Control Seed Mix/Stock