CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

ORDER NO. R6T-2012-0015

WASTE DISCHARGE REQUIREMENTS (WDR)

FOR

UNITED STATES FOREST SERVICE
LAKE TAHOE BASIN MANAGEMENT UNIT

SOUTH SHORE FUEL REDUCTION
AND HEALTHY FOREST RESTORATION PROJECT

El Dorado County

A. FINDINGS

WHEREAS the California Regional Water Quality Control Board, Lahontan Region (Water Board) finds:

1. Project. The U.S. Forest Service (USFS), Lake Tahoe Basin Management Unit (LTBMU) submitted a project description, a final environmental document, and other information for the South Shore Fuel Reduction and Healthy Forest Restoration Project (Project). The Project may also be referred to as the Facility. The term "Project" also refers to the Project-specific staging areas, storage areas, and access roads for equipment and materials.

2. Discharger. For the purposes of this Waste Discharge Requirements (WDR), the LTBMU is considered the Discharger.

3. Regulated Wastes. The specific types of discharges of waste this WDR regulates include, but are not limited to, earthen materials (such as soil, silt, sand, clay, and rock), organic materials (such as slash, sawdust, bark, and ash), construction wastes (such as concrete waste and removed culverts), oils and greases, herbicides, and fill materials resulting from timber harvest and vegetation management activities.

4. Project Purpose. The Discharger's South Shore Project is intended to reduce impacts from hazard fuels (see definition, WDR Attachment A) and restore ecosystem health on lands owned by the United States of America and managed by the U.S. Forest Service. The primary management objective is the reduction of hazard fuels within the South Shore of the Lake Tahoe Basin wildland urban interface (WUI) in order to change fire behavior resulting in lower fire severity and reduced rates of spread. Secondary objectives include providing healthy wildlife habitat, restoring a forest structure with increased resistance to drought, disease, and insects, and restoring aspen stands within the South Shore Project area. The

Project will apply vegetative treatments to reduce hazard fuels on up to 10, 200 acres within the South Shore WUI over approximately three to seven-years with forest thinning occurring on approximately 2,660 acres per year. Of this, no more than 1,350 acres would be mechanically thinned per year. It is anticipated the results of the project will be effective (meet the Forest Service desired conditions) or a period of 15 to 20 years. Hazard fuel reduction would occur on Forest Service-managed lands in all three zones of the WUI: within the urban core where undeveloped public and developed private lands are adjacent; within the Defense Zone where undeveloped public lands extend ¼ mile from places where people live and/or work; and within the Threat Zone where undeveloped public lands extend 1 ¼ miles beyond the Defense Zone.

A combination of the following methods will be used to meet the fuels and vegetation objectives for the Project area, including Stream Environment Zones (SEZs):

- Mechanical thinning of brush and trees, using Cut-to-Length (CTL) or whole-tree operations (WT). WT logging equipment shall not operate within SEZs; however, WT equipment may be used to reach into or endline whole trees from SEZs.
- Hand thinning of brush and trees,
- Saw log and biomass removal, with chipping and/or masticating of slash and brush.
- Removing infested, diseased, and dead trees, both standing and down, that are in excess of wildlife and soils retention needs.
- Prescribed pile burning and underburning subsequent to vegetation treatments.

The thinning operations used will be based on soil type, slope, and associated water quality concerns such as risk of sediment delivery to surface water. Hand treatments, end-lining, or reaching in by equipment would be used where slopes or soil conditions are not suitable for mechanical treatments and where road access is not feasible. Overall, mechanical harvesting using ground-based equipment with follow-up biomass removal, chipping, mastication, or prescribed burning, would occur on approximately 4,100 acres. Hand thinning with similar follow-up fuels treatments would occur on approximately 6,000 acres. Best Management Practices (BMPs), mitigation measures, and a Monitoring Plan are incorporated into the Project description and in this WDR to avoid or substantially lessen adverse environmental impacts.

5. Regulatory Authority and Reason for Action. The drainages and wetlands affected by the Project are waters of the State, as defined by section 13050 of the California Water Code (Water Code), and are therefore subject to State requirements in accordance with section 13260 of the Water Code.

   The Project involves the proposed discharge of wastes (See Finding No. 3 above). The Water Board will regulate the proposed discharge of wastes into wetlands and other waters of the State by this WDR issued pursuant to Section 13263 of the Water Code. The Water Board considers WDRs necessary to adequately address potential and

planned impacts to waters of the State from this project, to require mitigation for these impacts to comply with the water quality standards specified in the *Water Quality Control Plan for the Lahontan Region* (Basin Plan).

6. Project Location. The Project extends from Cascade Lake on the northwest to the Heavenly Mountain Resort Special Use Permit boundary and the Nevada State line on the northeast, and from Lake Tahoe on the north to the Discharger's National Forest boundary on the south (WDR Attachment E, Map 1). The overall Project area totals 86,790 acres, of which 70,581 acres are managed by the Discharger. The Discharger proposes vegetative treatments only on National Forest System lands within the three zones of the WUI identified in Finding 4. The Defense Zone comprises 60 percent of the WUI acres within the National Forest System, the Threat Zone 35 percent, and the remaining five percent is the Urban Core.

7. Hydrologic Areas. The Project area includes surface waters within the Lake Tahoe Hydrologic Unit (HU), as defined in the Basin Plan, specifically surface waters within the South Tahoe Hydrologic Area (HA), which drain into Lake Tahoe. The following FEIS-designated watersheds have areas proposed for treatment under this Project. Basin Plan-designated hydrologic subunits within the South Tahoe HA, which encompass, or are encompassed by, the FEIS watersheds, are noted italicized in parentheses.

   (a) Angora Creek (*Upper Angora Lake, Lower Angora Lake*)
   (b) Benwood Meadow (*Upper Truckee River*)
   (c) Big Meadow Creek (*Upper Truckee River*)
   (d) Bijou Frontage (*Tahoe Meadows Wetlands*)
   (e) Camp Richardson Frontal (*Pope Marsh/Wetlands*)
   (f) Cascade Creek (*Cascade Lake, Cascade Creek*)
   (g) Cold Creek (*Cold Creek*)
   (h) Echo Creek (*Echo Lakes, Upper Truckee River*)
   (i) Glen Alpine Creek (*Glen Alpine Creek*)
   (j) Grass Lake (*Grass Lake Wetlands, Grass Lake, Grass Lake Creek*)
   (k) Headwaters of Trout Creek (*Trout Creek*)
   (l) Lower Trout Creek (*Trout Creek*)
   (m) Lower Upper Truckee River (*Upper Truckee River*)
   (n) Middle Upper Truckee River (*Upper Truckee River*)
   (o) Osgood Swamp (*Osgood Swamp*)
   (p) Saxon Creek (*Saxon Creek*)
   (q) Tallac Creek (*Tallac Creek*)
   (r) Taylor Creek (*Fallen Leaf Lake, Taylor Creek, Taylor Creek Meadow Marsh*).

   Project treatment areas only occur in that part of a watershed that is within the WUIs. Additionally, one proposed treatment unit drains into the headwaters of the South Fork of the American River, which is not within the jurisdiction of the Lahontan Water Board, and is therefore not addressed by this WDR. Of the 840 miles of streams within the Project area, the Discharger proposes to conduct tree and vegetation removal along 76 miles of ephemeral streams, 1 mile of intermittent streams, and 21 miles of perennial streams.

8. Existing Water Quality Conditions. Ambient water quality monitoring throughout the Lahontan Region has been reported in the Water Board's 2007 *Surface Water Ambient Monitoring Program (SWAMP) at the Lahontan Region: Summary of Results for Years 2000–2005*, which includes the following findings:

   "Chemical and bacteriological monitoring was conducted by the U. S. Geological Survey (USGS) at 30 surface water sites throughout the Lahontan Region from 2000–2005. The results indicate that surface waters at the monitored sites are generally of high quality. However, some potential exceedances of State water quality standards (i.e., Basin Plan objectives) were observed."

   "The highest rates of potential exceedance were documented for total dissolved solids (TDS) and dissolved oxygen (DO). The causes and significance of the potential exceedances for these parameters remains unknown. Potential exceedances of other Basin Plan objectives were relatively rare."

9. The 2009 Clean Water Act (CWA) Sections 305(b) and 303(d) Integrated Report for the Lahontan Region (Integrated Report) describes Water Board's regional water quality assessment process, including analysis of data and information, and recommendations for the additions, deletions, and modifications to the 2006 CWA section 303(d) list (303(d) list) of impaired waterbodies and Total Maximum Daily Loads (TMDLs) completion dates. Water quality monitoring data was submitted by stakeholders (including the Discharger) and from Lahontan's Surface Water Ambient Monitoring Program (SWAMP). The updated Integrated Report, approved by the Water Board in July 2009, provided the basis for adding Cold Creek and delisting from the 303(d) list pathogens as a stressor in Big Meadow Creek and Upper Truckee River.

   The 2010 303(d) list of water quality limited segments that are impaired and require TMDLs includes the following streams/lake within the Project area: (Stream: pollutant - pertinent potential sources):

   Cold Creek:
   - Total Nitrogen as N – agricultural water diversion – this listing is being addressed by a USFS restoration project.

   Heavenly Valley Creek (USFS boundary to Trout Creek):
   - Chloride –, highway/road/bridge runoff, natural sources, unknown source.
   - Sedimentation/siltation - construction/land development, habitat modification, hydromodification, non-point source, recreational and tourism activities (non-boating).

   Heavenly Valley Creek (source to USFS boundary):
   - Chloride –, highway/road/bridge runoff, natural sources.
   - Phosphorus –, erosion/siltation, natural sources, recreational and tourism activities (non-boating).

- Sedimentation/siltation – unknown source. This listing is being addressed by an adopted TMDL and through an individual WDR imposed on USFS/Heavenly Ski Area.

Lake Tahoe:

- Nitrogen – silviculture, runoff (other urban, surface, erosion and sedimentation), roads, channel erosion, atmospheric deposition, natural sources. This listing being addressed by August 2011 U.S. Environmental Protection Agency (U.S. EPA) approved TMDL.
- Phosphorus – silviculture, runoff (other urban, erosion and sedimentation), roads, channel erosion, , sediment re-suspension, natural sources, nonpoint sources. This listing being addressed by August 2011 U.S. EPA approved TMDL.
- Sedimentation/siltation - silviculture, runoff (other urban, erosion and sedimentation), roads, channel erosion, atmospheric deposition, sediment re-suspension, natural sources, nonpoint sources. This listing being addressed by August 2011 U.S. EPA approved TMDL.

Tallac Creek (below Hwy 89):

- Pathogens – historic grazing; recreation users
- Iron – natural sources

Trout Creek (above Hwy 50):

- Iron – natural sources.
- Nitrogen – urban runoff, erosion/sedimentation, atmospheric deposition.
- Pathogens – historic grazing, recreation users, source unknown.
- Phosphorus - urban runoff, erosion/sedimentation, atmospheric deposition.

Trout Creek (below Hwy 50):

- Iron –natural sources.
- Nitrogen – urban runoff, erosion/sedimentation, atmospheric deposition.
- Pathogens – historic grazing, recreation users, source unknown
- Phosphorus - urban runoff, erosion/sedimentation, atmospheric deposition.

Upper Truckee River (above Christmas Valley):

- Iron – natural sources.
- Phosphorus – silviculture, natural sources, erosion/siltation, urban runoff.

Upper Truckee River (below Christmas Valley):

- Iron –natural sources
- Phosphorus – silviculture, erosion/siltation, , natural sources, urban runoff.

10. Hydrology. Elevations in the Project treatment area range from 6,224 feet at lake level to approximately 8,000 feet near Luther Pass. Average annual precipitation ranges from approximately 20 to 60 inches (mostly in the form of snow) in the Lake Tahoe Basin depending largely on elevation. Because of this, spring snowmelt gradually contributes the majority of the stream flow over an extended period. However, infrequent rain-on-snow events can affect the landscape and stream channels, and can contribute

disproportionate amounts of runoff-carried pollutants to surface waters including Lake Tahoe.

11. Soils. Soils in the Project area developed from glacial and alluvial materials primarily derived from granitic rocks, with some metamorphic and volcanic rocks. Soils are generally coarse-textured, with coarse sand, loamy coarse sand, and sandy loam surface layers. The "SEZ soils" are organic soils primarily derived from decomposed peat, have organic surface layers derived from decomposed plants, or are beach sands. Surface erosion has been identified in the Project area as the dominant erosional process. Trout Creek and the watersheds to the east have greater surface erosion potential than the other drainages, possibly due to their thicker layer of parent soil material. Fire suppression and conifer encroachment have been identified as the main causes of over-dense upslope forests, which can alter water flows and soil moisture conditions, tying up more water in the upper watersheds. Additionally, the loading rates for finer particles from hillslopes are currently higher than they had been in the recent past, due to the connection of hillslope roads and trails to surface waters. In lightly and moderately burned areas from the 2007 Angora Fire, the fire resulted in short-term detrimental water quality effects including temporary loss of ground cover. In areas with high-intensity burns, ground cover was almost completely removed: nearly all vegetation, including streamside vegetation (necessary for shading and healthy stream temperatures) was lost, and large and small organic material were removed.

    The Discharger proposes treatments, including but not limited to, thinning of forests, removal of excessive ground fuels, stabilization of exposed soils, decommissioning of roads, avoidance of sensitive soils, and restoration of vegetation, which will restore proper hydrologic conditions and functions. Through soil evaluations and analyses, the Discharger has identified soils within their Project area that have potentially severe or very severe limitations for mechanical harvest due to a high hazard rating for erosion, rutting, or damage from wildfire. These soils will be referred to as sensitive soils throughout this document.

12. Stream Environment Zones and Waterbody Buffer Zones. The Discharger is proposing potentially soil-disturbing activities extensively throughout the approximately 733 acres of SEZs within the Project treatment area (see Finding No. 17 and WDR Attachments E5 and E6). SEZs are defined as biological communities that owe their characteristics to the presence of surface water or a seasonally high groundwater table. The Tahoe Regional Planning Agency (TRPA) criteria used to delineate an SEZ include the presence of specific vegetation and soil types, plus hydrology. The dense vegetation of SEZs is capable of rapid nutrient uptake and incorporation, while the moist-to-saturated soils are conducive to denitrification. Studies of nutrient removal by SEZs have shown that:
    - Sheet flow across SEZs provides the most effective treatment of water;
    - The natural treatment capability of SEZs is destroyed where development causes channelization; and
    - Channelized SEZs may actually increase sediment and nutrient loading in areas where erosion is caused by concentrated flow.

    SEZs have been found to be effective in reducing nutrient and sediment loads from

storm water. However, during certain rainfall and snowmelt episodes and following the fall die-off of vegetation, SEZs may also be a source of nutrients and sediments to watercourses, especially where the SEZs have been disturbed. In addition to removing nutrients from storm water runoff, naturally-functioning SEZs can reduce flood peaks, diffuse flow, increase evapotranspiration, and increase the retention time of surface water. SEZs also have many other values, such as water contact and non- contact recreation, wildlife habitat, aquatic habitat, and floodplain attenuation.

The Discharger found from the Heavenly Valley Creek SEZ demonstration project (HSEZ) monitoring results that mechanical treatment of SEZs with CTL forwarding and harvesting technology could be implemented under favorable soil moisture conditions (i.e., relatively high soil infiltration capacity and low soil moisture content) without causing ecologically adverse impacts to soil or water quality. The Water Board reviewed the demonstration project and conclusions, and agreed to allow continued use of the treatment methodology, under specific conditions and criteria. The Discharger's South Shore SEZ Risk Rating System (May 2008, revised March 2011, and incorporated as FEIS Appendix C) was modified from the original sensitivity rating criteria agreed to by the Water Board for evaluation of the sensitivity of Project treatment units within fuel reduction projects that either contain or are entirely SEZ. The results from the Discharger's rating exercise for each SEZ treatment unit potentially considered for mechanical treatment using the South Shore SEZ Risk Rating System shall be compared to the original sensitivity rating criteria as accepted for use on the South Shore Project by the Water Board, May 30, 2008. If those SEZ units have an equal or higher rating under the original sensitivity rating criteria, they will be treated only by hand crews, end-lining or equipment reach, or mechanical over-snow operations.

The FEIS also contains a modified Soil Moisture Protocol (FEIS Appendix D) to determine operability on soils, based on soil moisture measured at the 4-8 inch depth. Operability soil moisture conditions shall be determined based on the accepted Soil Moisture Operability Protocol, measured at the 2 to 10 inch depth, as specified in WDR Attachment E, Table E1 and WDR Attachment F, BMP No. 6.

The Project soil evaluation and analysis done by the Discharger to identify sensitive soils as described above are different from the TRPA SEZ designations; however, both the soil survey and the SEZ designations are used in the Discharger's analysis of effects. The Discharger proposes, and this WDR requires, special resource protection measures for Project activities within SEZs and Waterbody Buffer Zones (see WDR Attachment E, Table E2 and WDR Attachment F, BMPs No. 2, 6, 12 through 21, 24 through 31, 35, 38, 41, 45, 46, 49, 52b, 53 through 58, 76b, and 90). However, many of the Discharger's proposed resource protection measures allow for field decisions or do not provide adequate protection to the tributaries to Lake Tahoe (since they allow soil disturbance close to waterbodies during WT logging practices). The California part of Lake Tahoe is designated by the U.S. EPA as an Outstanding Natural Resource Water (ONRW), which provides that no further degradation of Lake Tahoe can be allowed. All reasonable, cost-effective, best management practices for nonpoint source control are required. The Waterboard finds that the proposed setbacks pose an unreasonable risk to water quality, including the avoidable delivery of nutrients and sediments to waters tributary to Lake Tahoe. Due to this, minimum WT logging set-backs are being imposed in this WDR

(WDR Attachment F, BMP No. 15), using the same Waterbody Buffer Zones set forth in WDR Attachment B of the 2009 Timber Waiver (R6T-2009-0029).

The Discharger proposes to limit work within SEZs to either hand crews, end-lining or equipment reach, over-snow logging, or using Cut-to-Length (low psi) equipment. As noted above, these particular resource protection measures, as proposed in the FEIS, also allow for field decisions without sufficient criteria for the protection of water quality to make those decisions, or do not provide adequate protection to the tributaries to Lake Tahoe. This WDR therefore requires the use of the specific BMPs and mitigation measures detailed in WDR Attachment F, which provide specific limitations within which the Discharger can base field decisions, and provide specified minimum protection requirements which are either lacking or insufficient in the RPMs and BMPs noted in the FEIS and Record of Decision (ROD) (see crosswalks between BMPs and RPMs in Tables E3a and E3b). Because certain construction resource protection measures could not be developed prior to issuance of this WDR, the Discharger shall develop and incorporate detailed BMPs for the construction, use, and removal of stream crossings in its Annual Operating Plans (including the Roads Package and Erosion Control Plans [ECPs]) consistent with the BMPs required in WDR Attachment F, which will be submitted to Water Board staff for review and acceptance before Project operations may commence, as described under WDR Section E.1. This will ensure that water quality will be protected during operations.

12. Monitoring Program. A Monitoring and Reporting Program (MRP, see WDR Attachment C and the associated WDR MRP Attachments) is designed to ensure that the Project management measures are installed and functioning prior to precipitation events (implementation monitoring), that the measures were effective in controlling sediment discharge sources (effectiveness monitoring), and that any new sediment sources occurring as a result of Project implementation are identified and corrected (forensic monitoring). The Implementation Monitoring Checklist provided in WDR MRP Attachment B is provided as an example only, and is to be modified to appropriately fit the proposed actions detailed within the Annual Operating Plans or unit-specific workplans, per WDR Section E. The Water Board may require that any person who proposes to discharge waste within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires (Water Code section 13267). All monitoring must be conducted by qualified professionals (i.e., a person with a bachelor's degree or higher in a biological, ecological, or other relevant science such as engineering, geology, soils, hydrology, botany, or fisheries and with the appropriate training and experience to competently conduct the required site inspections and accurately prepare valid technical reports associated with preventing or minimizing the discharge of waste to waters).

The Discharger developed a Project Monitoring Plan, incorporated in Chapter 4 of the FEIS. However, this Monitoring Plan is based on national standards and not designed for activities that will occur within sediment-impaired watersheds or the watersheds of an ONRW; relied on the FEIS' inadequate resource protection measures and BMPs; and did not contain adequate details regarding long-term effectiveness or forensic monitoring, adequate follow-up contingency plans, or reporting specifications. Further, this Project includes a number of higher-risk,

innovative activities for which there is little or no literature describing their environmental effects, such as allowing burning of waste piles within SEZs. The FEIS' Project Monitoring Plan does not adequately describe additional monitoring or follow-up mitigation measures for higher-risk, innovative Project activities.

This WDR, including the MRP in WDR Attachment C, therefore requires monitoring of the BMPs specified in WDR Attachment F, requires an increased percentage of effectiveness monitoring on Project-specific sites, includes additional details for photo-point and forensic monitoring, specifies reporting requirements, and contains additional details on effectiveness monitoring for higher-risk innovative activities, such as the placement and burning of slash piles within the SEZs. Results from this latter, additional monitoring will either support current resource protection measures or be used to modify them on the remaining burn piles to provide additional protection to the SEZs. The MRP requires the Discharger to provide an evaluation of the piles burned within the previous year in its annual July Monitoring Report. This evaluation shall include the following:

(a) The corrective actions taken at any burn pile location where the burn has impacted the soils or the site in some manner; the discussion of a "corrective" action may indicate that impacts were minor, not requiring immediate corrective actions, but include details on further monitoring and evaluations;
(b) What corrective actions will be undertaken on the existing burn piles not yet burned to avoid similar impacts; and
(c) A description of the corrective actions to be undertaken in future burn pile areas in the Project to avoid these impacts.

The Discharger shall submit a technical report detailing the winter operations activities and sampling results as noted in WDR Section E. Reports Required, No. 4, the FEIS, ROD, and WDR, including WDR Attachment C. This technical report shall include detailed discussions of the conditions, activities, and mitigation measures in place during operations which occurred on dry soils between October 16th and April 30th, when snow coverage or hard frozen soil conditions did not exist.

The MRP also requires bioassessment monitoring (with the requisite associated habitat measurements) on Saxon Creek to reveal if substantial quantities of sediment are delivered to specified watercourses by Project activities or to verify protection or improvement of aquatic systems downstream of Project activities. The proposed MRP bioassessment monitoring site on Saxon Creek was chosen downstream of a variety of potentially high-risk Project activities where bioassessment monitoring efforts have already been performed. The rationale for this bioassessment monitoring requirement is detailed in MRP Attachment G.

13. As noted in WDR Attachment A (Definitions), which is incorporated into this WDR, certain terms used in this WDR have a specific, regulatory definition. The definition of these terms as listed in WDR Attachment A may differ from common, dictionary definitions. All other terms shall have the same definitions as prescribed in the FEIS, the California Forest Practice Rules (California Code of Regulations, title 14, section 895.1 et seq.), Public Resources Code section 4528, subdivision (f), and Water Code section 13000 et seq., unless specified otherwise.

14. Basin Plan. Water quality standards and control measures for surface and ground waters of the Lahontan Region are contained in the Basin Plan. The Basin Plan designates beneficial uses for water bodies and establishes water quality objectives (WQOs), waste discharge prohibitions, and other implementation measures to protect those beneficial uses. In 2011, the Basin Plan was amended to incorporate the Lake Tahoe Total Maximum Daily Load, which included requirements for forest management agencies.. WDR Attachment B contains excerpts from the Basin Plan on the beneficial uses, WQOs, prohibitions, and specific requirements of the Lake Tahoe TMDL applicable to this Project. This WDR implements the Basin Plan by specifying orders that the Discharger must comply with. Order A.3. and Order A.4., below, are the specific orders for the Discharger to meet the TMDL requirements.

15. California Water Code section 13241. Pursuant to California Water Code section 13241 the requirements of this WDR take into consideration:

    (a) Past, present, and probable future beneficial uses of water:
    These WDR identify existing surface water quality and past, present and probable future beneficial uses of water as discussed in Finding No. 14 and described in WDR Attachment B. Under certain circumstances during Project implementation or following severe rain storms (e.g., equipment failures, culvert blockages caused by storm events, a tree not falling where intended, etc.), short-term increases in turbidity may occur. However, the Project BMPs and monitoring/mitigation requirements in Attachments C and F have been designed to reduce any short-term adverse effects to less than significant. The Project purpose is to reduce the risk of wildfire, improve forest health, and enhance aspen habitat. Once these conditions are achieved they will result in improved water quality thereby enhancing the beneficial uses of waters in the Project area from improved forest uptake of nutrients and increased infiltration.
    (b) Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto:
    Findings No. 7 and 8 describe the environmental characteristics and quality of water available.
    (c) Water quality conditions that could reasonably be achieved through the coordinated control of all factors that affect water quality in the area:
    Adherence to the Project plans, design criteria, monitoring, and mitigation measures in the FEIS and this WDR will avoid or reduce potential impacts to existing water quality conditions during Project activities. Although cumulative watershed effects already exist within the Lake Tahoe Basin and the analysis area for this Project, a number of currently implemented and proposed efforts under the Lake Tahoe TMDL program including required NPDES storm water permits and the Lake Tahoe Environmental Improvement Program (e.g., storm water treatment programs, BMP retrofit program, watershed restoration projects, etc.) will improve water quality over time.
    (d) Economic considerations:
    This WDR authorizes the Discharger to reduce hazard fuels in order to change fire behavior resulting in lower fire severity and reduced rates of spread, provide healthy wildlife habitat, and restore the forest structure to increase resistance to

drought, disease, and insects within the public lands on the South Shore of the Lake Tahoe Basin WUI, as specified in the FEIS. The Discharger has indicated that, as the chosen alternative will produce revenues from tree thinning only, values generated from the sale of generally smaller trees would not cover the costs associated with tree removal and extensive slash cleanup from past tree mortality. Additionally, CTL harvesting systems are more expensive than WT logging systems and will therefore raise the ratio of costs to revenue even higher. Although other fuel reduction methods, such as helicopter logging, are technically feasible to reduce effects in sensitive areas, they are not economically viable (as noted above, the Project will generate sub-merchantable material), nor would their use provide commensurate protections. Their use is therefore not required. Although there are recognizable additional costs involved in implementing, monitoring, and maintaining the more stringent BMPs required by this WDR as compared to those resource protection measures proposed in the FEIS and ROD, there will be substantial increases in prevention of water quality impacts. WDR Attachment F contains detailed and clear, prescriptive BMPs that augment the FEIS' and ROD's resource protection measures. The MRP, in WDR Attachment C, prescribes actions based on an adaptive management system, which sets forth procedures for the Discharger to follow to quickly identify issues before the issues become excessive; correct inherent faults in the prescribed BMPs; and re-evaluate the use of replacement protection measures. Under this adaptive management system, there is a far greater chance of preventing delivery of sediments into the tributaries of the ONRW. The additional expense of these BMPs and the manpower required to properly maintain the BMPs are insignificant compared to the potential costs to remove sediment from Lake Tahoe and its tributaries.

The Project is a necessity. The loss of economic values to homeowners and the City of South Lake Tahoe, surrounded by the WUI, would be much greater if the Project is not implemented and a large scale fire occurred. Additionally, public agencies would likely incur more significant fire suppression costs. This WDR accepts the Discharger's proposal, when used in conjunction with the Provisions and BMPs cited in WDR Attachment F of this WDR, as meeting the best practicable control method for protecting surface water quality from the effects of the Project activities, while at the same time meeting the project goals of reducing the risk for loss of private property and economic values from high-intensity wildfires.

(e) The need for developing housing within the region:
The Project activities will be conducted entirely on public lands, and therefore will not affect the need for developing additional housing within the region. The Discharger is not responsible for developing housing within the region, and the Project is not expected to influence any additional growth in the area. This WDR does not provide for additional capacity in housing development.

(f) The need to develop and use recycled water:
The Porter-Cologne Water Quality Control Act (Porter-Cologne), Section 13952.1 prohibits the use of recycled water in the Lake Tahoe Basin, except for fire suppression where the fire incident commander determines that catastrophic fire

conditions exist that would result in severe harm to life, property, or the environment if recycled water could not be used. The only allowable source for this emergency use is the South Tahoe Public Utility District export pipeline which runs through Christmas Valley into Alpine County. This project will neither positively nor negatively affect the need to develop and use recycled water.

16. State Water Board Resolution No. 68-16. This resolution ("Statement of Policy with Respect to Maintenance of High Quality Waters in California") requires that the Water Board regulate discharges of waste to waters of the state to maintain existing high quality waters unless the regional water board finds that changes in water quality achieve the highest water quality consistent with maximum benefit to the people of the state. It further requires that changes to water quality does not unreasonably affect present and anticipated beneficial uses, does not result in water quality less than that prescribed in the Basin Plan. Discharges to existing high quality waters must meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that a pollution or nuisance will not occur and that the highest water quality consistent with maximum benefit to the people of the state will be maintained.

Porter-Cologne defines "pollution" as an alteration of the quality of the waters of the state by waste to a degree which unreasonably affects either the waters for beneficial uses or the facilities which serve these beneficial uses. Porter-Cologne defines "nuisance" as anything which is: injurious to health, indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; and occurs during, or as a result of, the treatment or disposal of wastes.

This WDR is consistent with Resolution No. 68-16 because it requires compliance with applicable water quality control plans, including applicable water quality objectives, prohibits the creation of pollution or nuisance as defined above, and sets forth conditions that require the implementation of additional mitigation measures (noted in the BMP requirements in WDR Attachment F) to assure protection of beneficial uses of waters of the state and maintenance of the highest water quality consistent with maximum benefit to the people of the state.

The Discharger will monitor the implementation of 100% of its proposed BMPs throughout the life of this Project, employ low impact technology within the SEZs, and utilize a soil sensitivity rating system to limit activities in sensitive areas, to reduce the possibility of sediments getting into the watercourses, and ultimately Lake Tahoe.

As discussed in WDR Attachment B, Section 4(d), the Water Board has identified fine sediment to be the primary cause of clarity loss in Lake Tahoe. Project activities such as the construction and re-construction of about 1.1 miles of temporary roads in SEZs, the use of up to 29 temporary road watercourse crossings (and a to-be-determined number of skid trail crossings on Class III [ephemeral] watercourses) (see Stream Classification Crosswalk in WDR Attachment E, Table E4), the use of

135 landings within the Resource Conservation Areas (see definition, WDR Attachment A), pile burning on up to 15% of the SEZ areas to be treated each year, and dust generation by vehicle and skidding equipment has the potential to increase delivery of fine sediments to watercourses and ultimately to Lake Tahoe. The WDR requires the best practicable treatment to avoid or substantially lessen the delivery of sediments to waterbodies. The Project's proposed resource protection measures and BMPs, when used in conjunction with this WDR and the incorporated BMP Requirements in WDR Attachment F, require use of the best available technologies to prevent the generation of fine sediments near waterbodies.

17. Discharge Prohibition Exemption. The Discharger is proposing potentially soil-disturbing activities extensively throughout several watersheds of the Lake Tahoe Basin, including on SEZ (see Finding No. 11) and other sensitive soils (see Finding No. 10). Additionally, the Discharger is proposing numerous high-risk activities (see the List of High Risk Activities and Sites in WDR Attachment C) which either require additional protection measures, or for which little is known about the potential impacts. Tables E5 and E6 in WDR Attachment E list summaries of proposed fill, excavation, and coverage in or adjacent to SEZ. The Basin Plan prohibits permanent disturbance within 100-year floodplains and SEZ, unless the Water Board grants exemptions to these prohibitions to protect the natural treatment capacity of 100-year floodplains and SEZ, and to prevent channelized flows from causing erosion (see WDR Attachment B, Basin Plan). This WDR requires the Discharger to implement BMPs No. 1 through 58, and 90, listed in WDR Attachment F to protect sensitive soils and water quality. To allow for the timber harvesting activities under this WDR, the Water Board makes the following findings for a prohibition exemption to the Basin Plan prohibitions (WDR Attachment B) against disturbance or fill within SEZs. Timber harvest and vegetation management activities listed in WDR Attachment J, when conducted in compliance with this WDR and the BMPs and mitigation measures noted in WDR Attachment F, and which reflect the conditions and criteria specified in WDR Attachment J, do not result in discharges in conflict with the Basin Plan waste discharge prohibitions, and therefore do not require a prohibition exemption.

a. The project is necessary for public health, safety, or environmental protection.

The purposes of this Project are to:

- develop defensible space adjacent to communities in the South Shore area where fire suppression operations can be safely and effectively conducted in order to protect homes and communities from wildfires;
- restore forest health in the South Shore area where stands of trees have become sufficiently dense and surface fuels have accumulated to such a degree that wildfires with sustained crown fire and long range spotting could quickly develop, causing severe resource damage and threatening human life and property; and
- restore meadows and aspen stands in the South Shore area in order to reduce the potential for catastrophic wildfire to spread through these areas, to promote maintenance of meadows and aspen stands consistent with the TRPA and Pacific Southwest Research Station's "Aspen Community Mapping

and Condition Assessment Report," and to provide wildlife habitat for species that are dependent on meadows and/or aspen.

The Forest Service's Lake Tahoe Watershed Assessment found that current tree density is approximately four times that of 150 years ago and that there has been a pronounced shift away from pine and towards fir in younger trees. The proportion of less fire-resistant white fir and incense cedar has doubled over the past 200 years, while the component of more fire-resistant Jeffrey pine has declined by half. The 2000 Lake Tahoe Watershed Assessment (Watershed Assessment) noted that the Tahoe Basin has one of the highest fire ignition rates in the Sierra Nevada, concentrated around the WUI. The Watershed Assessment projected that "should a fire escape initial control attempts under extreme wildfire conditions, at least 50 percent of the area in the resulting burn would likely be crown fire, with overstory tree mortality greater than 50 percent ... Even a small wildfire in the basin is potentially a significant event because of the juxtaposition of high ignition potential, high density and value of human developments, and high fuel hazard." The recommendation from this assessment was "A combination of increased fire prevention, education, and strategic fuel hazard reduction will be most effective at reducing the likelihood of damaging fire in the basin." Some Project activities will therefore result in increased environmental protection and improvement (specifically within the units where riparian enhancement will occur). The Project is therefore necessary for public health and safety, and environmental protection.

b. There is no reasonable alternative, including spans, which avoids or reduces the extent of encroachment.

To reduce the threat of a catastrophic wildfire, the Project's proposed timber harvest activities include the removal of dead, dying, and diseased vegetation and ladder fuels which occur within the 100-year floodplains and SEZs within the WUI. To provide access to these sites and across them to reach other key units, existing permanent watercourse crossings, existing permanent roads, temporary roads, and temporary watercourse crossings/approaches which will be in place more than one year must be constructed/reconstructed and used within the 100-year floodplains and SEZs. To minimize impacts throughout the Project areas, trees have to be skidded across Class III (ephemeral) channels to reduce the number of longer roads which would otherwise need to be built, and the Discharger must be allowed to pile and burn slash within SEZs which would otherwise not be removed and therefore remain a fire hazard. Finding No. 15(d) describes why alternate routes or methodologies would be less feasible than these proposed actions. The proposed actions also include the use of existing roads, locating landings outside of SEZs, and decommissioning of temporary roads following the Project to reduce or avoid the extent of encroachment into the SEZs and floodplains.

Existing roads, including those within SEZs, must be widened and strengthened to accommodate and support the log trucks and chip vans which must be brought in to remove much of the current excess fuel load in the forest. Skid trails and temporary roads within SEZs, and temporary watercourse crossings are also necessary components of any timber operation where the goal is to reduce the threat of

catastrophic wildfires, but especially for this Project, where the threat of wildfire within SEZs is currently high. Approximately 670 cubic yards of permanent fill will be added on system roads in or adjacent to SEZs. The FEIS and this WDR include limits on the amount of new or temporary construction within the SEZs, specify that approximately 50% of the proposed temporary roads be built where roads had previously existed, and specify decommissioning or removal of temporary features following use in any given treatment unit. The Discharger has limited new road construction to temporary roads, with temporary crossings, which will be decommissioned or removed following use in order to avoid temporal impacts on the landscape and avoid the need to place permanent spans or bridges across watercourses.

The proposed actions will also include a combination of hand work and mechanical treatments to reduce or avoid the extent of encroachment by vehicles and road construction into the SEZs and floodplains. The use of hand crews within the SEZs to remove the threat of a catastrophic wildfire involves the labor-intensive piling and burning of dead and dying fuels. Burn piles must be stacked and later burned within SEZs due to the safety limitations placed on hand crews to safely move the slash acceptable distances. Alternately, the use of WT mechanical equipment to remove the slash from SEZs has more negative consequences than pile burning, due to potential compaction and disturbance of these sensitive soils. CTL equipment, with its lighter impact, must be used in the SEZs in order to remove trees over 20" DBH, (diameter at breast height) which could not be removed by hand, due to the safety limitations for hand crews to lift and move the larger logs. This WDR includes BMPs that require a minimum amount of surface cover, pre- and post-operations (WDR BMP No. 21b). The Discharger has identified at least one proposed CTL location, near Trout Creek, where there is insufficient material available to produce a sufficient slash mat on which to operate. WDR BMP No. 13d includes specific requirements to allow the Discharger to use CTL equipment in these areas while still adequately preventing compaction and controlling erosion.

c. The impacts are fully mitigated.

The Discharger used an iterative process to schedule the Project treatment units in order to reduce potential cumulative impacts on any particular watershed and decrease the number of watersheds that exceed the threshold of concern due to fuels treatments. However, short-term impacts were expected to occur mainly from the inherent inability of the Discharger's current BMPs and Resource Protection Measures, as described in the FEIS, to effectively retain fine sediments following heavy rainstorms (greater than one inch per hour).

WDR Attachment F, Best Management Practices and Mitigation Measures, describe the specific mitigation measures, which, when implemented in conjunction with this WDR, will ensure that significant effects are avoided; where impacts cannot be avoided, these mitigation measures are sufficiently detailed to ensure that impacts will be fully mitigated.

The MRP, as described in the WDR Attachment C, specifies procedures for verifying that the BMPs are successful in avoiding significant impacts to soil stability, soil productivity, and riparian plant growth. Results from this monitoring will be used to either support the current BMPs, or to modify them through an adaptive management strategy to provide additional protection and mitigation measures in SEZs. The MRP also requires 100 percent of the BMPs associated with all Project activities be properly implemented and functional. The Monitoring Program allows the Discharger to use the Forest Service's Best Management Practices Evaluation Program (BMPEP) to test the effectiveness of these BMPs and identify areas which need to be strengthened, and the prescribed Forensic Monitoring outlined in the MRP to determine the source of any impact or potential impact in order to correct the problem. Additional monitoring is included in the MRP to verify the effectiveness of BMPs implemented for innovative high-risk activities; where impacts are noted, the MRP includes an adaptive management strategy to correct the impacts and change future BMPs for these activities. The MRP shall be used to determine if compliance with this WDR has been achieved, and includes inspection checklists, specific provisions for when monitoring must occur, and follow-up procedures to ensure that actions have been documented and mitigation measures have been implemented and performed as intended.

d. SEZ lands are restored in an amount 1.5 times the area of land developed or disturbed by the project

Approximately 730 SEZ acres will be hand treated or (CTL) mechanically treated under the conditions noted in Finding No. 11. Project activities in SEZs will reduce surface and ladder fuels, reducing the potential loss of riparian and SEZ habitat through a catastrophic fire, and will reduce stand mortality by reducing stand density, thus reducing competition for water and nutrients and increasing resistance to drought, insect invasions, and disease. By removing shade-tolerant fir and cedar while retaining Jeffery, Ponderosa, and Sugar Pine, Project activities will produce a healthier ecological species balance in these sensitive areas.

Additionally, the Project includes aspen regeneration components which will reduce encroaching conifers in aspen stands and meadows to restore riparian species dominance within these vegetation types. Approximately 250 acres of aspen areas will be treated and enhanced by reducing conifer encroachment. In effect, Project actions will be restoring natural functionality within the SEZ and riparian areas treated in the Project area.

Currently, up to 0.74 miles of temporary roads already cross SEZs and approximately one-half of a mile of temporary roads cross riparian areas within the Project area. These roads would be cleared to the original road prism to allow passage for logging trucks and chip vans, although some road widening might be required around curves. The additional width is necessary to accommodate chip vans which will remove biomass that would otherwise need to be burned. An additional 0.15 miles of temporary road will be built across SEZ soils and up to 0.14 miles of temporary road will be built through riparian habitat for the Project. Average road width would be approximately 14 feet, to a maximum of 30 feet. The

Discharger submitted a Report of Waste Discharge (RWD) which indicated that a maximum of 23,760 square feet (0.54 acre) of new disturbance in SEZs and 117,216 square feet (2.7 acres) reconstruction on previously-disturbed SEZ soils will temporarily occur due to the construction and reconstruction of these roads.

Attachment E Table E6 provides a breakdown of the most recent Discharger estimates of SEZ disturbance (in acres). Total new disturbance from existing road maintenance and reconstruction, temporary road construction, and forwarder/skid trail crossings, would only create 1.7 acres of new disturbance in SEZs. The Discrepancies between the numbers in Table E6 and what was reported in either the FEIS or the RWD are attributable to the following:

a. width estimates in calculating acreages (FEIS acreage is based on 14-foot widths; accurate assumed road widths, which vary between 4 [trails] and 40 [State and Federal Highways] feet, are shown in FEIS Table 3-46, page 3-114),
b. maximum road length vs. actual sections of road requiring maintenance or reconstruction,
c. maintenance which could extend beyond current road widths (brushing, minor blading , etc.),
d. ground-truthing following publication of the FEIS, and/or
e. recent conversion of WT or CTL Units to Hand Treatment Units (thereby reducing the numbers of roads requiring maintenance or reconstruction).

Additionally, the Discharger intends to pile and burn on 138 SEZ acres. This WDR mandates that no more than 30 percent of an SEZ area may be covered in burn piles and only 15 percent of the SEZ area may be burned in a given year (WDR Attachment F, BMP No. 31). Thirty percent of the 138 acres covered with burn piles equates to 42 acres of SEZ coverage. Piles are generally burned within two or three years after being built. The removal of the biomass will provide both better utilization of forest product and a BMP that protects air and soil quality.

As discussed in WDR Attachment B, the Basin Plan requires restoration of SEZ lands at a ratio of 1.5 to 1 where Project activities result in permanent soil disturbance. The Water Board finds that the area to be covered in burn piles is considered a temporary, not permanent, disturbance due to the relatively rapid recovery of the soils following the burning of the piles and application of the mitigation measures in WDR Attachment F BMPs No. 25 through 31. Restoration for this temporal disturbance of SEZ soils shall be at a ratio of 1:1. All other Project disturbance in these SEZ is assumed to be creating 100% new land coverage, and must be replaced at the 1.5 to 1 ratio.

Impacts from Project road and crossing activities shall be mitigated through implementation of resource protection measures and BMPs, which include decommissioning of the temporary roads by ripping and seeding with native seed or, where sufficient rock content exists to prevent ripping of the soils, ground cover such as slash, wood chip, or masticated material shall be applied, and water breaks (water bars) shall be installed to prevent accumulating water on the road surface

(see WDR Attachment E, Table E7 and WDR Attachment F, BMPs No. 11, 13d, 37, 38). Additionally, the prescribed maintenance period for erosion controls on permanent and seasonal roads and associated landings and drainage structures which have not been decommissioned such that they are hydrologically invisible on the landscape shall extend for three years following completion of the Project.

The Project may not commence until the initial Annual Operating Plan (described under WDR Section E.1) is submitted and accepted by Water Board Executive Officer. The Water Board has determined that the decommissioning of all Project-related constructed or reconstructed temporary roads in the SEZs and the recent decommissioning of 8.24 acres of other temporary roads within nearby SEZs at or before Project completion offsets the short-term impacts of the 1.7 acres of SEZ disturbance (see Attachment E, Table E6). The Water Board has also determined that the Project's improvement of approximately 250 acres for aspen recovery compensates for the 42 acres of temporary SEZ soil disturbance created by the SEZ burn piles. The overall Project activities therefore satisfy the restoration requirement of the prohibition exemption criteria.

18. The U.S. EPA's Water Quality Handbook, Chapter 4, section 4.7 Outstanding National Resource Waters (ONRW) – 40 CFR 131.12 (a)(3) notes that ONRWs, such as Lake Tahoe, are provided the highest level of protection under the antidegradation policy. According to this source, BMPs for timber harvesting in ONRW watersheds should include preventive measures more stringent than for similar logging in less environmentally sensitive areas.

19. The Water Board recognizes the need statewide to address the current and growing threat of catastrophic wildfire. Decades of fire suppression have resulted in thick stands of trees and vegetation requiring thinning and in some cases, prescribed fire. Many of these activities need to occur in areas adjacent to waterbodies where there is a higher potential to adversely impact water quality than if the same activity was to occur away from a waterbody. Limited quantitative information about site specific effects of certain activities conducted in these areas are known. Similarly, the water quality effects from wildfire in these areas can be significant and, to some extent, may be estimated based on fire intensity and predicted hydrology. The Water Board recognizes a need for more information on the impacts and appropriate mitigation measures for equipment use and pile burning within 100-year floodplains of the Little Truckee River or Lake Tahoe HUs, or in Lake Tahoe HU SEZ. The Discharger intends to propose specific research and demonstration activities which would occur during this Project, in order to apply results to future activities both within this Project and others. The Water Board will allow these research and demonstration activities to proceed under this WDR when the proposals meet the following specific criteria. To ensure these activities do not in themselves create a potentially significant effect on the environment, The Discharger shall:

    a. ensure proposals are peer-reviewed and include clearly defined project goals and focused monitoring/analyses objectives to meet those goals;

b. ensure proposals include appropriate Best Management Practices/resource protection measures and mitigation measures to prevent or limit impacts to water quality;
c. ensure proposals include sufficient monitoring, such as quantitative monitoring of impacts to soils (compaction, infiltration rate, etc.), ground cover inventories, vegetation recovery, and/or water quality analysis;
d. ensure monitoring plans and mitigation measures extend over multiple years to adequately verify results and ensure complete recovery;
e. ensure proposals include specific environmental triggers or thresholds that must not be exceeded during project implementation; and
f. ensure proposals include provisions to apply adaptive management techniques as the demonstration activities progress.

The Discharger shall submit each research or demonstration project proposal to Water Board staff for review and approval 30 days prior to initiating any activities related to the proposal.

Water Board staff shall notify the public of those research/demonstration projects requiring additional prohibition exemption(s) a minimum of ten days before such an exemption and coverage under this WDR is considered.

20. The Water Board has identified a number of potential short-term significant effects in the FEIS, and has therefore prescribed additional protective measures in this WDR to ensure that any potential impacts are reduced to less than significant.

A mitigated negative declaration (MND) was circulated with this WDR (see CEQA Environmental Checklist, WDR Attachment H). The MND is composed of the FEIS and ROD, including all the additional mitigation measures in WDR and the WDR Attachments. In addition to circulating the MND, the Regional Water Board provided notice of intent to adopt a MND for the Project (SCH No. 2008012067), pursuant to section 15072 of the CEQA Guidelines (14 Cal. Code Regs. § 15072.) The MND reflects the Regional Water Board's independent judgment and analysis. After considering the document and comments received during the public review process, the Regional Water Board hereby determines that the proposed project, with mitigation measures incorporated into this WDR, will not have a significant effect on the environment. In addition, a Monitoring and Reporting Program with all of its associated attachments (MRP Attachments A through G), which in included in Attachment C and incorporated into this permit. The MND is hereby adopted. The documents or other material, which constitute the record, are located at 2501 Lake Tahoe Blvd., S. Lake Tahoe, California. The Regional Water Board will file a Notice of Determination within five days from the issuance of this order.

21. The Water Board held a public hearing on April 11, 2012, in South Lake Tahoe, California, and considered all evidence concerning this matter.

IT IS HEREBY ORDERED that the Discharger must comply with all applicable conditions of this WDR, as set forth below.

B. REQUIREMENTS AND PROHIBITIONS

1. Project activities subject to this WDR must not create a pollution, contamination, or nuisance, as defined by Water Code section 13050, subdivisions (k), (l), and (m).

2. The Discharger must meet the Water Quality Objectives contained in section 2 of WDR Attachment B.

3. To mitigate for new disturbance or land coverage within SEZ largely attributable to roads and trails for this project, the Discharger must restore a minimum of 2.55 acres of existing disturbance or land coverage within SEZ. The 2.55 acre restoration requirement is a calculation of 1.7 acres (from WDR Attachment E Table E6) of new disturbance or land coverage in SEZs multiplied by 1.5. This calculation conservatively assumes that the 1.7 acres of new disturbance or land coverage does not have any existing disturbance or land coverage. Within three years of project commencement, defined by the initial date involving Project-related ground disturbance, or by October 1, 2015, whichever date is earlier, the Discharger must submit documentation from the Tahoe Regional Planning Agency that verifies the Discharger has restored a minimum 2.55 acres of SEZ disturbance or land coverage within the project area.

4. To meet the TMDL requirements specified in section 3 of WDR Attachment B, the Discharger must comply with this WDR, including WDR Attachments B, C, F, I.

5. The Discharger must comply with the waste discharge prohibitions contained in section 4 of WDR Attachment B, unless the Water Board has granted specific prohibition exemptions in this WDR or a separate Order of the Water Board.

6. The Basin Plan requires compliance with specific BMPs that prohibit the removal of vegetation and/or soil disturbance between October 15 and May 1. All areas disturbed by non-winter operation timber harvest and vegetation management activities must be stabilized (as defined in WDR Attachment A) at the conclusion of operations, or before October 15th, whichever is sooner.

   The Project proposes vegetation-removal operations and associated activities from October 16th through April 30th. This WDR includes BMPs and mitigation measures which prohibit soil disturbance during these winter operation activities, as noted in WDR Attachment F, BMPs No. 22 through 24, and 42 through 47. The Discharger is also required to conduct additional monitoring as specified in the MRP Section II, III, and IV, and Attachments C and D when operating during winter conditions.

The Water Board grants a variance to the October 15 – May 1 soil disturbance prohibition period for this Project. The variance is based upon the following conditions:

(a) This variance allows only the specific work described in the FEIS, ROD, and WDR, while applying the BMPs in WDR Attachment F, noted above.
(b) This variance allows Project-related winter period activities to be conducted between October 15th and May 1st of each year of operation. During this period of operations all Project activities must stop and the Project sites must be "winterized" when forecast changes in weather patterns would prevent continuation of field operations as noted in "(c)" below. "Winterized" means stabilized to prevent soil movement permanently if site activities are completed, or temporarily in a manner which shall remain effective until activities can be restarted, if site activities are planned to continue later into the year.
(c) During the variance period when adverse weather conditions are predicted by the National Weather Service and prior to the onset of adverse conditions, all soil disturbance activities must cease and the project site must be winterized. "Adverse" conditions refer to conditions that threaten to shut down the project due to rain or increased temperatures, or which would cause siltation and erosion problems.

7. The required annual fee (as specified in the annual billing the Discharger will receive from the State Water Resources Control Board) shall be submitted until the Water Board officially rescinds the WDR. The WDR rescission procedures are specified in WDR Attachment D. Following completion of the project, including all required monitoring and mitigation, the Discharger must sign and submit the form in WDR Attachment D to initiate the WDR rescission process.

8. Timber harvest and vegetation management activities must be conducted in accordance with this WDR, including all attachments and Discharger-submitted and Water Board-accepted Project information and plans, including the Annual Operating Plans (per WDR Section E.1), Fire Prescription Plan (per WDR Section E.2), annual unit-specific workplans (per WDR Section E.5), and FEIS/ROD mitigation measures.

9. The Discharger shall develop and implement a Fire Prescription Plan, per WDR Section E.2 in order to avoid adverse effects on air, soil, water resources, and habitat by planning prescribed fires in such a way to ensure that fire intensity and duration do not result in severely burned soils or impact air quality. The Fire Prescription Plan shall incorporate the requirements of BMPs No. 25 through 31 and 63 in WDR Attachment F. The Discharger shall submit this Fire Prescription Plan to Water Board staff 30 days prior to any Project-related burning activity.

10. Any pesticide usage proposed for the Project different from that described in the FEIS must be within the scope of what was analyzed in FEIS. Any deviations from that previously analyzed is considered a material change per WDR Provision D.3, and a new Report of Waste Discharge (RWD) must be submitted to address

these changes. Per WDR Provision D.3, this information may be included in the Annual Operating Plans or unit-specific workplans in lieu of an RWD, but must include the following:

a. Type of pesticide
b. Method and area of application
c. Projected date of application
d. Measures that will be employed to assure compliance with the WQOs specified in the Basin Plan.

11. The Discharger shall submit each research or demonstration project proposal, including all the requirements described in Finding No. 19, to Water Board staff for review and approval 30 days prior to initiating any activities related to the proposal. Water Board staff shall notify the public of those research/demonstration projects requiring additional prohibition exemption(s) a minimum of ten days before such an exemption and coverage under this WDR is considered.

C. PROHIBITION EXEMPTION GRANTED

Based on Findings made in WDR Finding No. 17, and the requirements of WDR Sections B.3 and E.1(g), an exemption to the Basin Plan prohibition for permanent disturbance in the 100-year floodplains and SEZs, including the placement and burning of burn piles (as defined in WDR Attachment A) within SEZ, is hereby granted for activities and Project units described in the Tables and shown on the Maps in WDR Attachment E. To comply with this SEZ prohibition exemption, the Discharger must not exceed the project limitations specified in Finding No. 17b and the Discharger must include applicable project information in its Annual Operating Plans to describe that it has not exceeded the project limitations.

D. PROVISIONS

1. The Discharger must conduct monitoring and reporting as specified in the attached MRP (WDR Attachment C), pursuant to Water Code section 13267, or as directed by the Executive Officer. Should site conditions or Project activities change during the course of the Project, the Discharger may request a modified monitoring and reporting program, subject to approval by the Executive Officer.

2. Timber harvest and vegetation management activities must be conducted in accordance with this WDR, including all attachments and Discharger-submitted and Water Board-accepted Project information and plans, including the Annual Operating Plans (described in WDR Section E), and FEIS/ROD mitigation measures.

3. Pursuant to Water Code section 13260, subdivision (c), the Discharger must file with the Water Board an RWD for any proposed material change to the Project timber harvest and vegetation management activities from those authorized by this WDR at least 30 days in advance of implementation of any such change. Material changes

include but are not limited to:

(a) All significant soil disturbances,
(b) Change of project location or size,
(c) Change to proposed winter period operations,
(d) Relocation or addition of watercourse crossings
(e) Any pesticide usage proposed for the Project different from that analyzed in FEIS.

The Discharger has requested the submittal of Annual Operating Plans and unit-specific workplans in lieu of RWDs to capture these changes on an annual and semi-annual basis. These Annual Operating Plans and unit-specific workplans shall therefore be developed to include the information described per WDR Section E. In rare cases where timing is critical, the Discharger may request a shorter time period for staff review and acceptance.

Some activities (e.g., the relocation of a specified watercourse crossing to an area of lesser sensitivity) are not considered a material change which would trigger this provision. These activities shall be covered under the requirements of WDR BMP No. 3 in WDR Attachment F.

4. Water Board staff must be allowed reasonable access onto property where timber harvest and vegetation management activities are proposed, or are being conducted, or have been terminated or completed, for the purpose of performing inspections and conducting monitoring. Inspections and monitoring may include sample collection, measuring, and photographing/taping to determine compliance with this WDR. Such inspections and monitoring are consistent with Water Code section 13267(c), Public Resources Code section 4604(b)(1), and other applicable laws.

   Prior to entering the Project areas, Water Board staff will attempt to contact the Discharger, persons performing the timber harvest and vegetation management activities, or other on-site representative(s) in order to inform the landowner or persons onsite of each inspection, and to discuss any safety considerations.

5. The FEIS includes the use of a U.S. EPA-registered borate compound on cut stumps that are 14 inches diameter and greater for the prevention of annous root disease. No other pesticide use is proposed for this Project, nor was any other pesticide application analyzed in the FEIS. Any other pesticide usage proposed for the Project different from that described in the FEIS must follow the requirements specified under WDR Section B.10.

E. REPORTS REQUIRED

1. Annual Operating Plans are required to be submitted to Water Board staff for review and acceptance by no later than May 1 of each year, or at least 30 days prior to any ground-disturbing Project activity. For each year of Project activity, the Annual

Operating Plans shall describe the planned activities for the South Shore Project and specifically include the following overall plans and proposed revisions:

(a) Construction Plans (including 100% plans or equivalent, and the Roads Package and/or plans per WDR Finding No. 11). The Roads Package shall include detailed maps and describe all of the proposed Project-related road, trail, landing, crossing, and related wet area work to occur during the year: proposed uses; existing condition; proposed construction, maintenance, decommissioning and/or restoration activities; new or permanent disturbance in SEZs or 100-year flood plains; etc. The descriptions must include lengths, widths, areas, and purpose for SEZ/100-Year Floodplain disturbances, such as erosion control, timber equipment access, skid trails, and landings;
(b) Erosion Control Plan (ECP) (per ROD, the updated Water Quality Management Handbook ["WQMH," R5 FSH 2509.22, Chapter 10, BMP # 2.13], WDR Finding No. 11, and BMPs No. 34 and 90), including the Wet Weather Operations Standards (WWOS) described in WQMH BMP #2.13;
(c) Final Contract Plans and Maps (per WDR BMP No. 11);
(d) Culvert Replacement Plans (per WDR BMPs No. 57 and 58);
(e) Diversion Plans and Dewatering Plans (per WDR BMPs No. 54c, 57, and 58);
(f) Proposed BMP submittals per WDR BMP No. 4;
(g) SEZ Restoration Plans (per WDR Finding No. 17d, WDR Section B.3, and WDR Attachment B);
(h) Implementation Monitoring Checklist (per WDR Finding No. 12 and WDR MRP Attachment B); and
(i) All Monitoring and restoration plans pertinent to the activities described in the Annual Operating Plan (per WDR Attachment C and associated MRP Attachments).

Annual Operating Plans are required to be submitted to Water Board staff for review and acceptance by no later than May 1 of each year, at least 30 days prior to any ground-disturbing Project activity. Annual Operating Plans may also include the Fire Prescription Plan and Noxious Weed Plan (WDR Sections E.2 and E.3, respectively), where pertinent to that year's operations. Annual Operating Plans may be updated or amended with annual or semi-annual unit-specific workplans as described in WDR Section E.4.

2. The Discharger shall submit the Fire Prescription Plan as described in WDR BMPs No. 25 through 31 and 63, and required under WDR Section B.9, to Water Board staff 30 days prior to any Project-related burning activity. The Fire Prescription Plan may be submitted as part of the Annual Operating Plan.

3. If the Discharger determines to use chemical means to eradicate invasive /noxious weeds, the Discharger's Noxious Weed Coordinator shall develop and submit a Noxious Weed Plan, as described in WDR BMP No. 77 and required under WDR Section B.10, to Water Board staff for review and acceptance prior 30 days prior to using any pesticides to control or eradicate invasive or noxious weeds. The Noxious Weed Plan may be submitted as part of the Annual Operating Plan.

4. The Discharger shall submit all Monitoring Reports as described in WDR Finding 12 and WDR Attachment C, Monitoring and Reporting Program. The Discharger shall also develop and submit the list of the randomly-selected sites to be monitored using the BMPEP protocols, as described in WDR Attachment C, by March 1st of each year.

5. The Discharger also expects to develop unit-specific workplans for this Project annually and semi-annually, some of which (not previously covered under WDR Provision D.1) could modify the prescriptions specified in the FEIS, WDR, or Annual Operating Plans, and their attached maps and tables. For example, a unit identified in the WDR or an Annual Operating Plan for Whole Tree logging might be changed to Hand Treatment, a road currently identified for reconstruction for chip van use might not be used and therefore not reconstructed, or previously unidentified SEZs might be discovered and flagged for avoidance; any changes to be made in these instances would always be made to decrease direct impacts, not increase them. The Discharger shall therefore submit these unit-specific workplan reports to Water Board staff for review and acceptance at least 30 days prior to site activities. These reports shall specifically include amendments or updates to the Annual Operating Plan's ECP (as described in WDR Attachment F, BMP No. 90) topographic maps and tables (illustrating locations and acres of the proposed activities, potential sensitive species, air, and/or SEZ, 100-year floodplain, and waterbody impacts, SEZ excavation and fill, and any related road work), and specify the applicable Resource Protection Measures, BMPs, monitoring, mitigation measures, and adaptive management strategies. The detailed maps shall also include all previously unidentified waterbodies and other sensitive areas, user-created roads and trails, and pre-activity impacts within the proposed work areas. Any material changes proposed in these annual reports which could be covered under WDR Provision D.1 must have been previously reported as specified under that provision.

   In rare cases where timing is critical, the Discharger may request a shorter time period for staff review and acceptance by the Water Board Executive Officer. Annual unit-specific workplans which specifically state that they are "consistent with, and will have equal or lesser impacts than the requirements of the WDR and its Attachments" must still be submitted as described above, but do not require review and acceptance by Water Board staff. Work may proceed when conditions allow, following submittal of the above statement with the workplans, unless otherwise informed by Water Board staff within 30 days.

F. CERTIFICATION

I, Harold J. Singer, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Lahontan Region, on April 12, 2012.

Harold J Singer

HAROLD J. SINGER
EXECUTIVE OFFICER

Attachments:

A: Definitions and List of Acronyms
B: Basin Plan Excerpts:
1. Beneficial Uses
2. Water Quality Objectives
3. Lake Tahoe TMDL
4. Discharge Prohibition, Required Findings, and Exemption
C: Monitoring and Reporting Program
MRP A. Bioassessment Monitoring Requirements
MRP B. Implementation Monitoring Checklist
MRP C. Daily Winter Period Monitoring Form
MRP D. Winter Implementation Monitoring Checklist
MRP E. Effectiveness Monitoring Form
MRP F. Forensic Monitoring Form
MRP G. Photo-Point Monitoring Form
D: Notice of Project Completion Form
E: Maps and Tables
Table E1 - Soil Moisture Operability Protocol for Ground Based Equipment
Table E2 - Waterbody Buffer Zones
Table E3a - WDRs' Best Management Practices (BMPs) to FEIS' Resource Protection Measures (RPMs) Crosswalk
Table E3b - FEIS' Resource Protection Measures (RPMs) to WDRs' Best Management Practices (BMPs) Crosswalk
Table E4 - Stream Classification Crosswalk
Table E5 - Summary of Permanent Fill and Excavation on System Roads in or adjacent to SEZs, including Crossings
Table E6 - Disturbance in Uplands and SEZs (in acres)
Table E7 - Maximum Distance between Waterbreaks
Map 1 – Project Overview
Map 2 – NW Quadrant
Map 3 – NE Quadrant
Map 4 – SE Quadrant
Map 5 – SW Quadrant
F: Best Management Practices and Mitigation Measures
G: Rationale for Bioassessment Monitoring
H: CEQA Environmental Checklist
I: Standard Provisions for Waste Discharge Requirements
J: Forestry Activities Exempt from Requiring Basin Plan Discharge Prohibition Exemptions Under the 2009 Timber Waiver

WDR Attachment A

California Regional Water Quality Control Board
Lahontan Region

Definitions and List of Acronyms

South Shore Project Waste Discharge Requirements

100-YEAR FLOODPLAIN	areas determined based on delineations completed or approved by the U.S. Army Corps of Engineers, the Federal Emergency Management Agency, or an individual qualified to make floodplain delineations. If these agencies have not completed formal delineations the Water Board staff may agree to the use of best professional judgment; field verification by staff may be needed. These areas include land adjacent to waterbodies that extend to the outer perimeter of lands which experience flooding or are inundated with water during 100-year flood events. At a minimum, dischargers shall designate the 100-year floodplain area to encompass the bed and bank of any ephemeral drainage course. If other indicators are present such as wet vegetation on terraces, or other high water indicators, such as stranded debris, these should also be taken into consideration. For cases of unconfined channels, other indicators may need to be considered. Within the Lake Tahoe Hydrologic Unit 100-year floodplains are sometimes, but not always, included within Stream Environment Zones (SEZs), as defined below. A floodplain only qualifies as SEZ if primary or sufficient secondary indicators of a SEZ are present. If a 100-year floodplain is considered a SEZ, the SEZ prohibitions and exemption criteria apply. (Basin Plan Section 5.7).
ADVERSE CONDITIONS	means conditions that threaten to shut down the project due to rain or increased temperatures, or which would cause siltation and erosion problems.
BACKING FIRE	means a fire spreading, or ignited to spread, into (against) the wind, in the absence of wind, or downslope.
BASIN PLAN	means the *Water Quality Control Plan for the Lahontan Region,* as amended.

BIOASSESSMENT MONITORING	means measuring the health of a stream by evaluating the different types of macroinvertebrates in stream habitats. Once the macroinvertebrates are counted, the results are compared to other streams in the area that are considered healthy.
BURN PILE	means hand and machine constructed piles of organic materials (e.g., slash, branches, limbs, stumps, biomass) intended for burning.
CLASS I WATERBODY	means domestic water supplies, including springs, on-site or within 100 feet downstream of the operations area, or a stream channel where fish are always or seasonally present on-site (includes habitat to sustain fish migration and spawning).
CLASS II WATERBODY	means a stream channel where fish are always or seasonally present off-site within 1000 feet downstream, and/or has aquatic habitat for non-fish species. Excludes Class III waters that are tributaries to Class I waters.
CLASS III WATERBODY	means a drainage or channel with no aquatic life present, but shows evidence of being capable of sediment transport to Class I and II waters under normal high water flow conditions.
CLASS IV WATERBODY	means man-made waterbodies, , established domestic, agricultural, hydroelectric supply, or other beneficial use.
CLEAN ROCK	means <1% fines in content. "Fines" are small materials that either occur naturally, or are crushed into smaller sizes with the rock to be used on-site. Technically, fines are all the material that passes through a sieve with 4.75 millimeter holes (approximately 1/5 of an inch). In general, road rock with fines packs together tightly and is therefore desirable for a running surface. However, the rocking requirements in these Project documents generally specify "clean, 3-inch plus competent angular rock" for use in or near waterbodies to reduce the addition of fine sediment into the aquatic environment while providing a stable running surface which will not crumble under the weight of equipment.
CONTAMINATION	means an impairment of the quality of the waters of the state by waste to a degree which creates a hazard to the public health through poisoning or through the spread of disease. "Contamination" includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected.

CRITICAL DIP	means a low point, or overflow structure, in the road near or at a watercourse crossing designed to prevent the diversion of high flows in the event that the crossing or culvert becomes plugged or flow capacity is exceeded. To be properly installed, critical dips should be on the downhill side of a crossing and should direct flows back into the watercourse.
CUT-TO-LENGTH	means a mechanized harvesting system in which trees are de-limbed and cut to a specific length directly at the stump. CTL is typically a two-man, two-machine operation with a harvester felling, de-limbing, and bucking trees and a forwarder transporting the logs from the felling location to a landing area close to a road accessible by trucks. Typically, CTL equipment has a lighter footprint on the land, operates on top of a bed of slash created by the removal of the limbed branches and tree tops, and may therefore be used to harvest trees within SEZs.
DEFENSE ZONE	means the second zone of the wildland urban interface (WUI), where undeveloped public lands extend ¼ mile from places where people live and/or work.
DBH	Means diameter at breast height. When measuring standing live trees, the average diameter measured outside the bark at breast height, a point 4.5 feet above the average ground level.
DEWATERING PLAN	means a detailed plan to effectively remove any waters (rainwater, groundwater, runoff, etc.) which may potentially accumulate during excavation activities, to an upland location where the water can infiltrate without returning to a surface water.
DISCHARGER	means, for the purposes of this Order, the LTBMU, duly authorized representative(s) of the LTBMU, and anyone working on behalf of the LTBMU in the conduct of timber harvest and vegetation management.
DIVERSION PLAN	means a detailed plan to temporarily isolate or divert stream flows from a point above an in-stream construction activity and safely discharge (without creating erosion of the stream bed or banks) the stream flows back into the stream at a point below the construction site.
DRY SOILS	means soils are dry, loose, and will not form a ball with pressure (i.e., squeezed into a ball by hand). Soils must be measured between 2 inches and 10 inches depth, and equilibrated groundwater levels must be at least 2 feet below the soil surface. ("Equilibrated gw levels" are determined by digging a hole that

	deep, waiting ½ hour, then checking to see if gw accumulates in the hole). See SEZ Sensitivity Rating System Table 1, Attachment F, BMP No. 6.
EFFECTIVENESS MONITORING	means visual assessments, photo-point documentation, and instream monitoring of management measures (e.g., erosion control, water body buffer zones, waterbreaks, critical dips) following the winter period (between March 15 and June 15) to determine the effectiveness of the measures in preventing sediment discharge to waterbodies and in protecting water quality.
END-LINING	means moving logs using cables where the log is in full or partial contact with the ground.
EPHEMERAL WATERCOURSE	means a stream which flows only after rain or snow-melt and has no base flow component.
EQUIPMENT LIMITATION ZONE	means that area where WT equipment is excluded, but CTL equipment may operate under specific conditions.
EROSION CONTROL PLAN	or ECP, means BMP 2.13 of the 2011 Water Quality Management Handbook (WQMH, Chapter 10 of R5 FSH 2509.22, Soil and Water Conservation Handbook) and its requirements, which was developed by the US Forest Service, Southwest Region (Region 5). Briefly described, it is a project-specific suite of plans and management measures to guide activities associated with a project to effectively limit and mitigate erosion and sedimentation from any ground-disturbing activities.
EROSION HAZARD RATING	means the potential for soil erosion in terms of severity, ranging from low to extreme.
FEDERAL FORESTRY PROFESSIONAL	means a person employed by the federal government meeting the requirements of the Federal Forestry Series (GS-460) of the U.S. Office of Personnel Management.
FEN	means a peat-accumulating wetland that receives some drainage from surrounding mineral soils and usually supports marsh-like vegetation including sedges, rushes, shrubs, and trees. Fens are less acidic than bogs, and derive most of their water from groundwater rich in calcium and magnesium.
FORENSIC MONITORING	means the visual monitoring of surface waters (e.g., lakes and streams) and Waterbody Buffer Zones to identify evidence of sediment delivery, locate sources of sediment delivery (or potential delivery) occurring as a result of project implementation to a waterbody, and take corrective actions to prevent or reduce

	sediment discharges to waterbodies. Forensic monitoring is conducted whenever visual observations from the project inter-disciplinary team, Sale Administrator, Contracting Officer Representative, the public, or regulatory agency staff identify a soil or water quality resource concern. Forensic monitoring shall also be conducted within 36 hours following storm events greater than 2 inches of rain in 24 hours or rain-on-snow events that result in over bank flows or as soon as worker safety and access allows.
GROUND-BASED EQUIPMENT OPERATIONS	includes tractor, vehicle, equipment, and heavy equipment operations, including CTL and WT logging equipment. Does not include work conducted by hand crews, helicopter, or cable yarding.
HAND CREW OPERATIONS	means cutting vegetation with a chainsaw or hand saw and manually piling material onsite or removing material with the use of motorized equipment limited to existing roads (except chippers and/or brush mowers). Includes prescribed burning and the construction of fuel breaks.
HARD-FROZEN SOIL CONDITIONS	means frozen soil conditions where operated vehicles, tractors, and equipment can travel without sinking into soil, road, or landing surfaces to a depth of more than two inches for a distance of more than 25 feet. Temperatures must also remain low enough to preclude thawing of the soil surface.
HAZARD FUELS	means those natural, organic forest materials, which, if ignited, threaten public safety, structures and facilities, cultural resources, and/or natural resources. The Fire Safe Council of El Dorado County defines this as a fuel complex defined by kind, arrangement, volume, condition, and location that forms a special threat of ignition or suppression difficulty. Removing the excessive surface and ladder forest materials in the WUI provides space for an oncoming crown fire to drop to a surface fire where deployment of fire suppression crews could be expected to succeed in controlling the spread of the fire.
HAZARDOUS MATERIAL	means any item or agent (biological, chemical, physical) which has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors, when released by spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing into the environment.
HOT PILING	means placing and consolidating unburned fuel (from one burn pile or the ground) into an already burning pile for the purpose of isolating or localizing a prescribed fire.

HUMBOLDT CROSSING	means a crossing consisting of logs piled across the stream with no culvert to pass larger flows. These may be used only if they are completely removed, and soils stabilized, prior to any one-inch storm event forecast by the National Weather Service.
HYDROLOGIC AREA	means any of the smaller sub-units of a Hydrologic Unit. The Project is located in the South Tahoe Hydrologic Area.
HYDROLOGIC UNIT	means any one of 12 major watersheds in the North Lahontan Basin. The Project is located in the Lake Tahoe Hydrologic Unit.
HYDROPHOBICITY	means a resistance by severely-burned soils to water infiltration.
IMPLEMENTATION MONITORING	means visual and/or photo-point monitoring of project areas (including roads, stream crossings, landings) to ensure all management practices designed to prevent sediment delivery and protect water quality (e.g., erosion control measures, riparian buffers, waterbreaks, critical dips) are implemented and/or installed and functioning prior to precipitation events or conclusion of operations within a project area. Visual inspections shall occur on 100% of the Project area.
INTERMITTENT WATERCOURSE	means a stream which ceases to flow in dry periods. The flow may occur when the groundwater table is seasonally high, but there will be no flow when the groundwater table is significantly below the stream channel bed level.
LANDING	means that area where forest products are concentrated prior to additional processing or removal from site.
LARGE WOODY DEBRIS (LWD)	means organic material, approximately 12 inches or larger in diameter, within stream channels or floodplains, which provides habitat for fish and fish food, and floodplain roughness. A natural component of unmanaged streams, LWD has a very complex role in hydrologic, chemical, and biological processes. The LTBMU South Shore Project FEIS uses the equivalent term "Coarse Woody Debris" ("CWD") to denote similar material.
MASTICATION	means an in-situ process to manipulate fuels or biomass (trees, shrubs, slash, etc.) from a larger size to a smaller size. Mastication usually yields larger and more roughly-cut pieces of organic debris than a typical chipping operation.
MODIFIED SPITTLER CROSSING	means a temporary crossing consisting of cabled logs with a culvert at the base, such that water flow and fish passage shall not be obstructed, and engineered in size to pass a 20-year/1-hour storm event.

NATURAL RESOURCE PROFESSIONAL	means a person with a bachelor's degree or higher in a biological, ecological, or other relevant science (e.g., soils, hydrology, botany, fisheries) and at least six months of relevant experience. This person is not a substitute for a Registered Professional Forester or federal forestry professional when one is required by state or federal code or regulation.
NUISANCE	means anything which is: injurious to health, indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; and occurs during, or as a result of, the treatment or disposal of wastes. (Porter-Cologne)
OPERABLE CONDITIONS	means, outside of the normal operating season, that conditions such as dry soils, sufficient snow pack, or hard frozen ground (all as defined elsewhere in this Attachment) must be adequate to prevent erosion, sediment delivery to water bodies, and soil compaction that would impact soil productivity or soil hydrologic function, prior to equipment use in those areas.
OUTSTANDING NATIONAL RESOURCE WATER	means areas, designated by the U.S. EPA, of exceptional water quality or recreational/ecological significance, such as Lake Tahoe. Outstanding National Resource Water designations offer special protection (i.e., no further degradation of lake waters from new or increased discharges) for designated waters. All reasonable, cost-effective, best-management practices for nonpoint source control are required.
PERENNIAL WATERCOURSE	means a stream which is expected to flow throughout the year along most of its length, albeit with only small dry-weather flows in some cases. Relatively short sections of the stream may go underground due to a porous nature of its bed.
PESTICIDES	means all economic poisons, including herbicides, insecticides, and fungicides. An economic poison is any substance intended to prevent, repel, destroy, or mitigate the damage from insects, rodents, predatory animals, bacteria, fungi, or weeds capable of infesting or harming vegetation, humans, or animals (CA Agriculture Code section 12753, and Basin Plan Chapter 3).
POLLUTION	means an alteration of the quality of the waters of the state by waste to a degree which unreasonably affects either the

	waters for beneficial uses or the facilities which serve these beneficial uses. (Porter-Cologne)
PRESCRIBED FIRE	means the implementation of a written prescription to burn a designated area under specified environmental conditions. May include broadcast burning or pile burning.
PROJECT	means, for the purposes of this Order, any and all activities conducted in support of the LTBMU's South Shore Fuel Reduction and Healthy Forest Restoration Project, including the Project-specific equipment and materials staging areas, storage areas, and access roads
REPILING	means the placement of large unburned pieces back into the burning pile.
RESOURCE CONSERVATION AREAS	means a buffer for streams, special aquatic features, and other hydrological depressions as defined by the Sierra Nevada Forest Plan Amendment (SNFPA) where activities are limited but not excluded.
RESOURCE PROTECTION MEASURES	or RPMs, means the LTBMU's South Shore Project FEIS term for their measures which are "intended to avoid, eliminate, or reduce unintended and undesirable effects of proposed actions." The LTBMU's South Shore Project DEIS used the term "Design Features" for these measures.
RIPPING	means a process to mitigate soil compaction which uses equipment with a toothed blade or set of heavy tines mounted at the front or rear of the equipment to break up hard ground or to tear out stumps and boulders; synonymous with subsoiling and tilling.
RUTS	means depressions to a depth of two inches or more for a distance of 25 feet or more, caused by equipment movement or end-lining trees.
SATURATED SOIL CONDITIONS	means that site conditions are sufficiently wet that timber operations displace soils in yarding or mechanical site preparation areas or displace road and landing surface materials in amounts sufficient to cause a turbidity increase in drainage facilities that discharge into Class I, II, III, or IV waters (as defined in the Forest Practice Rules), or in downstream Class I, II, III, or IV waters that is visible or would violate applicable water quality requirements. In yarding and site preparation areas, this condition may be evidenced by: (a) reduced traction by equipment as indicated by

	spinning or churning of wheels or tracks in excess of normal performance, (b) inadequate traction without blading wet soil, (c) soil displacement in amounts that cause visible increase in turbidity of the downstream waters in a receiving Class I, II, III, or IV waters, or in amounts sufficient to cause a turbidity increase in drainage facilities that discharge into Class I, II, III, or IV waters, or (d) creation of ruts greater than would be normal following a light rainfall. On logging roads and landing surfaces, this condition may be evidenced by (a) reduced traction by equipment as indicated by spinning or churning of wheels or tracks in excess of normal performance, (b) inadequate traction without blading wet soil, (c) soil displacement in amounts that cause visible increase in turbidity of the downstream waters in receiving Class I, II, III, or IV waters, or in amounts sufficient to cause a turbidity increase in drainage facilities that discharge into Class I, II, III, or IV waters, (d) pumping of road surface materials by traffic, or (e) creation of ruts greater than would be created by traffic following normal road watering, which transports surface material to a drainage facility that discharges directly into a watercourse. Soils or road and landing surfaces that are hard frozen are excluded from this definition. (California Code of Regulations, title 14, section 895.1.).
SENSITIVE PLANTS	means any plant species that have been afforded special status and/or recognition by federal and state resource agencies, as well as private conservation organizations. Each type of sensitive plant community is generally classified and priority-ranked based on distribution or threats to conservation and preservation.
SITE PREPARATION	means any activity involving mechanical disturbance of soils or burning of vegetation which is performed during or after completion of timber harvesting and is associated with preparation of any portion of a logging area for artificial or natural regeneration. (California Code of Regulations, title 14, section 895.1.)
SKID TRAIL	means constructed trails or established paths used by tractors or other vehicles for skidding logs. Also known as tractor roads. (California Code of Regulations, title 14, section 895.1.)
SLASH	means the non-commercial woody plant debris (branches, tree tops, etc.) created during a timber harvesting operation. Slash may be distributed as ground cover to help prevent erosion after the harvest is complete, or as biomass fuel.

SPECIAL AQUATIC FEATURES	means Class II waterbodies such as wetlands, springs, seeps, vernal pools, fens, and marshes.
STABILIZED	means exposed soils and unstable areas have been treated in such a manner that there is low risk of such soils discharging to a waterbody via runoff, slumping, or wind erosion. Appropriate treatment can vary and can include, but is not limited to: • cover with mulch (weed free straw, slash, etc.), rocks, tarp, etc. • relocation of excess material to an area that is stable, well drained, isolated from wet areas or watercourses, and where wind exposure is limited • sloping back excess material to a stable angle • hydroseeding, seeding and/or planting • temporary construction erosion control measures (e.g., fiber rolls, silt fences, erosion control blankets, tarps) Note: Minimization of soil disturbance and soil stabilization (as described above) are the best and most cost-effective method of preventing sediment delivery. Trying to capture sediment once it is dislodged is much more difficult, costly, and is less likely to succeed.
STREAM ENVIRONMENT ZONE (SEZ) (A term only used within the Lake Tahoe Hydrologic Unit)	means biological communities that owe their characteristics to the presence of surface waters or a seasonal high groundwater table. The criteria used for field identification and delineation of SEZs are unique to the Lake Tahoe Hydrologic Unit and are described below. The following criteria are used by both the Water Board and the Tahoe Regional Planning Agency (TRPA). A Stream Environment Zone is determined to be present if any one of the following key indicators is present, or in the absence of a key indicator, if any three of the following secondary indicators are present. Soil types are discussed in Volume I of the TRPA's Water Quality Management Plan for the Lake Tahoe Region. Plant communities are identified in accordance with the definitions and procedures contained in the report entitled *Vegetation of the Lake Tahoe Region, A Guide for Planning* (TRPA 1971). **1. Key Indicators:** (a) Evidence of surface water flow, including perennial, ephemeral, and intermittent streams, but not including rills or man-made channels; or (b) Primary riparian vegetation; or (c) Near surface groundwater; or (d) Lakes or ponds; or

	(e) Beach (Be) soils; or (f) One of the following alluvial soils: (i) Elmira loamy coarse sand, wet variant (Ev) (ii) Marsh (Mh). **2. Secondary Indicators:** (a) Designated floodplain (b) Groundwater between 20-40 inches (c) Secondary riparian vegetation (d) One of the following alluvial soils: (i) Loamy alluvial land (Lo), or (ii) Celio gravelly loamy coarse sand (Co), or (iii) Gravelly alluvial land (Gr). TRPA's official land capability maps shall be used to identify SEZs initially, but are subject to field verification in every instance. The boundary of a SEZ is the outermost limit of the key indicators; the outermost limit where three secondary indicators coincide; or if Lo, Co, or Gr soils are present, the outermost limit where two secondary indicators coincide, whichever establishes the widest SEZ at any point. The outermost boundaries of a stream are the bank-full width of such stream which is defined as the level of frequent high flow, i.e., the level of flood with a recurrence interval of approximately 1.5 years. Other definitions of terms used in the criteria above are given in Table 5.7-1 of the Water Board's Basin Plan, and pages 10 – 12 of the TRPA Water Quality Management Plan for the Lake Tahoe Region. Note that SEZs can include bodies of open water as well as wet meadows without defined stream channels. SEZs are generally identical with Bailey land capability Class 1b lands (See TRPA Water Quality Management Plan for the Lake Tahoe Region). This definition is subject to change if the TRPA amends the definition or criteria for SEZs and such changes or amendments are approved by the California State Water Resources Control Board. (Basin Plan Section 5.7)
STRUCTURE	means an approved and legally permitted existing structure (such as residential or commercial building) that complies with the California Building Code (or which pre-dates the building code). Does not include existing roads, power lines, or trails. For the sake of the MRP in these WDRs, it also means a physical device used as a BMP to retain soils or sediments, or other contaminant.

TARGET SPECIES	means vegetation and/or tree species that are deliberately selected for removal, reduction, or management to accomplish the project's intended purpose, as specified in the project application, Plan, or other submittal.
THREAT ZONE	means the third zone of the WUI, where undeveloped public lands extend 1.5 miles beyond the Defense Zone.
TIMBER HARVEST AND VEGETATION MANAGEMENT ACTIVITIES	means all activities related to the management of vegetation for the purposes of fuel reduction; forest thinning; and/or environmental improvement (such as forest enhancement, riparian enhancement, and aspen stand enhancement); prescribed burning; cutting or removal of trees and vegetation, together with all the work incidental thereto, including, but not limited to, construction, reconstruction, maintenance, and decommissioning of roads, fuel breaks, stream crossings, landings, skid trails, or beds for the falling of trees; burned area rehabilitation, hazard tree removal; site preparation that involves disturbance of soil, burning of vegetation, or herbicide/pesticide application. Activities do not include aquatic vegetation management, preparatory tree marking, surveying, or road flagging.
TRIGGER	is a quantifiable target or value that represents a measurement below or before a significant negative impact occurs, so that if the trigger value is reached (e.g. measured soil disturbance), operations causing the discharge are stopped and alternative actions taken.
UNCLASSIFIED WATERBODY	means a channel with evidence of having concentrated flowing water indicated by deposition of rock, sand, gravel, or soil. No aquatic life is present, shows no evidence of being capable of sediment transport to a higher class of waterbody (Class I, II, or III). These features may have riparian plant communities present.
UNDEVELOPED PUBLIC LANDS	means public parcels owned by the USFS without buildings or structures, up to three acres in size, that are interspersed in areas of existing urban land uses (e.g., residential, commercial or industrial uses).
UNSTABLE AREAS	are characterized by slide areas or unstable soils or by some or all of the following: hummocky topography consisting of rolling bumpy ground, frequent benches, and depressions; short irregular surface drainages begin and end on the slope; tension cracks and head wall scarps indicating slumping are visible; slopes are irregular and may be slightly concave in upper half

	and convex in lower half as a result of previous slope failure; there may be evidence of impaired ground water movement resulting in local zones of saturation within the soil mass which is indicated at the surface by sag ponds with standing water, springs, or patches of wet ground. Some or all of the following may be present: hydrophytic (wet site) vegetation prevalent; leaning, jackstrawed or split trees are common; pistol-butted trees with excessive sweep may occur in areas of hummocky topography (note: leaning and pistol butted trees should be used as indicators of slope failure only in the presence of other indicators). (California Code of Regulations, title 14, section 895.1.)
UPLAND	means land or an area of land elevated above wetlands and those intervals which lie above the banks of waterbodies and are generally dry. In context for construction activities, it is any non-waterbody, floodplain, riparian, or SEZ location where excavated soils are to be stabilized, or discharge from dewatering will infiltrate, without returning to these sensitive areas.
WATERBODY	means "waters of the state" as defined in Water Code section 13050 and includes any surface water and ground water, including, but not limited to, any natural or manmade waterbody, including lakes, ponds, springs, and watercourses. Class I, Class II, Class III, Class IV, and Unclassified Waterbodies are defined above.
WATERBODY BUFFER ZONE	means a specified strip of land, along all sides of a waterbody, where additional avoidance measures and management practices are required for protection of the quality and beneficial uses of water, fish and riparian wildlife habitat, other forest resources, and for controlling erosion.
WATERBREAK	Means a ditch, dike, or dip, or a combination thereof, constructed diagonally across logging roads, skid trails, and fuel breaks so that runoff flow is interrupted and effectively diverted to discharge to non-erodible or vegetated areas that will not result in delivery of sediment to a waterbody. Also known as waterbars.

WATERCOURSE	means any well-defined channel with distinguishable bed and bank showing evidence of having contained flowing water indicated by deposit of rock, sand, gravel, or soil. Watercourse also includes manmade watercourses (California Code of Regulations, title 14, section 895.1.).
WATERSHED SPECIALIST	The Discharger's natural resource professional, i.e., hydrologist, soils scientist, or other federal forestry professional, (see) with the proper training and experience to competently implement the respective BMP per the WDR requirements.
WHOLE TREE LOGGING	means a mechanical method of thinning where the entire tree is moved to a landing for further processing to remove limbs and tops after it is cut. The ground-based equipment used is usually heavier than CTL equipment.
WILDLAND URBAN INTERFACE	means the zone surrounding the urban core where structures and other human development meet or intermingle with undeveloped wildland. The width of the WUI is based on the distribution of developments, likely rates of fire spread, strategic landscape features such as roads, distribution of fuels types, and topography. WUIs are comprised of three separate buffers: the urban core where undeveloped public and developed private lands are adjacent; an inner defense zone (estimated to be typically 0.25 mile wide) and an outer threat zone around the defense zone (estimated to be typically 1.25 miles wide).
WINTERIZED	means stabilized to prevent soil movement permanently if site activities are completed, or temporarily in a manner which will remain effective until activities can be restarted, if site activities are planned to continue later into the year.
WINTER PERIOD	means, for the purposes of this Order, "outside of the normal operating season," i.e., the period between October 15 and May 1.

All other terms shall have the same definitions as prescribed by the California Forest Practice Rules (California Code of Regulations, title 14, section 895.1 et seq.), Public Resources Code section 4528, subdivision (f), and the Porter-Cologne Water Quality Control Act (Water Code section 13000 et seq.), unless specified otherwise. Definitions contained in Water Code Section 13050(d) controls for the purpose of the Timber Waiver.

LIST OF ACRONYMS

BMP..... Best Management Practice
BMPEP..... Best Management Practices Evaluation Program (U.S. Forest Service)
CAL FIRE ..... California Department of Forestry and Fire Protection
CEQA ..... California Environmental Quality Act
CTL..... Cut-to-Length logging equipment
CWA..... Clean Water Act
CWD..... Coarse Woody Debris, LTBMU's equivalent term for LWD
CWC..... California Water Code
DBH..... Diameter at Breast Height
DO..... Dissolved Solids
ECP..... Erosion Control Plan
EIS/EIR..... Environmental Impact Statement and Environmental Impact Report (DEIS/EIR or FEIS/EIR stands for Draft and Final EIS/EIRs)
ELZ..... Equipment Limitation Zone
HSEZ..... LTBMU's Heavenly Valley Creek SEZ Demonstration Project
HA/HU..... Hydrologic Area / Hydrologic Unit
LTBMU..... USFS Lake Tahoe Basin Management Unit
LWD..... Large Woody Debris (see CWD)
MRP..... Monitoring and Reporting Plan
NEPA..... National Environmental Policy Act
NPDES ..... National Pollutant Discharge Elimination System
ONRW..... Outstanding Natural Resource Water
PRC ..... Public Resources Code
RCA..... USFS Resource Conservation Area
RPF ..... Registered Professional Forester
RPMs..... LTBMU's Resource Protection Measures
SEZ ..... Stream Environment Zone
SWAMP..... Surface Water Ambient Monitoring Program
SWPPP..... Storm Water Pollution Prevention Plan
TDS..... Total Dissolved Solids
THP..... Timber Harvest Plan
TMDLs..... Total Maximum Daily Loads
TRPA ..... Tahoe Regional Planning Agency
USFS..... United States Forest Service
WDRs..... Waste Discharge Requirements
WT..... Whole tree logging
WUI..... Wildland Urban Interface
WQMH..... US Forest Service, Region 5 Water Quality Management Handbook
WQOs..... Basin Plan Water Quality Objectives

WDR Attachment B

California Regional Water Quality Control Board
Lahontan Region

Basin Plan Excerpts

South Shore Project Waste Discharge Requirements

1. **Beneficial Uses**. Pursuant to the Basin Plan and State Board Plans and Policies, including State Water Board Resolution No. 88-63, the existing and potential beneficial uses of surface waters potentially affected by the proposed activity include:

   a. Municipal and Domestic Supply (MUN)
   b. Agricultural Supply (AGR)
   c. Groundwater Recharge (GWR)
   d. Freshwater Replenishment (FRSH)
   e. Navigation (NAV)
   f. Water Contact Recreation (REC-1)
   g. Non-contact Water Recreation (REC-2)
   h. Commercial and Sportfishing (COMM)
   i. Cold Freshwater Habitat (COLD)
   j. Wildlife Habitat (WILD)
   k. Preservation of Biological Habitats of Special Significance (BIOL)
   l. Rare, Threatened, or Endangered Species (RARE)
   m. Freshwater Replenishment (FRSH)
   n. Migration of Aquatic Organisms (MIGR)
   o. Spawning, Reproduction, and Development (SPWN)
   p. Water Quality Enhancement (WQE)
   q. Flood Peak Attenuation/Flood Water Storage (FLD)

   The beneficial uses of the groundwaters of the Lake Tahoe HU Department of Water Resources Groundwater Basin No. 6-5.02, as set forth and defined in the Basin Plan include municipal and domestic supply and agricultural supply.

   Of these, Project activities have the potential to affect groundwater recharge, non-contact water recreation, cold freshwater habitat, wildlife habitat, preservation of biological habitats of special significance, rare, threatened, or endangered species, spawning, reproduction, and development, water quality enhancement, and flood peak attenuation/flood water storage. The FEIS, FEIR, and this Order contain elements and requirements to avoid or reduce disturbance in sensitive areas, monitor Project activities, mitigate potential disturbances, and restore natural functionality of meadows and SEZs. Where measures detailed in the FEIS, FEIR, and these WDRs appear to be conflicting, the more protective or

restrictive measures shall be adhered to in the field. It is expected that these nine beneficial uses will be positively affected by the Project in the long term.

2. **Water Quality Objectives**. The Porter-Cologne Water Quality Control Act defines "water quality objectives" as the allowable "limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area." The Basin Plan provides both narrative and numerical water quality objectives for individual water bodies which define the upper concentration or other limits that the Water Board considers protective of beneficial uses. Additionally, the Basin Plan includes a Nondegradation Objective which applies to all waters of the Lahontan Region, including surface waters, wetlands, and ground waters. Whenever the existing quality of water is better than the quality of water established in this Basin Plan as objectives (both narrative and numerical), such existing quality shall be maintained unless appropriate findings are made under the policy.

   The Basin Plan Chapter 5 lists the following narrative and numerical water quality objectives for the following, which apply to all surface waters within the Lahontan Region:
   (a) Ammonia;
   (b) Bacteria, Coliform;
   (c) Biostimulatory Substances;
   (d) Chemical Constituents;
   (e) Chlorine, Total Residual;
   (f) Color;
   (g) Dissolved Oxygen;
   (h) Floating Materials;
   (i) Oil and Grease;
   (j) Non-degradation of Aquatic Communities and Populations;
   (k) Pesticides;
   (l) pH;
   (m) Radioactivity;
   (n) Sediment;
   (o) Settleable Materials;
   (p) Suspended Materials;
   (q) Taste and Odor;
   (r) Temperature;
   (s) Toxicity; and
   (t) Turbidity.

   The Basin Plan also includes narrative and numeric water quality objectives which are directed toward protection of surface waters in specific areas, which, in case of overlap, supersede the water quality objectives described for all surface waters. These specific areas which are affected by the Project include the Lake Tahoe HU and Fallen Leaf Lake. While the Project may have the potential to affect any of the Basin Plan-listed water quality objectives, suspended sediment, (stream)

temperature, and turbidity are at most risk during timber harvesting operations. These water quality objectives are as follows:

- Suspended sediment concentrations in tributaries to Lake Tahoe shall not exceed a 90th percentile value of 60 mg/L.
- The natural receiving water temperature of all waters shall not be altered unless it can be demonstrated to the satisfaction of the Water Board that such an alteration in temperature does not adversely affect the water for beneficial uses. For waters designated COLD, the temperature shall not be altered.
- Waters shall be free of changes in turbidity that cause nuisance or adversely affect the water for beneficial uses. Increases in turbidity shall not exceed natural levels by more than 10 percent. For Lake Tahoe, the vertical extinction coefficient shall be less than 0.08 per meter when measured below the first meter. When water is too shallow to determine a reliable extinction coefficient, the turbidity shall not exceed 3 Nephelometric Turbidity Units (NTU).

Table 5.1-3 in the Basin Plan includes the following water quality objectives for certain water bodies in the Lake Tahoe HU (only surface waters potentially affected by the Project are included below):

Surface Waters	**Objective (mg/L)** [1,2]						
	TDS	**Cl**	**SO_4**	**B**	**N**	**P**	**Fe**
Lake Tahoe	60 65	3.0 4.0	1.0 2.0	0.01 -	0.15 -	0.008 -	--
Fallen Leaf Lake	50 -	0.30 0.50	1.3 1.4	0.01 0.02	See Basin Plan Table 5.1-4 (reproduced below), for additional objectives		
Tallac Creek	60 -	0.40 -	--	--	0.19 -	0.015 -	0.03 -
Taylor Creek	35 -	0.40 0.50	--	--	0.17 -	0.010 -	0.02 -
Upper Truckee River	55 75	4.0 5.5	1.0 2.0	--	0.19 -	0.015 -	0.03 -
Trout Creek	50 60	0.15 0.20	--	--	0.19 -	0.015 -	0.03 -

[1] Annual average value/90th percentile value.
[2] Objectives are as mg/L and are defined as follows:
B - Boron
Cl - Chloride
SO_4 - Sulfate
Fe - Iron, Total
N - Nitrogen, Total
P - Phosphorus, Total
TDS - Total Dissolved Solids (Total Filterable Residues)

Table 5.1-4 in the Basin Plan includes the following additional water quality objectives for Fallen Leaf Lake:

Constituent	Objective (mg/L except for pH and Temperature)
pH [a]	6.5 - 7.9
Temperature [b]	Hypolimnion - □15 ° C Bottom (105m) - □7.5 ° C at no time shall water be increased by more than 2.8 ° C (5 ° F).
Dissolved oxygen [c]	% saturation above 80% and DO >7 mg/L except if saturation exceeds 80% DO at bottom (105m) > 6mg/L
Total nitrogen [d]	0.087 [e] / 0.114 [f] / 0.210 [g]
Dissolved inorganic – N [h]	0.007 / 0.010 / 0.023
Total phosphorus	0.008 / 0.010 / 0.018
Soluble reactive - P	0.001 / 0.002 / 0.009
Soluble reactive iron	0.004 / 0.005 / 0.012
Total reactive iron	0.005 / 0.007 / 0.030
Chlorophyll-a [ij]	0.6 / 0.9 / 1.5
Clarity - Secchi depth [k] - Vertical extinction coefficient	18.5 / 16.0 [l] / 13.6 [m] 0.146 / 0.154 / 0.177 [n]
Phytoplankton cell counts [o]	219 / 280 / 450

[a] 0.5 units above and 0.5 units below 1991 maximum and minimum values. Also reflects stability of this constituent throughout the year.

[b] Based on 1991 data. Indicates that if temperature in the hypolimnion during the summer exceeds 15° C or if the water at 105m exceeds 7.5 ° C this would constitute a significant change from existing conditions. Unless there is a anthropogenic source of thermal effluent, which does not currently exist, changes in water temperature in Fallen Leaf Lake are natural. Objectives apply at any time during the defining period.

[c] Based on coldwater habitat protection and 1991 data base. The need for an objective for the bottom (105m) results from the desire to control primary productivity and deposition of organic matter on the bottom. A decline in bottom DO to below 6 mg/L would indicate a fundamental shift in the trophic state of Fallen Leaf Lake.

[d] Because of the similarity between the mid-lake and nearshore sites, Fallen Leaf Lake objectives for N, P and Fe are based on the combined mid-lake 8 m and 45 m, and nearshore 8 m concentrations. Units are mg N/L, mg P/L and mg Fe/L.

[e] Mean annual concentration (May - October) unless otherwise noted.

[f] 90th percentile value unless otherwise noted.

[g] Maximum allowable value; 1.5 times the maximum 1991 value. No single measurement should exceed this value unless otherwise noted.

[h] DIN = NO3+NO2+NH4

[l] Corrected for phaeophytin degradation pigments.

[j] Units are µg chl-a/L.
[k] Units are meters.
[l] 10th percentile since clarity increases with increasing Secchi depth.
[m] Represents 15% loss of clarity from 10th or 90th percentile value.
[n] Calculated in the photic zone between 1 m below surface to 35 m. Units are per meter.
[o] Units are cells per milliliter.

3. Lake Tahoe TMDL. Basin Plan Subchapter 5.18 describes the Lake Tahoe TMDL which include project-specific requirements (shaded for emphasis, below) for forest management agencies:

> *Forest Uplands:* Forest uplands comprise approximately 80 percent of the land area within the Lake Tahoe basin. Fine sediment particles from this source category most often originate from discrete disturbed areas such as unpaved roads, ski runs, and recreation areas in forested uplands.
>
> The United States Forest Service Lake Tahoe Basin Management Unit (LTBMU), California Department of Parks and Recreation, California Tahoe Conservancy (CTC), and other public land managers implement watershed management programs on their lands. As part of these watershed management programs, land managers maintain existing facilities (including unpaved roads and trails), restore disturbed lands, implement and maintain stormwater treatment facilities for all paved/impervious surfaces, prevent pollutant loading from fuels management work, and take other actions to reduce fine sediment particle, total nitrogen, and total phosphorus loads. These agencies are responsible for implementing forest fuels reduction projects to reduce the threat of wildfire in the Lake Tahoe basin. These projects must include best management practices and appropriate monitoring to ensure fuels reduction efforts do not cause this source to exceed its load allocation for fine sediment particle and nutrient loads and must comply with any applicable state or federal permits regulating stormwater discharges from roads created for silvicultural activities.
>
> The California Department of Forestry and Fire Protection is responsible for regulating forest practices on private forest lands and works directly with Regional Board staff to minimize the water quality impacts associated with vegetation management. The Emergency California-Nevada Tahoe Basin Fire Commission Report (May 2008) provides guidance to the Regional Board and the Tahoe Regional Planning Agency to facilitate projects that address Lake Tahoe's wildfire vulnerability.
>
> The Ninth Circuit federal Court of Appeals has found that "stormwater runoff from logging roads associated with silviculture that is collected in a system of ditches, culverts, and channels and is then discharged into streams and rivers" is not exempt from the National Pollutant Discharge

Elimination System permitting process because it is considered a point source discharge of stormwater "associated with industrial activity" (Northwest Environmental Defense Center v. Brown, 2010 WL 3222105 (2010)). If, in conformance with this decision, the Water Board reclassifies a portion of the forest load allocation as a waste load allocation, such a regulatory shift would not change the implementation approach.

The forest upland load reductions are expected to be accomplished through continued implementation of existing watershed management programs described above. The Regional Board will require forest management agencies to track and report load increases and load reduction activities to assess whether required basin-wide forest load reductions are occurring. Some activities, including fuels reduction and associated administrative road construction, have the potential to increase pollutant loading at a project scale. Forest management agencies responsible for these actions must demonstrate that other project activities, including restoration efforts and temporary and/or permanent best management practices, will be implemented to compensate for any anticipated project-scale loading increase. These agencies must ensure that no increased loading occurs on a sub-watershed or catchment scale and that the basin-wide fine sediment particle, total nitrogen, and total phosphorus load from the forest uplands is reduced as required by Tables 5.18-2, 5.18-3, and 5.18-4.

4. **Discharge Prohibition, Required Findings, and Exemption**. To protect the natural treatment capacity of 100-year floodplains and SEZs, and to prevent channelized flows from causing erosion, the Basin Plan prohibits permanent disturbance within 100-year floodplains and SEZs, unless the Water Board grants exemptions to these prohibitions.

   The following is a listing of waste discharge prohibitions applicable within the Lake Tahoe HU. These include both region-wide prohibitions and prohibitions specifically applicable to the Lake Tahoe HU. "Waste" is defined to include any waste or deleterious material, including, but not limited to, waste earthen materials (such as soil, silt, sand, clay, rock, or other organic or mineral material) and any other waste as defined in the California Water Code Section 13050(d).

   (a) Regionwide Prohibitions

   1. The discharge of waste which causes violation of any narrative water quality objective contained in this Plan, including the Nondegradation Objective, is prohibited.
   2. The discharge of waste which causes violation of any numeric water quality objective contained in this Plan is prohibited.

3. Where any numeric or narrative water quality objective contained in this Plan is already being violated, the discharge of waste which causes further degradation or pollution is prohibited.
4. Direct discharges of wastes, including sewage, garbage, and litter, into surface waters of the Region are prohibited.

The Water Board encourages restoration projects that are intended to reduce or mitigate existing sources of soil erosion, water pollution, or impairment of beneficial uses, and may grant exemptions to these prohibitions for waste earthen materials discharged as a result of restoration projects. However, there are no exemptions to the above prohibitions for any other type of project. All of the above prohibitions therefore apply to the Project.

(b) Project-Applicable Lake Tahoe HU Discharge Prohibitions

1. The discharge of waste earthen material or of any other waste as defined in Section 13050(d) of the California Water Code which would violate the WQOs of this plan, or otherwise adversely affect the beneficial uses of water designated by this plan, is prohibited.
2. The discharge of treated or untreated domestic sewage, industrial waste, garbage or other solid wastes, or any other deleterious material to the surface waters of the Lake Tahoe Basin is prohibited.
3. The Porter-Cologne Act also prohibits the discharge of garbage or other solid waste to lands within the Lake Tahoe Basin.
4. The discharge, attributable to human activities, of solid or liquid waste materials, including soil, silt, clay, sand and other organic and earthen materials, to the surface waters of the Lake Tahoe Basin, is prohibited.
5. The discharge, attributable to human activities, of solid or liquid waste materials, including soil, silt, clay, sand and other organic and earthen materials to lands below the highwater rim of Lake Tahoe or within the 100-year floodplain of any tributary to Lake Tahoe is prohibited.
6. The threatened discharge, attributable to human activities, of solid or liquid waste materials including soil, silt, clay, sand, and other organic and earthen materials, due to the placement of said materials below the highwater rim of Lake Tahoe or within the 100-year floodplain of any tributary to Lake Tahoe, is prohibited.

There are no exemptions to the above prohibitions for any type of project, except for Items 4, 5, and 6, as noted in Finding # 18(d). The remaining items in the above are therefore applicable to this Project.

(c) Lake Tahoe HU Discharge Prohibitions to Protect 100-Year Floodplains

The Basin Plan includes a Water Board discharge prohibition to protect 100-year floodplains in the Lake Tahoe Basin, as follows. This is separate from the prohibitions for protection of SEZs. The criteria for definition of SEZs include

100-year floodplains as secondary indicators, but unless other indicators are also present, a 100-year floodplain is not automatically considered to be a SEZ. When a 100-year floodplain is considered a SEZ, the SEZ exemption criteria noted below under Finding # 18(d) apply.

The discharge, or threatened discharge, attributable to human activities, of solid or liquid waste materials, including soil, silt, clay, sand and other organic and earthen materials to lands below the highwater rim of Lake Tahoe or within the 100-year floodplain of any tributary to Lake Tahoe is prohibited.

For public service facilities, the Lahontan Water Board may grant exceptions to the 100-year floodplain discharge prohibition for Lake Tahoe and its tributaries, in cases where the floodplain is not also an SEZ, only under the following circumstances: (a) the project is necessary for public health, safety, or environmental protection, (b) there is no reasonable alternative, including spans, which avoids or reduces the extent of encroachment in a floodplain, and (c) the impacts on the floodplain are minimized. These conditions for this Project are covered in Finding # 18(d).

(d) Lake Tahoe HU Discharge Prohibitions to Protect SEZs

In the Lake Tahoe HU, the Water Board adopted waste discharge prohibitions to limit soil erosion and sediment delivery in and around surface waters and their associated floodplains and Lake Tahoe SEZs. The Water Board has identified extremely fine sediment (less than 16 micrometers in size) to be the primary cause of clarity loss in Lake Tahoe and anticipates adopting a Total Maximum Daily Load (TMDL) for sediment and nutrient discharges to Lake Tahoe in 2010. Therefore, this Order adds additional conditions and requirements within the Lake Tahoe HU to ensure compliance with the Basin Plan.

The Basin Plan specifies the following discharge prohibition for activities within SEZs: "the discharge or threatened discharge, attributable to new development in SEZs, of solid or liquid waste, including soil, silt, sand, clay, rock, metal, plastic, or other organic, mineral or earthen materials, to SEZs in the Lake Tahoe basin is prohibited."

"New development" means ". . . construction activity resulting in permanent soil disturbance ... New development does not include maintenance or repair of an existing structure or the replacement of any existing structure with another structure on the same parcel of no greater land coverage." This means that if an activity occurs in an SEZ that does not result in permanent disturbance, the prohibition is not violated.

The Basin Plan provides that exemptions may be granted for public service facilities that are applicable to timber harvest and vegetation management activities in SEZs:

1. The project is necessary for public health, safety or the environment.
2. There is no reasonable alternative, including spans, which avoids or reduces the extent of encroachment.
3. The impacts are fully mitigated.
4. SEZ lands are restored in an amount 1.5 times the area of land developed or disturbed by the project.

The following Project-related activities proposed to be conducted within 100-year floodplains or in SEZs require an exemption:

- Enlargement of existing permanent watercourse crossings and/or roads.
- Construction of temporary roads.
- Construction of temporary watercourse crossings and associated approaches in place longer than one season.
- Construction of skid trails.
- Pile burning.

The Project contains elements of the following types of timber harvest and vegetation management projects which make them eligible for exemptions to the above-described prohibitions:

- Timber harvest and vegetation management projects to reduce fuel loading that are identified in a community wildfire protection plan.
- Improvement of a stream crossing on an existing road to benefit water quality.
- Timber harvest and vegetation management projects for aspen regeneration or improvement of riparian conditions.
- Construction of an approach within a 100-year floodplain or a crossing necessary to achieve Project goals.
- Timber harvest and vegetation management activities to protect forest values, such as wildlife habitat.

WDR Attachment C

California Regional Water Quality Control Board
Lahontan Region

Monitoring and Reporting Program

South Shore Project Waste Discharge Requirements

I. Overview including Purpose and Authority

Monitoring will be conducted by the Discharger for the South Shore Project (Project). The Discharger shall conduct a variety of monitoring for this Project through a combination of its *Best Management Practices Evaluation Program* (BMPEP), the Project-specific monitoring plan described in the Project Final Environmental Impact Statement (FEIS), and by complying with the monitoring and reporting requirements of the Waste Discharge Requirements (WDR), contained here.

The Monitoring and Reporting Program is designed to ensure that the Project management measures are installed and functioning prior to precipitation events (implementation monitoring), that the measures were effective in controlling sediment discharge sources (effectiveness monitoring), and that any new sediment sources occurring as a result of Project implementation are tracked down and corrected (forensic monitoring). The Water Board may require that any person who proposes to discharge waste within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires (Water Code section 13267). All monitoring must be conducted by qualified professionals (i.e., a person with a bachelor's degree or higher in a biological, ecological, or other relevant science such as engineering, geology, soils, hydrology, botany, or fisheries and with the appropriate training and experience to competently conduct the required site inspections and accurately prepare valid technical reports associated with preventing or minimizing the discharge of waste to waters).

II. Implementation Monitoring

Implementation monitoring consists of visual, and in some instances photo-point monitoring, of Project treatment areas, roads, stream crossings, landings, skid trails, burn piles and prescribed burn areas, etc., wherever Project Best Management Practices (BMPs) have been employed. Visual inspections shall occur on 100% of the Project area to ensure that all management practices necessary to protect water quality (e.g., erosion control measures, riparian and watercourse buffers, waterbars, rolling dips or swales, etc.) are in place and effective. An implementation monitoring checklist has been developed for this

Project and is included as Monitoring and Reporting Program (MRP) Attachment B. The Discharger may use an alternate checklist appropriate for each unit provided that all the information required in this MRP is included, and the alternate checklist has been submitted to Water Board staff for acceptance prior to initiating activities in a project area.

Professional Discretion on Use of Specified BMPs:

The Discharger originally proposed BMPs and resource protection measures (RPMs), some of which were open-ended, allowing discretion on the part of field personnel for Project activities. While Water Board staff understands the need to be able to apply professional judgment in the field in certain situations, based on site conditions, there need to be sideboards set in order to ensure that adverse effects to the environment are avoided and/or mitigated.

Where any part of the specific BMPs listed in BMP No. 3 in WDR Attachment F is either not practicable due to the specified field conditions or is left to the Discharger's discretion, the Discharger's qualified staff (as specified in the BMP) shall implement alternate BMPs and mitigation measures that provide equal or better protection to these original WDR BMPs. The specified WDR BMPs are as follows:

- No. 10 (endlining on slopes above 10%),
- No. 13d (operating CTL equipment in SEZs where sufficient slash to provide an adequate slash bed to operate on is unavailable),
- No. 17 (retaining Large Woody Debris (LWD) in perennial or intermittent watercourse channels),
- No. 20 (felling of trees/placement of LWD into channels),
- No. 21 (end-lining trees out of SEZs),
- No. 24 (use of dry crossings outside of normal operating periods),
- No. 39 (ripping of decommissioned roads),
- No. 50 (limited to fuel storage and refueling issues within RCAs),
- No. 52b (decommissioning of landings), and
- No. 82 (revegetation of decommissioned roads and staging areas).

There are only three situations in which, based upon site-specific conditions, the specified staff can propose a substantial variation on these specific WDR BMPs:

1. The WDR BMP will not adequately achieve the intended performance goal.
2. The WDR BMP cannot feasibly be implemented.
3. The proposed alternative practice will meet or exceed the intended performance goal of the WDR BMP, or will achieve that goal more effectively.

Where such alternate practices have been implemented, the Discharger **must** document the alternative measure taken in the BMP Implementation Checklist, including the following:

1. Explanation and justification (by clear and convincing evidence), including:

   a. Identification of:
      1) the WDR BMP being supplanted by the alternative practice, and
      2) the potential risk to beneficial uses and soil and water resources from application of the WDR BMP and the alternative practice.
   b. A detailed description of:
      1) the proposed alternative practice,
      2) how it differs from the WDR BMP,
      3) how it provides a result(s) at least equal to that of the BMP(s) to be supplanted,
      4) the specific location(s) it will be applied, and
      5) a detailed explanation of any additional mitigation measures which were added to protect beneficial uses and soil and water quality.

2. Clear and objective instructions that are not prone to differing interpretations between contractors, timber operators, or Forest Service or regulatory agency personnel.

3. In instances where the modified proposal has elements that are beyond the skill level or understanding of the person implementing the proposal, an expert shall be retained to aid in interpreting the alternative practice to the operator on a continuing basis to help to assure compliance with the alternative.

4. The Forest Service shall identify the applicable protocol from the Best Management Practices Evaluation Program (BMPEP) Handbook to determine if the alternative practice is equally effective in protecting water quality (as also described in Section III of this Attachment). If the BMPEP does not have a protocol for evaluating the alternative practice, one shall be developed. The Forest Service will also provide a recommendation based on an evaluation of water quality risk, whether a post implementation BMPEP evaluation is warranted. If either the Forest Service or the Water Board decides the BMPEP evaluation is warranted, the evaluation will be performed using the applicable BMPEP protocols by a qualified professional that has received BMPEP training.

<u>Photo-Point Monitoring Requirements:</u>

Photo-point monitoring is required at the following locations within the Project:

- USFS Road 12N01A Saxon Creek tributary permanent crossing
- USFS Road 12N20 tributary to Osgood Creek permanent crossing
- USFS Road 12N08 Powerline Road permanent crossing

- Temporary crossing on intermittent tributary to Saxon Creek (to be in place longer than one year)
- Ten temporary crossing locations on ephemeral streams per year (crossings that will be removed before each winter). Prior to commencement of operations, Water Board and Discharger staff will jointly identify and rank the highest risk crossings for this photo-point monitoring, based on likely ephemeral channel crossing locations and Unit slope characteristics. Once the exact locations of the ten highest risk crossings are determined by the Discharger, these locations shall be documented per WDR BMP No. 3 (Attachment F). If fewer than ten are installed and removed in a given year then all shall be monitored. If the Discharger adds additional temporary crossings during the course of the active timber harvest, pre-construction photos must be taken of each new crossing. The Discharger and Water Board staff shall collaborate as soon as possible following installation, to determine which of these additional crossings shall receive further photo-point monitoring, based on assessment of risk.
- Water drafting locations, when used during emergency operations at waterbodies to obtain water to control prescribed fires.

Photo-point monitoring shall be included with the subsequent monitoring report submitted for the Project. Photo-point monitoring must be conducted before and after installation/implementation of the structure or BMP. For temporary crossings where photo-point monitoring has been identified, photos shall be taken of the crossing area following removal of the temporary crossing. Photo points shall be depicted on a Project area map that has a scale equivalent to a USGS 7.5 minute topographic map. Photo points shall be identified in the field by use of rebar, flagging, or other method that will last throughout the (potential) active discharge period of the Project activity at any given site (i.e., until the site has stabilized following operations at that site). Photo-Point Monitoring sites will be numbered for easy identification; numbers shall include a designation for the treatment unit name. The Photo-Point Monitoring form (MRP Attachment G) or an equivalent form is required to be completed for all photographs submitted.

Implementation monitoring shall be conducted as follows:

- *Prior to Project Commencement* – Conduct pre-project photo-point monitoring.

- *In active treatment units, for a minimum of one year throughout the normal spring to fall flow cycle* - Conduct temperature and shade monitoring from May to November, as described in the In-stream Temperature and Shade Monitoring section, below.

- *Where Vegetation Management Activities have commenced in treatment units where no winter operations are planned* – A Fall Implementation

Monitoring Inspection shall be conducted after operations are completed in the treatment unit. This monitoring shall be conducted **after August 15 but no later than October 15 of each year** to assure that management measures are in place and secure prior to the winter period.

- *Where Vegetation Management Activities which include winter operations, have commenced* - Fall Implementation Monitoring Inspection shall be conducted **by October 15** to assure that management measures for areas not subject to winter operations are in place and secure prior to the winter period and that any appropriate/relevant management measures including watercourse crossings or buffer zone flagging for those areas with planned winter operations are in place.

- *Where Winter Operations occur,* Daily Winter Monitoring and Winter Implementation Monitoring must be conducted.

    - The Daily Winter Monitoring checklist (MRP Attachment C) shall be filled out every day that equipment operations are conducted during the winter period (October 15 to May 1). In the interest of reducing monitoring during dry periods, when not operating over either hard frozen soil conditions or snow, daily monitoring is only required beginning with the first National Weather Service forecast of 30% or greater chance of precipitation (http://www.nws.noaa.gov/). Monitoring may cease as soon as soils test as operable following cessation of the forecasted event, until the next time National Weather Service forecasts a 30% chance of precipitation. Daily Winter Monitoring checklists shall be submitted to the Water Board by **July 15** following each winter season that winter operations occur.
    - A Winter Implementation Monitoring Inspection that uses parts of the implementation monitoring checklist to assess any relevant Project activities (MRP Attachment D) shall be completed **immediately following cessation of winter period operations (and prior to May 1)**, in areas where winter operations have occurred, to assure that management measures are in place and secure. Winter Implementation Monitoring checklists shall also be submitted to the Water Board by **July 15** following each winter season that winter operations occur.

If Implementation monitoring reveals that management measures were not implemented as required, the monitoring report must describe any corrective action that was taken or explain why no corrective action was needed. If no corrective action was taken, but was identified as necessary, the Discharger shall specify a schedule for corrective action(s) to be completed. Future monitoring reports must state when and how corrective actions were accomplished.

In-stream Temperature and Shade Monitoring

The Discharger shall conduct in-stream temperature and shade monitoring at locations above, within, and below six treatment area types from May to November each year of Project activities in the given treatment unit.

The objective of fuel treatments in SEZs (along or adjacent to perennial flowing tributaries) is to have no measurable increase in stream temperature as a by-product of conifer removal. Therefore, the critical monitoring question is, will the decrease in density of live conifers result in a decrease in stream shade and a measurable increase in stream temperature?

Monitoring parameters would include: a) selection of a minimum of six SEZ treatments (two whole tree units, two cut-to-length units, and two hand thinning units), b) installation of three temperature loggers associated with each unit type, c) temperature monitoring locations above, within and below each selected unit and d) measurement of stream shade at each temperature monitoring location.

Stream data loggers record water temperatures during a normal spring to fall flow cycle (May – November) which would encapsulate pre- and post-fuels treatment conditions. Stream temperature would be recorded for up to two years while the units are treated. The following table summarizes an example of the stream temperature monitoring parameters, based on information provided during the DEIS-development phase:

WHOLE TREE			CUT TO LENGTH			HAND THIN		
Unit No.	**No. of SEZ Acres**	**No. of Data Loggers**	**Unit No.**	**No. of SEZ Acres**	**No. of Data Loggers**	**Unit No.**	**No. of SEZ Acres**	**No. of Data Loggers**
9	21.63	UU – 1 IU – 1 DU - 1	133/135	1.06	UU – 1 IU – 1 DU - 1	99/56	1.24	UU – 1 IU – 1 DU - 1
192	3.90	UU – 1 IU – 1 DU – 1	343	9.72	UU – 1 IU – 1 DU - 1	82/84	0.10	UU – 1 IU – 1 DU - 1
Unit 22 (alternate)	0.03	UU – 1 IU – 1 DU - 1	186/187 (alternate)	0.20	UU – 1 IU – 1 DU - 1	95 (alternate)	0.11	UU – 1 IU – 1 DU - 1

UU = Upstream of unit
IU = Inside the unit
DU = Downstream of the unit

TOTAL NO. OF DATA LOGGERS = 18
TOTAL NO. OF SITES = 6

III. Effectiveness Monitoring Requirements

Effectiveness monitoring shall include visual assessments, photo-point documentation, and instream monitoring as detailed in this section. Effectiveness monitoring inspections shall be conducted at a randomly selected 10% of **all** BMPs installed at high risk sites (i.e., those sites with potential

hydrological connectivity to waterbodies, and as described below) as soon as conditions allow following the winter period. The inspections shall be conducted to evaluate the effectiveness of management measures in controlling discharges of sediment and in protecting water quality. The Water Board or Discharger staff may identify additional high risk sites for effectiveness monitoring each year based on inspections or results of the Fall or Winter Implementation Monitoring. The Executive Officer may require additional monitoring that is deemed appropriate and in accordance with Water Code Section 13267. Effectiveness monitoring may be conducted using the USFS BMPEP protocols along with photo point monitoring at the locations described above.

Effectiveness monitoring inspections shall take place after March 15 and before June 15 every year until these sites are stabilized, infiltration capacity is restored and/or vegetation recovery has commenced. Effectiveness monitoring may cease in any particular Treatment Unit, once LTBMU notifies Water Board staff (e-mail notification is acceptable) that these actions have occurred within that Treatment Unit(s). For those locations where snow cover or saturated soils prevent access to the monitoring sites by June 15, the inspections shall be conducted as soon as site conditions allow.

If the Effectiveness monitoring reveals sediment transport and/or other BMP failure(s), a visual inspection of in-stream components (bank composition and apparent bank stability, water clarity, and sediment deposition) shall also be conducted and the conditions shall be documented.

List of High Risk Activities and Sites

The Discharger's watershed staff shall evaluate the effectiveness of implemented BMPs at a randomly selected 10% of each of the following "high risk" sites:

- Treatment units with burn piles in SEZs (pre- and post- burn evaluations required) (BMPs No. 27, and 29),
- Permanent crossings (see locations identified in photo-point monitoring section, above) (BMPs No. 56, 57, and 58),
- Location of temporary crossings of ephemeral and/or intermittent watercourses (either in place or sites where crossings were removed prior to winter) (BMP No. 54),
- Road construction and decommissioning within 50 feet of SEZs, or within 50 feet of any watercourse or its 100-year floodplain,
- Waterbars or critical dips or other road drainage control measures where hydrologic connectivity to watercourses is likely to occur (e.g., where road is less than 50 feet from an SEZ, 100-year flood plain, or waterbody, other than at crossings),
- Temporary spot rocking repairs on rutted road (BMP No. 43),
- Locations where a tree was accidently felled across watercourses, and

- Any activity where discretion on the part of the Discharger's staff was used pursuant to BMP No. 3 as listed above under the "Professional Discretion on Use of Specified BMPs" section.

The Discharger shall develop and submit to the Water Board a list of the randomly-selected sites to be monitored using the BMPEP protocols. Alternatively, the Discharger may use relevant elements from the implementation monitoring checklist to conduct effectiveness monitoring of the randomly selected sites. The proposed list of sites and the proposed focused effectiveness monitoring checklist shall be submitted to and accepted by the Water Board by March 1st of each year.

The monitoring report shall be submitted to the Water Board by **July 15** following each year of Project activities. If the Effectiveness monitoring identifies failed or ineffective BMPs, Discharger staff shall, with the July 15 report, submit a schedule and narrative that addresses when corrective action will be implemented. The list of corrections, including a description of the action and date completed, shall be sent with the January 15 report.

The BMPEP user's guide is in Chapter 15 of the USDA Forest Service Region 5 Water Quality for Forest System Lands in California Best Management Practices Handbook. The Handbook can be found at the following link: http://www.fs.fed.us/r5/publications/water_resources/waterquality/water-best-mgmt.pdf

Bioassessment Monitoring

The Discharger shall conduct annual in-stream bioassessment sampling at the following location (Note: coordinates provided here are in NAD 83, and mark the downstream end of each sampling reach):

Saxon Creek above Oneidas Street
Latitude: 38.87111 Longitude: 119.98144

The bioassessment monitoring must be conducted in accordance with MRP Attachment A.

IV. Forensic Monitoring Requirements

Forensic monitoring inspections shall be conducted whenever visual observations from the Discharger's or Water Board staff identify a soil or water quality resource concern. Notifications of potential impacts by the public or other regulatory agency staff shall trigger Discharger evaluations whether follow-up forensic monitoring is deemed necessary. Forensic monitoring shall also be conducted within 36 hours following storm events greater than two inches of rain in 24 hours or rain-on-snow events that result in over bank flows or as soon as

worker safety and access allows. All watercourses immediately below and within active treatment units during a given operating period shall be inspected, and photographs shall be taken at locations where forensic monitoring reveals a discharge or potential for discharge. The Executive Officer may require additional inspections be conducted if a soil or water quality resource concern requires further investigation and assessment. The goal of forensic monitoring is to locate sources (or potential sources) of sediment delivery in a timely manner so that rapid corrective action(s) may be taken where feasible and appropriate. Forensic monitoring may also assist in determining cause and effect relationships between hillslope activities, hydrologic triggers, and in-stream conditions. Forensic monitoring involves evaluation by a watershed specialist, identification of the source of the impact, identification and application of corrective actions where needed, and repeated monitoring until the concern has been resolved. Adaptive management measures shall be employed as necessary to correct the problem.

Photo point monitoring shall be required at locations when a visual discharge of sediment to a watercourse is detected or reported, or when failed management measures cause or may cause a visible release of sediment to watercourses. If corrective action is proposed for sites that are determined to be sediment sources during forensic monitoring, photographs shall be taken before and after a corrective action is implemented at the site.

Photographs shall include photos of the sediment plume, evidence of sediment discharge including the point of discharge (prior or ongoing) into the waterbody, and streambed conditions immediately downstream of areas where sediment discharge occurred. Include a series of photographs starting with one of the subject matter with a definable landmark in the background, and zooming in to the details of the issue at hand. The latter photograph/s must include a readily recognizable object in it to provide scale. Submitted photos must include the time and date of the photo, location (name of closest surface water and description of proximity to the surface water), and a brief description of the issue. Forensic monitoring photo points shall be depicted on a Project area map that has a scale equivalent to a USGS 7.5 minute topographic map. The Photo-Point Monitoring form (MRP Attachment G) or an equivalent form is required to be completed for all photographs submitted.

V. Reporting

Monitoring reports shall be submitted on **January 15 and July 15** of every year. The January Report must contain the results of Bioassessment conducted and all Fall Implementation Monitoring. If forensic monitoring was triggered by Project activities or a weather event during the summer/fall operating season those monitoring results shall be submitted with the January 15 Report. The July Report must contain the results of all Daily Winter Monitoring, Winter Implementation Monitoring, Forensic and Effectiveness Monitoring. All Monitoring Reports shall, at a minimum, include the date and type of each inspection, the

inspector's name and title, the location and treatment unit of each inspection point, the title and name of the person submitting the report, the inspection findings (including a description of the weather, rainfall to date, any photographs taken with date and time clearly delineated) a written description and certification of how Discharger has complied with the WDRs criteria and conditions, and a description of corrective actions that were, or will be, undertaken to maintain Project compliance. All monitoring reports must be signed by a qualified representative who can certify under penalty of perjury that all information contained in the Monitoring Report is true, accurate, and complete.

Violation Reporting – The Discharger shall report by telephoning (530) 542-5400 as soon as possible, but no later than 24 hours after detection, any discharges of wastes, including earthen materials to surface waters, violation of an applicable water quality control plan requirement or WDRs condition. A written report regarding such violation(s) shall be submitted within **14 days following detection** and shall include the following:

- Date of detection of violation(s)
- Name and title of person(s) discovering violation(s)
- Map indicating location of violation(s)
- Nature and extent of violation(s)
- Photos of site characterizing violation(s)
- Corrective measures implemented to date, or if to be implemented, then expected date of correction.

Final Certification (WDRs compliance reporting) – The Discharger must sign and submit a "final certification" stating whether:

- The Project was conducted in conformance with the approved plan and with all applicable provisions of the WDRs.
- Discharges resulting from the Project were in compliance or expected to be in compliance with all requirements of applicable water quality control plans.

The Executive Officer may modify or rescind this Monitoring and Reporting Program at any time.

Ordered by Harold Singer

Harold Singer, Executive Officer

April 12, 2012

(Date)

MRP Attachments:

MRP Attachment A. Bioassessment Requirements

MRP Attachment B. Implementation Monitoring Checklist
MRP Attachment C. Daily Winter Monitoring Checklist
MRP Attachment D. Winter Implementation Checklist
MRP Attachment E. Effectiveness Monitoring Form
MRP Attachment F. Forensic Monitoring Form
MRP Attachment G. Photo-point Monitoring Form

MRP Attachment A

California Regional Water Quality Control Board
Lahontan Region

Bioassessment Monitoring Requirements

South Shore Project Waste Discharge Requirements

The discharger shall conduct bioassessment monitoring, as described in this section, to provide information about the biological integrity of receiving waters. Bioassessment shall include: 1) the collection, analysis and reporting of specified instream biological data, and 2) the collection and reporting of specified instream habitat data.

Site Locations and Frequency

Annual bioassessment sampling shall commence at the site listed below upon adoption of these requirements, and shall continue until the Waste Discharge Requirements (Board Order No. R6T-2012-TENTATIVE) are rescinded. Bioassessment sampling shall be conducted once per calendar year at the following location:

Saxon Creek above Oneidas Street
Latitude: 38.87111 Longitude: 119.98144

The coordinates listed above are in NAD 83, and mark the lower (i.e., downstream) end of the sampling reach.

Index Period

Bioassessment sampling shall be conducted between July 1 and August 15 each year, when stream flows have stabilized (i.e., after peak snowmelt flows have ceased, but before late-summer base flows).

Field Methods for Macroinvertebrate Collections

In collecting macroinvertebrate samples, the discharger shall use the State of California's Reachwide Benthos (Multihabitat) Procedure according to the "Standard Operating Procedures for Collecting Benthic Macroinvertebrate Samples and Associated Physical and Chemical Data for Ambient Bioassessments in California" (February 2007).[1]

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[1] Protocols for the RWB collection methods are located at: http://swamp.mpsl.mlml.calstate.edu/resources-and-downloads/standard-operating-procedures#bioassessment.

Habitat Assessment Methods

The discharger shall conduct, concurrently with macroinvertebrate collections, "Full" habitat measurements according to the "Standard Operating Procedures for Collecting Benthic Macroinvertebrate Samples and Associated Physical and Chemical Data for Ambient Bioassessments in California" (February 2007).[2]

Laboratory Methods

Macroinvertebrates shall be identified and reported according to the Standard Taxonomic Effort (STE) Level I of the Southwestern Association of Freshwater Invertebrate Taxonomists (SAFIT),[3] and using a fixed-count of 600 organisms per sample.

Quality Assurance

The discharger shall prepare and make available to its relevant staff and/or consultants a Quality Assurance Project Plan (QAPP) that addresses the required bioassessment monitoring. The QAPP should follow USEPA guidance and requirements as found in *USEPA Requirements for Quality Assurance Project Plans* (EPA QA/R-5, EPA/240/B-01-003, March 2001), and *USEPA Guidance for Quality Assurance Project Plans* (EPA QA/G-5, EPA/240/R-02/009, December 2002). Upon request from the discharger, the Water Board's Executive Officer may override any USEPA quality assurance requirements and/or guidance that are deemed inapplicable and/or unnecessary. Any such deviations must be submitted to the Water Board for written approval at least 45 days prior to initiation of the scheduled activity. An umbrella document, such as a Quality Assurance Management Plan or other project or program quality assurance document, may be used to meet this requirement if the umbrella document covers all relevant aspects of the required bioassessment sampling. The QAPP (or umbrella document) shall include, or be supplemented to include, a specific requirement for external quality assurance checks (i.e., verification of taxonomic identifications and correction of data where errors are identified). External QA checks shall be performed on not fewer than one macroinvertebrate sample per year, or ten percent of the samples per year (whichever is greater). QA samples shall be randomly selected. The external QA checks shall be paid for by the discharger, and performed by the California Department of Fish and Game's Aquatic Bioassessment Laboratory. An alternate laboratory with equivalent or better expertise and performance may be used if approved in advance by the Water Board's Executive Officer.

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[2] The habitat assessment methods and field forms are available at the State Water Board's website listed in Footnote #1. The "Full" habitat parameters are listed in the manual in Table 1, pp. 7-8.

[3] The SAFIT STEs are located at: http://www.safit.org/ste.html. When new editions are published by SAFIT, they will supersede all previous editions. All editions will be posted at SAFIT's website.

Sample Preservation and Archiving

The original sample material[4] shall be stored in 70 percent ethanol and retained by the discharger until: 1) all QA analyses specified herein and in the relevant QA plan are completed; and 2) any data corrections and/or re-analyses recommended by the external QA laboratory have been implemented. The remaining subsampled material[5] shall be stored in 70 percent ethanol and retained until completeness checks have been performed according to the relevant QA plan. The identified organisms[6] shall be stored in 70 percent ethanol, in separate glass vials for each final ID taxon. (For example, a sample with 45 identified taxa would be archived in a minimum of 45 vials, each containing all individuals of the identified taxon.) Each of the vials containing identified organisms shall be labeled with taxonomic information (i.e., taxon name, organism count) and collection information (i.e., site name/site code, waterbody name, date collected, method of collection). The identified organisms shall be archived (i.e., retained) by the discharger for a period of not less than three years from the date that the Project's Final Certification is accepted in writing by the Water Board's Executive Officer. All archived samples shall be checked at least once per year and "topped off" with ethanol to prevent desiccation. The identified organisms shall be relinquished to the Water Board upon request.

Data Submittal

The habitat assessment and macroinvertebrate results (i.e., field data and taxonomic identifications consistent with the specified SAFIT STEs, and number of organisms within each taxa) shall be submitted to the Water Board in electronic format, using standardized formats (Database v2.5) developed by the Water Board's Surface Water Ambient Monitoring Program (SWAMP). The data reporting templates are available via the Internet.[7]

Exotic Species Prevention

In conducting the required bioassessment monitoring, the discharger and its employees and consultants shall take precautions to prevent the spread of exotic species. At minimum, the discharger shall follow the recommendations of the

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[4] The "original sample material" is that material (i.e., macroinvertebrates, organic material, gravel, etc.) remaining after the subsample has been removed for identification.

[5] The "remaining subsampled material" is that material (e.g., organic material, gravel, etc.) that remains after the organisms to be identified have been removed from the subsample for identification. (Generally, no macroinvertebrates are present in the remaining subsampled material, but this needs to be verified via QA completeness checks.)

[6] The "identified organisms" are those organisms within the subsample that are specifically identified and counted.

[7] SWAMP Database Templates v2.5 are available at: http://swamp.mpsl.mlml.calstate.edu/resources-and-downloads/database-management-systems/swamp-25-database/templates-25

California Department of Fish and Game to minimize the introduction or spread of the New Zealand (NZ) mudsnail. Instructions for controlling the spread of NZ mudsnails, including decontamination methods, can be found at: http://www.dfg.ca.gov/invasives/mudsnail/.

Alternative Methods

Alternate methods that will provide equivalent or better performance may be used if approved in advance and in writing by the Water Board's Executive Officer. Any request to use alternate methods must explain in detail the proposed methods and should be received by the Water Board with ample time for review (i.e., at least 45 calendar days prior to the required bioassessment monitoring).

MRP Attachment B

California Regional Water Quality Control Board - Lahontan Region
South Shore Project Waste Discharge Requirements

Implementation Monitoring Checklist

This Checklist is to be modified to appropriately fit the proposed actions within the Annual Operating Plans or unit-specific workplans, per WDR Section E.1

Project Name: **South Shore Fuel Reduction and Healthy Forest Restoration Project** **Stand/Unit No(s).:**

Date: **Observers:**

N/A	Yes	No	Design Features and BMPs:	[1]Reference	[2]Project Stage	Describe conditions if relevant, and where deficiencies occur. If answer to question is "No," describe proposed corrective actions and provide date completed. Attach additioanl sheets as necessary.	Date Complete
			Is an emegency spill kit onsite? Did fuel storage and refueling occur according to design features? If (any size) spills of hazardous materials occurred, were they adequately cleaned up and properly disposed of?	BMP#1, 2, 49, 50	I		
			Did concrete storage, mixing, and clean-up occur according to design features?	BMP #2	P - I		
			Are soil moisture conditions sufficiently dry to initiate proposed operations? For Over-snow operations, were snow depth and temperatures as required prior to equipment operations?	BMP#, 6, 12, 39, 22b-c, & 24	I		
			Was mechanical equipment excluded from use on slopes >30%, sensitive soils, special aquatic features, and/or SEZs (CTL allowed)? Was CTL equipment excluded from within 25 feet of restricted waterbodies?	BMP# 7, 8, 9, 13, 14, & 15	I		
			Are all special aquatic features such as springs, seeps, vernal pools, marshes, and fens adequately flagged and ground based equipment excluded from these areas?	BMP#15 & 16	P - I		
			In whole tree treatment stands, are SEZ boundaries and stream channel buffers adequately flagged and ground based equipment excluded from these areas?	BMP #15, 16, & 21	P-I		

Note 1: BMP = Best Mangement Practice

Note 2: P = Planning; I = Implementation; A = After Completion

MRP Attachment B

California Regional Water Quality Control Board - Lahontan Region
South Shore Project Waste Discharge Requirements

Implementation Monitoring Checklist

This Checklist is to be modified to appropriately fit the proposed actions within the Annual Operating Plans or unit-specific workplans, per WDR Section E.1

Project Name: South Shore Fuel Reduction and Healthy Forest Restoration Project **Stand/Unit No(s).:**

Date: **Observers:**

N/A	Yes	No	Design Features and BMPs:	[1]Reference	[2]Project Stage	Describe conditions if relevant, and where deficiencies occur. If answer to question is "No," describe proposed corrective actions and provide date completed. Attach additioanl sheets as necessary.	Date Complete
			Are all skid trails adequately stabilized to prevent sediment delivery to a surface water?	BMP#11, 37, & 38	I-C		
			Are all road segments adequately stabilized to prevent sediment delivery to a surface water?	BMP #37d & 55	I-C		
			Where end-lining occurred on slopes greater than 10%, did end-lining occur on contour? Were end-lining caused ruts adequately stabilized to prevent potential sediment delivery?	BMP#10 & 21b-c	I-C		
			Were existing downed trees and LWD left in place in all perennial and intermittent channels?	BMP#17	I-C		
			Were underburning prescriptions designed and implemented to avoid adverse effects on soil & water resources, including during prescribed fire use and associated activities, such as obtaining water from a natural source?	BMP#25	P-I		
			Were trees removed within 5 feet of perennial and intermittent channels adequately marked as per design features prior to removal?	BMP#18	P-I		
			Were trees directionally felled away from ALL waterbodies?	BMP#20	I-C		

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MRP Attachment B

California Regional Water Quality Control Board - Lahontan Region
South Shore Project Waste Discharge Requirements

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Project Name: South Shore Fuel Reduction and Healthy Forest Restoration Project **Stand/Unit No(s).:**

Date: **Observers:**

N/A	Yes	No	Design Features and BMPs:	[1]Reference	[2]Project Stage	Describe conditions if relevant, and where deficiencies occur. If answer to question is "No," describe proposed corrective actions and provide date completed. Attach additioanl sheets as necessary.	Date Complete
			Are burn piles located at least 50 feet from any perennial or intermittent stream channel, lakes, bogs and fens, and 10 feet from any ephemeral channel?	BMP#26	I		
			Were ALL the piling and burning prescriptions in the burn pile design features adhered to?	BMP#25 through 31	P-I-C		
			Were all new roads and existing temporary roads properly constructed/reconstructed and maintained to protect soil and water resources, and as required in the design features?	BMP#32 through 37	P-I-C		
			Are all fill slopes adequately armored or stabilized?	BMP #21b, 33, 55	I-C		
			Is road runoff disconnected before it reaches the watercourse crossing?	BMP #33, 35, 37d, & 55	I-C		

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MRP Attachment B

California Regional Water Quality Control Board - Lahontan Region
South Shore Project Waste Discharge Requirements

Implementation Monitoring Checklist

This Checklist is to be modified to appropriately fit the proposed actions within the Annual Operating Plans or unit-specific workplans, per WDR Section E.1

Project Name: South Shore Fuel Reduction and Healthy Forest Restoration Project **Stand/Unit No(s).:**

Date: **Observers:**

N/A	Yes	No	Design Features and BMPs:	[1]Reference	[2]Project Stage	Describe conditions if relevant, and where deficiencies occur. If answer to question is "No," describe proposed corrective actions and provide date completed. Attach additioanl sheets as necessary.	Date Complete
			Were all new roads and existing temporary roads decommissioned after use by providing ground cover such as slash, wood chip, or masticated material (to a 2-inch depth) and installing water bars? Was ripping employed where required and necessary? Were existing temporary roads properly returned to original use as prescribed in the design features? Were drainage features and water bars, dips, and leadoff ditches properly restored and re-established as required by design features to protect water resources? Were barriers properly and effectively placed to discourage post-treatment use in decommissioned and restored areas?	BMP#21b, 37d through 41	I-C		
			Were all ephemeral stream crossings limited to less than 1 crossing every 800 feet of channel length? Was the location and method of stream crossings agreed to by the SA prior to construction?	BMP#24 & 53	P-I		
			Were temporary crossings on ephemeral channels installed when the channels are dry and according to the methods described in the BMPs? Have they been removed when the channels are dry and is the channel stable?	BMP#54 through 55	I-C		

Note 1: BMP = Best Mangement Practice

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MRP Attachment B

California Regional Water Quality Control Board - Lahontan Region
South Shore Project Waste Discharge Requirements

Implementation Monitoring Checklist

This Checklist is to be modified to appropriately fit the proposed actions within the Annual Operating Plans or unit-specific workplans, per WDR Section E.1

Project Name: South Shore Fuel Reduction and Healthy Forest Restoration Project **Stand/Unit No(s).:**

Date: **Observers:**

N/A	Yes	No	Design Features and BMPs:	[1]Reference	[2]Project Stage	Describe conditions if relevant, and where deficiencies occur. If answer to question is "No," describe proposed correctlve actions and provide date completed. Attach additioanl sheets as necessary.	Date Complete
			Were temporary crossings on intermittent channels installed and removed when channel was dry and installed and maintained to protect water quality and to allow water flow without scouring watercourse banks?	BMP#54 & 55	I-C		
			Was the permanent Saxon Creek Tributary crossing reconstructed to protect water quality and soil resources, and according to design features and construction plans?	BMP# 57	I-C		
			Was the new Powerline Road culvert constructed according to design features and construction plans, to protect soil and water resources?	BMP#56	I-C		
			Was the 'Osgood Swamp' crossing improvement over Forest Service system road 12N20 constructed according to design features and approved construction plans to protect soil, riparian, and water resources?	BMP#58	P-I-C		
			Have all watercourse crossings and associated fills and approaches been stabilized to prevent diversion of stream overflow down the road and to minimize fill erosion and delivery to a waterbody if the drainage structure became plugged?	BMP #37c, & 56 through 58	I-C		

Note 1: BMP = Best Mangement Practice

Note 2: P = Planning; I = Implementation; A = After Completion

MRP Attachment B

California Regional Water Quality Control Board - Lahontan Region
South Shore Project Waste Discharge Requirements

Implementation Monitoring Checklist

This Checklist is to be modified to appropriately fit the proposed actions within the Annual Operating Plans or unit-specific workplans, per WDR Section E.1

Project Name: **South Shore Fuel Reduction and Healthy Forest Restoration Project** **Stand/Unit No(s).:**

Date: **Observers:**

N/A	Yes	No	Design Features and BMPs:	[1]Reference	[2]Project Stage	Describe conditions if relevant, and where deficiencies occur. If answer to question is "No," describe proposed corrective actions and provide date completed. Attach additional sheets as necessary.	Date Complete
			Were roads adequately watered, using prescriptions in the design features and Riparian Conservation Objectives to protect soil, riparian, and water resources? If dust palliatives were used, were proper MSDSs available onsite, and was use restricted an adequate distance from waterbodies to prevent discharge to water?	BMP#34	I-C		
			Were all landings constructed, used, and decommissioned according to design features? Are all landings adequately stabilized to prevent sediment delivery to a surface water?	BMP#48 through 52	I-C		
			When working outside the normal operating period, were upland treatment conditions adequate to prevent erosion, sediment delivery to water bodies, and soil compaction according to the design features?	BMP#22 through 24	I-C		
			When working outside normal operating period, were road design features adhered to in order to prevent damage to road surfaces or soil and water resources?	BMP#42 through 47	I-C		
			Have all over-snow skid trail watercourse crossings been removed such that the natural flow of water within the watercourse channel will not be obstructed or diverted?	BMP #24	C		
			Are all watercourse crossings (including culverts) clear of debris, or packed snow, or ice?	BMP#24, 27c, 38, 46, & 54b,g	I-C		

Note 1: BMP = Best Mangement Practice

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MRP Attachment B

California Regional Water Quality Control Board - Lahontan Region
South Shore Project Waste Discharge Requirements

Implementation Monitoring Checklist

This Checklist is to be modified to appropriately fit the proposed actions within the Annual Operating Plans or unit-specific workplans, per WDR Section E.1

Project Name: South Shore Fuel Reduction and Healthy Forest Restoration Project **Stand/Unit No(s).:**

Date: **Observers:**

N/A	Yes	No	Design Features and BMPs:	[1]Reference	[2]Project Stage	Describe conditions if relevant, and where deficiencies occur. If answer to question is "No," describe proposed corrective actions and provide date completed. Attach additioanl sheets as necessary.	Date Complete
			Does all snow movement, plowing, packing, and/or cutting associated with timber harvest and vegetation management activities allow for adequate road drainage and dissipation of snowmelt or runoff?	BMP#44 through 47	I-C		
			Have any signs of sediment delivery or potential sediment delivery to surface water been observed within the activity area?	BMP #5	I-C		
			If required, was photo-point monitoring conducted and documented?	MRP	P-I-C		

Note 1: BMP = Best Mangement Practice

Note 2: P = Planning; I = Implementation; A = After Completion

MRP Attachment C

California Regional Water Quality Control Board
Lahontan Region

Daily Winter Period Monitoring Form

South Shore Project Waste Discharge Requirements

This monitoring program consists of daily completion of the following checklist, and has been developed to assure compliance with the Water Quality Control Plan for the Lahontan Region (Basin Plan) and to verify the adequacy and effectiveness of the Best Management Practices in the WDRs and eligibility criteria.

In the interest of not requiring redundant monitoring during extended dry periods, daily monitoring is only required beginning with the first National Weather Service forecast of 30% chance of precipitation (http://www.nws.noaa.gov/). If 7 days of dry weather persists and soils are dry after a precipitation event you may cease monitoring until next time National Weather Service forecasts a 30% chance of precipitation.

Accumulated monitoring data must be retained by the discharger and submitted **July 15** of every year.

Daily Winter Operations Monitoring Checklist

This checklist must be completed daily when equipment is operated during the winter period

Treatment Unit No(s): _____

Inspector's name & Title: _____

Signature: _____

	Example											
Day of operation:	10/17											
Field condition: dry soil[1], hard-frozen[2], or over snow[3]:	Dry											
Is any precipitation forecasted within the next 36 hours? (Y/N)	N											
Average depth of accumulated or machine compacted snow in area of operations:	N/A											
If operating over the snow or over hard-frozen soil conditions: Was soil disturbance observed today?[4]	N/A											
Inspector's Initials	JD											

[1] **Over dry soil conditions**: Soils are dry (i.e., loose and will not form a ball when squeezed by hand) between 2 inches and 10 inches depth.

[2] **Over hard-frozen soil conditions**: soils and road surfaces in areas of equipment operations are solidly frozen to a depth sufficient to support the weight of operating equipment.

[3] **Over snow:** Snow depth is sufficient to allow the operation of equipment without resulting in visible disturbance of soils.

[4] If soil disturbance is observed, detail when, where, and why these disturbances occurred and what corrective actions were taken to prevent impacts to water quality. **Retain this information within the monitoring file. <u>If a discharge of sediment to a waterbody has occurred you must contact Water Board staff within 24 hours of detection at (530)542-5400.</u>**

MRP Attachment D

California Regional Water Quality Control Board - Lahontan Region

Winter Implementation Monitoring Checklist

South Shore Project Waste Discharge Requirements

This form and associated monitoring must be completed at the conclusion of winter period operations, or by May 1, whichever is sooner, and submitted to the Water Board by July 15

Please type or print clearly in ink

Winter implementation monitoring is only required if you conducted operations during the winter period, and consists of visual monitoring of areas where winter period operations have occurred. This inspection should verify all management measures designed to prevent sediment delivery and protect water quality are in place and secure at the conclusion of winter period operations.

1. **Inspector's name and title:** _____

   Date of inspection: _____

   Treatment Unit Number(s): _____

2. Yes No **Have all watercourse crossings and associated fills and approaches been constructed or reconstructed to prevent diversion of stream overflow and to minimize fill erosion and delivery to a waterbody if the drainage structure becomes plugged?** If no, please explain in an addendum to this form how stream diversion or obstruction and/or sediment delivery to a watercourse will be prevented.

3. Yes No **Have all necessary critical dips been properly installed?** If no, please explain in an addendum to this form why they have not been installed and/or when they will be installed.

4. Yes No Not applicable to this activity **Have all temporary over-snow skid trail watercourse crossings been removed without disturbing soils or damaging watercourse bed or banks?** If no, please explain in an addendum to this form what actions have been taken to resolve watercourse bed or bank disturbance, or when temporary crossings will be removed.

5. Yes No Not applicable to this activity **Has all snow movement, plowing, packing, and/or cutting associated with timber harvest and vegetation management activities allowed for adequate road drainage and dissipation of snowmelt or runoff?** If no, please explain in an addendum to this form why road drainage and runoff dissipation is inadequate, and when it will be resolved.

6. Yes No Not applicable to this activity **Have all culverts and drainage structures been cleared of debris, packed snow, and ice?** If no, please explain in an addendum to this form why, and when this work will be implemented.

I, the Landowner, agent thereof, or Land Manager, hereby certify under penalty of perjury that all information contained in this monitoring report is true, accurately represents site conditions, and complete. I also certify that all timber harvest and vegetation management activities conducted have been in conformance with all the provisions of the South Shore Fuel Reduction and Healthy Forest Restoration Project Waste Discharge Requirements for Discharges Resulting from Timber Harvest and Vegetation Management Activities in the Lahontan Region and all eligibility criteria requirements of this Monitoring and Reporting Program. If any deviation from the submittals to the Water Board, and/or the South Shore WDRs' eligibility criteria and conditions has been identified I have disclosed such deviations in this form along with corrective actions that will be taken to resolve the problem.

Signature: _____ Date: _____

Name: _____ Title: _____

Invitation for feedback: Water Board staff respectfully request any constructive feedback regarding the monitoring program with regard to your timber harvest and vegetation management activities. Completing this section is not a requirement. Water Board staff may use your comments and suggestions to improve this program for future activities. Comments may include:

- perceived effectiveness of the program in protecting water quality
- recommendations on how to make the monitoring program more efficient, reliable, or effective
- impressions of recommendations made by Water Board staff regarding your activities (e.g., Do they appear to be effective? Is there a practice or a performance standard that would have been more cost-effective at protecting water quality?).

MRP Attachment E

California Regional Water Quality Control Board
Lahontan Region

Effectiveness Monitoring Form

South Shore Project Waste Discharge Requirements

This form and associated monitoring must be completed soon after the winter period, between March 15 and June 15, and submitted to Water Board by July 15
Please type or print clearly in ink

Effectiveness monitoring: is a visual evaluation of management measures (e.g., erosion control structures) and infrastructure (e.g., roads and watercourse crossings) within the activity area following the winter period, typically between March 15 and June 15, to determine the effectiveness of implemented management measures in preventing sediment discharge to surface waters and protecting water quality, and to identify any points of sediment delivery that may have developed during the winter. Effectiveness monitoring and reporting is required annually for the duration of the timber harvest and vegetation management activities and one spring season following completion of timber harvest and vegetation management activities.

As soon as possible, following the winter period, inspect the activity area and complete this form or report containing equivalent information. However, do not access the site if soils are saturated, if significant environmental impacts would result from road system use, or if worker safety would be compromised.

Management measures are considered to be effective when, at minimum, there is no adverse effect to any beneficial use. The landowner should focus on the following areas and inspect them for signs of sediment delivery to watercourses.

1. **Treatment Unit Number(s):** _____

2. **Inspector's name and title:** _____

   Date of inspection: _____

3. **Weather Observations and Precipitation Levels:** Complete the following based on site-specific observations and/or local weather data.

Accumulated precipitation this season: _____ inches of ☐ Rain ☐ Snow (This information may be obtained at the following webpage: http://water.weather.gov/)
Additional notes on weather and precipitation:

Inspect all the following areas and infrastructure (sections 4-10) **within the activity area once conditions allow.**
Use the box spaces following each area listed below to indicate whether such areas exist within the activity area, if they were inspected, or if they were not accessible for inspection.

During your inspection look for signs of erosion and transport of sediment to a waterbody. These signs may include:

- Landsliding
- erosion voids
- tension cracking or settling of road fill or sidecast
- rilling or gullying of road surfaces, road fills, landings, cutbanks, etc.
- increased levels of sediment in waterbodies immediately downstream of operations

Use the box spaces following each area listed below to indicate if evidence of sediment erosion or delivery to a waterbody is observed.

If evidence of sediment erosion and delivery of waste to waterbodies are observed:

- ☐ Describe where.
- ☐ Photograph the source of sediment and point of delivery to the waterbody and record photo monitoring using the Photo-Point Monitoring Form (MRP Attachment G).
- ☐ Describe what and when corrective measures will be taken to stop sediment delivery and protect water quality.

If any evidence of failed management measure is observed:

- ☐ Describe what management practice failed and its location within the activity area.
- ☐ Describe what and when corrective measures will be taken to stop and/or prevent sediment delivery and protect water quality.

4. Constructed or re-constructed watercourse crossings.

(attach additional pages if necessary)

5. Landing management measures.

(attach additional pages if necessary)

6. Areas of in-lieu practices that have the potential to impact water quality.

(attach additional pages if necessary)

I, the Landowner, agent thereof, or Land Manager, hereby certify under penalty of perjury that all information contained in this monitoring report is true, accurately represents site conditions, and complete. I also certify that all timber harvest and vegetation management activities conducted have been in conformance with all the conditions of the South Shore Fuel Reduction and Healthy Forest Restoration Project Waste Discharge Requirements for Discharges Resulting from Timber Harvest and Vegetation Management Activities in the Lahontan Region and all eligibility criteria requirements of this Monitoring and Reporting Program. If any deviation from the submittals to the Water Board, and/or the South Shore WDR eligibility criteria and conditions has been identified I have disclosed such deviations in this form along with corrective actions that will be taken to resolve the problem.

Signature: _____ Date: _____

Name: _____ Title: _____

Invitation for feedback: Water Board staff respectfully request any constructive feedback regarding the monitoring program with regard to your timber harvest and vegetation management activities. Completing this section is not a requirement. Water Board staff may use your comments and suggestions to improve this program for future activities. Comments may include:

- perceived effectiveness of the program in protecting water quality
- recommendations on how to make the monitoring program more efficient, reliable, or effective
- impressions of recommendations made by Water Board staff regarding your activities (e.g., Do they appear to be effective? Is there a practice or a performance standard that would have been more cost-effective at protecting water quality?).

MRP Attachment F

California Regional Water Quality Control Board
Lahontan Region

Forensic Monitoring Form

South Shore Project Waste Discharge Requirements

This form and associated monitoring must be completed soon after two significant rain (> 2 inches) and/or snow-melt events and submitted annually to Water Board by either January 15 or July 15

Please type or print clearly in ink

Forensic monitoring: is conducted soon after significant rain or snow-melt events (equal to or greater than a 20-year, one-hour storm event, or which may mobilize loosened sediments towards waterbodies) and consists of visual monitoring of:

- surface waters
- watercourse crossings
- landings
- unstable areas
- roads
- waterbody buffer zones
- skid trails

The purpose of this monitoring is to:
(1) detect elevated turbidity levels in surface waters, and locate sources of sediment discharges;
(2) determine the condition of installed management measures,
(3) detect failure to implement necessary management measures,
(4) detect water quality impacts caused by failed management measures,
(5) detect water quality impacts related to legacy timber activities and general timber harvest and vegetation management activities; and
(6) identify sources of potential sediment delivery in a timely manner so that corrective action may be taken to avoid sediment discharges to water bodies.

This monitoring must be conducted at least twice each year and reported on either January 15 or July 15 (see the Monitoring and Reporting Program for details) for the duration of timber harvest and vegetation management activities and until a Notice of Project Completion is submitted to and accepted by Water Board staff. This form or report containing equivalent information must be completed and signed.

Treatment Unit Number(s): _____

Yes No Have timber harvest and vegetation management activities commenced?
If **yes**, please complete this form and associated monitoring.
If **no**, when are operations anticipated to begin (if known)? _____
If operations have not commenced by May 1, you are not required to complete the remainder of this form. Sign the landowner signature box at the bottom of page 8 and submit to the Water Board by July 15th.

Inspection #1

Within 36 hours of a significant rain or snow-melt events (equal to or greater than a 20-year, one-hour storm event, or which may mobilize loosened sediments towards waterbodies) inspect accessible areas and waterbodies immediately downstream of operations and complete the following:

1. **Inspector's name and title:** _____

2. **Date of inspection:** _____

3. **Weather Observations and Precipitation Levels:**
(Some of this information may be obtained at the following webpage: http://water.weather.gov/)

Stream Stage (select one):	☐ Dry	☐ Low	☐ Moderate	☐ High	☐ Flooding
Precipitation (select one):	☐ None	☐ Drizzle	☐ Rain	☐ Snow	
Date of and approximate amount of last precipitation:	(This information may be obtained at the following webpage: http://water.weather.gov/)				
Accumulated precipitation this season:	_____inches of	☐ Rain	☐ Snow		
	(This information may be obtained at the following webpage: http://water.weather.gov/)				
Additional notes on weather and precipitation:					

Inspect all the following areas and infrastructure (sections 4-10) **within the activity area if accessible.**
Use the space following each area listed below to indicate whether such areas exist within the activity area, if they were inspected, or if they were not accessible for inspection.
Look for signs of erosion and transport of sediment to a waterbody. These signs may include:

- landsliding
- erosion voids
- tension cracking or settling of road fill or sidecast
- rilling or gullying of road surfaces, road fills, landings, cutbanks, etc.
- increased levels of sediment/turbidity in waterbodies immediately downstream of operations

Use the space following each area listed below to indicate if evidence of sediment erosion or delivery to a waterbody are observed.

If evidence of sediment erosion and delivery to a waterbody are observed:

- ☐ Identify the waterbody and describe specific locations within or adjacent to the waterbody.
- ☐ Photograph the source of sediment and point of delivery to the waterbody and record photo monitoring using the Photo-Point Monitoring Form (MRP Attachment G).
- ☐ Describe what and when corrective measures will be taken to stop sediment delivery and protect water quality.
- ☐ Report discharges by telephone (530) 542-5400 no later than 24 hours after detection.

If increased levels of sediment/turbidity are observed in neighboring waterbodies:

- ☐ Describe where and in which waterbody.
- ☐ Explain if this turbidity is a result of sediment discharges from within the activity area. Is the sediment coming from a hillslope feature such as a stream crossing or unstable area? Cause-and-effect can be determined if the water becomes noticeably muddy below a hillslope feature.
- ☐ Describe what and when corrective measures will be taken to stop sediment delivery and protect water quality.

If any erosion or failed management measures cause sediment delivery to a waterbody, then photo-point monitoring is required using the Photo-Point Monitoring Form (MRP Attachment G).

Forensic monitoring requirements are waived if significant environmental impacts would result from road system use to access the activity area, or if worker safety would be compromised. If these areas are not accessible for monitoring, please indicate why. Acceptable reasons may include:

- ☐ Significant environmental impacts would result from road system use to access the activity area or waterbodies immediately downstream of operations.
- ☐ Worker safety would be compromised.

4. Areas where timber harvest and vegetation management activities have been conducted within or near unstable areas.

☐ none exist

(attach additional pages if necessary)

5. Constructed or re-constructed watercourse crossings.

☐ none exist

(attach additional pages if necessary)

6. Waterbody Buffer Zones where ground based equipment operations have occurred (e.g., skid trail crossings).

☐ none exist

(attach additional pages if necessary)

7. Road construction or reconstruction within 150 feet of a Class I, II, III, or IV (with domestic use) watercourse.

☐ none exist

(attach additional pages if necessary)

8. Landing construction or reconstruction within waterbody buffer zone(s).

☐ none exist

(attach additional pages if necessary)

9. Areas classified as high or extreme erosion hazard rating where ground-based equipment has been operated and there is potential for water quality impacts.

☐ none exist

(attach additional pages if necessary)

10. Areas of in-lieu practices that have the potential to impact water quality.

☐ none exist

(attach additional pages if necessary)

I, the Landowner, agent thereof, or Land Manager, hereby certify under penalty of perjury that all information contained in this monitoring report is true, accurately represents site conditions, and complete. I also certify that all timber harvest and vegetation management activities conducted have been in conformance with all the conditions of the South Shore Fuel Reduction and Healthy Forest Restoration Project Waste Discharge Requirements for Discharges Resulting from Timber Harvest and Vegetation Management Activities in the Lahontan Region and all eligibility criteria requirements of this Monitoring and Reporting Program. If any deviation from the submittals to the Water Board, and/or the South Shore WDR eligibility criteria and conditions has been identified I have disclosed such deviations in this form along with corrective actions that will be taken to resolve the problem.

Signature: _____ Date: _____

Name: _____ Title: _____

Inspection #2

Within 36 hours of a significant rain or snow-melt events (equal to or greater than a 20-year, one-hour storm event, or which may mobilize loosened sediments towards waterbodies) inspect accessible areas and waterbodies immediately downstream of operations and complete the following:

1. **Inspector's name and title:** _____

2. **Date of inspection:** _____

3. **Weather Observations and Precipitation Levels:**
(Some of this information may be obtained at the following webpage: http://water.weather.gov/)

Stream Stage (select one):	☐ Dry	☐ Low	☐ Moderate	☐ High	☐ Flooding
Precipitation (select one):	☐ None	☐ Drizzle	☐ Rain	☐ Snow	
Date of and approximate amount of last precipitation:	(This information may be obtained at the following webpage: http://water.weather.gov/)				
Accumulated precipitation this season:	_____inches of	☐ Rain	☐ Snow		
	(This information may be obtained at the following webpage: http://water.weather.gov/)				
Additional notes on weather and precipitation:					

Inspect all the following areas and infrastructure (sections 4-10) **within the activity area if accessible.**
Use the space following each area listed below to indicate whether such areas exist within the activity area, if they were inspected, or if they were not accessible for inspection.
Look for signs of erosion and transport of sediment to a waterbody. These signs may include:

- landsliding
- erosion voids
- tension cracking or settling of road fill or sidecast
- rilling or gullying of road surfaces, road fills, landings, cutbanks, etc.
- increased levels of sediment/turbidity in waterbodies immediately downstream of operations

Use the space following each area listed below to indicate if evidence of sediment erosion or delivery to a waterbody are observed.

If evidence of sediment erosion and delivery to a waterbody are observed:

- ☐ Identify the waterbody and describe specific locations within or adjacent to the waterbody.
- ☐ Photograph the source of sediment and point of delivery to the waterbody and record photo monitoring using the Photo-Point Monitoring Form (MRP Attachment G).
- ☐ Describe what and when corrective measures will be taken to stop sediment delivery and protect water quality.
- ☐ Report discharges by telephone (530) 542-5400 no later than 24 hours after detection.

If increased levels of sediment/turbidity are observed in neighboring waterbodies:

- ☐ Describe where and in which waterbody.
- ☐ Explain if this turbidity is a result of sediment discharges from within the activity area. Is the sediment coming from a hillslope feature such as a stream crossing or unstable area? Cause-and-effect can be determined if the water becomes noticeably muddy below a hillslope feature.
- ☐ Describe what and when corrective measures will be taken to stop sediment delivery and protect water quality.

If any erosion or failed management measures cause sediment delivery to a waterbody, then photo-point monitoring is required using the Photo-Point Monitoring Form (MRP Attachment G).

Forensic monitoring requirements are waived if significant environmental impacts would result from road system use to access the activity area, or if worker safety would be compromised. If these areas are not accessible for monitoring, please indicate why. Acceptable reasons may include:

- ☐ Significant environmental impacts would result from road system use to access the activity area or waterbodies immediately downstream of operations.
- ☐ Worker safety would be compromised.

4. Areas where timber harvest and vegetation management activities have been conducted within or near unstable areas.

☐ none exist

(attach additional pages if necessary)

5. Constructed or re-constructed watercourse crossings.

☐ none exist

(attach additional pages if necessary)

6. Waterbody Buffer Zones where ground based equipment operations have occurred (e.g., skid trail crossings).

☐ none exist

(attach additional pages if necessary)

7. Road construction or reconstruction within 150 feet of a Class I, II, III, or IV (with domestic use) watercourse.

☐ none exist

(attach additional pages if necessary)

8. Landing construction or reconstruction within waterbody buffer zone(s).

☐ none exist

(attach additional pages if necessary)

9. Areas classified as high or extreme erosion hazard rating where ground-based equipment has been operated and there is potential for water quality impacts.

☐ none exist

(attach additional pages if necessary)

10. Areas of in-lieu practices that have the potential to impact water quality.

☐ none exist

(attach additional pages if necessary)

I, the Landowner, agent thereof, or Land Manager, hereby certify under penalty of perjury that all information contained in this monitoring report is true, accurately represents site conditions, and complete. I also certify that all timber harvest and vegetation management activities conducted have been in conformance with all the conditions of the South Shore Fuel Reduction and Healthy Forest Restoration Project Waste Discharge Requirements for Discharges Resulting from Timber Harvest and Vegetation Management Activities in the Lahontan Region and all eligibility criteria requirements of this Monitoring and Reporting Program. If any deviation from the submittals to the Water Board, and/or the South Shore WDR eligibility criteria and conditions has been identified I have disclosed such deviations in this form along with corrective actions that will be taken to resolve the problem.

Signature: _____ Date: _____

Name: _____ Title: _____

Invitation for feedback: Water Board staff respectfully request any constructive feedback regarding the monitoring program with regard to your timber harvest and vegetation management activities. Completing this section is not a requirement. Water Board staff may use your comments and suggestions to improve this program for future activities. Comments may include:

- perceived effectiveness of the program in protecting water quality
- recommendations on how to make the monitoring program more efficient, reliable, or effective
- impressions of recommendations made by Water Board staff regarding your activities (e.g., Do they appear to be effective? Is there a practice or a performance standard that would have been more cost-effective at protecting water quality?).

MRP Attachment G

California Regional Water Quality Control Board
Lahontan Region

Photo-Point Monitoring Form

South Shore Project Waste Discharge Requirements
To be included with any of the following Monitoring submittals:
Fall Implementation;
Winter Implementation;
Forensic; or
Effectiveness.
Please type or print clearly in ink, and attach all printed photos (labeled) or photos on CD (labeled)

Where required in the Monitoring and Reporting Program (MRP), photo-point monitoring reports (with photos and data sheet) must be submitted with all monitoring reports submitted to the Water Board.

1. Identification of Photo-Point Monitoring Locations:

List all photo-point (PP) monitoring locations below with a brief description of what is located at that particular point (e.g., "Span crossing at Class I watercourse"). Photo-point monitoring locations must include all: ☐ Locations where span watercourse crossings will be constructed or reconstructed. ☐ Locations where watercourse crossings will be constructed or reconstructed using a 24-inch or greater diameter culvert. ☐ Locations where flow is present during watercourse crossing installation and/or removal. ☐ Points requested by Water Board staff.
PP #1:
PP #2:
PP #3:
PP #4: (attach additional pages if necessary)
All photo-point monitoring locations must also be identified on a map that is included with this form and in the field with rebar, flagging, or other method that will last throughout the duration of Project activities.

2. Photo-Point Monitoring Purpose and Frequency:

To complete required photo-monitoring, photo-point monitoring must be completed for all points: ☐ prior to initiation of activities at the point ☐ during fall and winter implementation monitoring ☐ during forensic monitoring (if water quality problems are observed) ☐ during effectiveness monitoring.

Photo-Point Monitoring Data Sheet

1. Treatment Unit Number(s): _____

Monitoring Type: ☐ Pre-Implementation ☐ Implementation ☐ Forensic ☐ Effectiveness

Inspector's name and title: _____

Date of inspection: _____

Point No. (as indicated on map) : _____ Reason point identified : _____

Date photo taken: _____ Time photo taken: _____

Observations/Notes:

Point No. (as indicated on map) : _____ Reason point identified : _____

Date photo taken: _____ Time photo taken: _____

Observations/Notes:

Point No. (as indicated on map) : _____ Reason point identified : _____

Date photo taken: _____ Time photo taken: _____

Observations/Notes:

Point No. (as indicated on map) : _____ Reason point identified : _____

Date photo taken: _____ Time photo taken: _____

Observations/Notes:

Point No. (as indicated on map) : _____ Reason point identified : _____

Date photo taken: _____ Time photo taken: _____

Observations/Notes:

Point No. (as indicated on map) : _____ Reason point identified : _____

Date photo taken: _____ Time photo taken: _____

Observations/Notes:

Point No. (as indicated on map) : _____ Reason point identified : _____

Date photo taken: _____ Time photo taken: _____

Observations/Notes:

WDR Attachment D

California Regional Water Quality Control Board
Lahontan Region

Notice of Project Completion Form

To Certify Completion and Compliance with the South Shore Waste Discharge Requirements and Request Rescission of Waste Discharge Requirements

Please type or print clearly in ink

1. **Activity Name:** (Enter name given to the activity, if any)

   WDID Number:

2. **Date Activities Completed:**

3. **Landowner:**

Name of individual, company, or agency:	
Phone:	E-mail address (optional):

4. **Name and Phone Number of Contact Person(s)**: (List the primary person(s) supervising/implementing on-site operations.)

Name:	Phone:
Name:	Phone:

5. Attach completed implementation monitoring form (Attachment B).

I, the Landowner, agent thereof, or Land Manager, hereby certify under penalty of perjury that all activities for the above-referenced project were conducted in conformance with applications and submittals to the Water Board and all general conditions and category-specific conditions and criteria of the Waste Discharge Requirements were met.

Signature: Date:

Upon receipt of this Notice of Completion, and prior to the Water Board approval or denial of request for WDR rescission, Water Board staff will review submittals and may inspect the project or plan area. All monitoring and reporting requirements for the project, including the annual fee requirement, will remain in effect until the Water Board formally rescinds the Waste Discharge Requirements.

DO NOT WRITE IN THIS BOX: For Water Board Staff Use Only.

Date Form Received: _____ Lead Staff: _____

Site Inspection? ☐ No, ☐ Yes, date: ____

Staff Notes:

STAFF RECOMMENDATION:

This Notice of Project Completion Form has been reviewed, and I [☐ inspected ☐ did not inspect] the project site. Based on my review, I am recommending the Water Board:

☐ Rescind the Waste Discharge Requirements (Board Order No. R6T-2012-TENTATIVE) for this activity. All applicable monitoring and reporting requirements are complete for this activity.

☐ Not rescind the Waste Discharge Requirements for the following reasons:

Printed Name: _____

Signature: _____

☐ Entered into CIWQS

WDR Attachment E

California Regional Water Quality Control Board
Lahontan Region

Maps and Tables

South Shore Project Waste Discharge Requirements

Table E1 - Soil Moisture Operability Protocol for Ground-Based Equipment

Conditions to be evaluated at the 2 to 10-inch depth
(see Attachment F, BMP No. 6)

Soil Moisture % Increases Downward	Coarse Soils	Light Soils	Med. Soils (<35% clay)	Heavy Soils (>35% clay)
	Loamy sands, fine sand loam, very fine sands, coarse sands	Fine sandy loams, sandy loams, very fine sandy loam	Sandy clay loam, loam, silt loam, sandy clay loam, clay loam	Clay loam, sandy loam, silty clay loam, clay
Dry Soils	Dry, loose, single grained flows thru fingers	Dry, loose, flows thru fingers	Powdery, dry, sometimes slightly crusted but breaks down into powdery conditions	Hard, baked, cracked sometimes has loose crumbs on surface
Moist Soil	Still appears dry, will not form a ball with pressure	Still appears to be dry; will not form a ball	Not Operable: Somewhat crumbly, but will hold together from pressure	Not Operable: Somewhat pliable; will form ball under pressure. At plastic limit.
Moist Soil	Still appears dry, will not form a ball with pressure	Not Operable: Tends to ball under pressure but seldom will hold together	Not Operable: Forms a ball and is very pliable, sticks readily if high in clay.	Not Operable: Easily ribbons out between fingers, has a slick feeling. At plastic limit.
Very Moist Soil	Not Operable: Tends to stick together slightly, sometimes forms a very weak ball	Not Operable: Forms a weak ball that breaks easily, will not stick. Plastic limit or nonplastic.	Not Operable: Forms a ball and is very pliable, sticks readily if high in clay. Exceeds plastic limit.	Not Operable: Easily ribbons out between fingers, has a slick feeling. Exceeds plastic limit.

Table E2 – Waterbody Buffer Zones

(see Attachment F, BMP No. 15)

Slope of land adjacent to watercourse or lake (%)	Class I	Class II (includes special aquatic features)	Class III	Class IV
<30	75 feet	50 feet	25 feet	25 feet
30-50	100 feet	75 feet	50 feet	50 feet
>50	150 feet	100 feet	50 feet	50 feet

Table E3a - WDRs' Best Management Practices (BMPs) to FEIS' Resource Protection Measures (RPMs) Crosswalk

WDRs BMP requirements are equal to or more stringent than the FEIS RPMs and are therefore to be followed throughout the Project, per WDR section B4.
(See also Table E3b and Attachment F)

	WDRs' BMPs	FEIS' RPMs (page numbers refer to FEIS)
General BMPs	1	WS-1: page 2-28, WS-25; page 2-34
	2	R-5: page 2-38
	3	-
	4	-
Vegetation Treatments in Uplands	5	WS-2, 3, 5: pages 2-28 and 2-29; WS-12, WS-16: pages 2-31, 2-32
	6	WS-3: page 2-28; App. D
	7	-
	8	-
	9	-
	10	WS-6: page 2-29
	11	WS-5: page 2-29
	12	WS-7, 8: page 2-30
	13	WS-5, WS-7, WS-12: pages 2-30, 2-31; Appendix C
	14	WS-13: page 2-31; WS-33: page 2-37
	15	WS-11, WS-14 to WS-16: pages 2-30 through 2-32
	16	WS-7: page 2-30; WS-30
	17	AR-1: page 2-25
	18	AR-2: page 2-25; AR-4, page 2-26
	19	-
	20	AR-3: page 2-26
	21	WS-6: page 2-29; WS-16: page 2-32
	22	WS-28: page 2-36; WS-33: page 2-37
	23	WS-2: page 2-28 and WS-31, WS-32: page 2-36
	24	WS-28, WS-29: page 2-36; WS-34, page 2-37

Table E3a, continued

	WDRs' BMPs	FEIS' RPMs (page numbers refer to FEIS)
	25	WS-4: page 2-28; WS-17 to 22: pages 2-33, 4-2
	26	WS-4: page 2-28; WS-17, 18: pages 2-33, 4-2
	27	WS-4: page 2-28; 4-2
	28	WS-4: page 2-28; WS-9: page 2-30; WS-19: page 2-33; WE-5: page 2-45
	29	WS-4: page 2-28; WS-21: page 2-33
	30	WS-4: page 2-28; WS-22: page 2-33
	31	WS-20: page 2-33
	32	Consistent with Project Description
	33	R-1: page 2-38; R-3: page 2-38
	34	R-1: page 2-38; R-4: page 2-38
	35	R-1: page 2-38; R-6: page 2-39
	36	R-1, R-2, and R-7: pages 2-38, 2-39
	37	R-1: page 2-38; R-6 through R-10: page 2-39; and narrative on page 2-5
	38	R-1: page 2-38; R-7, R-8, R-9, and R-10: page 2-39; R-18, R-19: page 2-41
	39	R-1: page 2-38; R-18 to R-20: page 2-41
	40	R-1: page 2-38; R-20: page 2-42
	41	R-1: page 2-38; R-18: page 2-42
	42	R-1: page 2-38; R-7: page 2-39; R-11: page 2-40
	43	R-1: page 2-38; R-12 and R-14: page 2-40
	44	R-1: page 2-38; R-13: page 2-40

Table E3a, continued

	WDRs' BMPs	FEIS' RPMs (page numbers refer to FEIS)
	45	R-1: page 2-38; R-15: page 2-40
	46	R-1: page 2-38; R-16: page 2-40
	47	R-1: page 2-38; R-17: page 2-41
	48	WS-23: page 2-34
	49	WS-24: page 2-34
	50	WS-25: page 2-34
	51	WS-26: page 2-36
	52	WS-27: page 2-35; WE-6: page 2-45
	53	WS-11: page 2-30
	54	R-8, R-9, R-10: page 2-39; Monitoring page 4-3
	55	-
	56	R-8, R-9: page 2-39; Narrative on page 2-7
	57	R-9: page 2-39; Narrative on pages 2-6 to 2-7
	58	Narrative on pages 2-7 to 2-8; Monitoring page 4-5
Aesthetics	59	SR-1: page 2-47
	60	SR-2: page 2-47
	61	SR-3: page 2-47
	62	SR-4: page 2-47
Air Quality	63	AQ-1: page 2-20
Biological Resources	64	WL-1: page 2-23
	65	WL-2: page 2-23
	66	WL-3: page 2-23
	67	WL-4: page 2-23
	68	WL-5: page 2-23
	69	WL-6: page 2-24
	70	WL-7: page 2-24
	71	WL-8: page 2-24
Cultural Resources	72	HR-1: page 2-48
	73	HR-2: page 2-48
	74	HR-3: page 2-48
	75	HR-4: page 2-48

Table E3a, continued

	WDRs' BMPs	FEIS' RPMs (page numbers refer to FEIS)
Pest Management	76	P-1: page 2-21
	77	WE-1: page 2-44
	78	WE-2: page 2-44
	79	WE-3: page 2-45
	80	WE-4: page 2-45
	81	WE-5: page 2-45
	82	WE-6: page 2-45
Recreation	83	Rec-1: page 2-46
	84	Rec-2: page 2-46
	85	Rec-3: page 2-46
Sensitive and Special Interest Plants and Fungi	86	SP-1: pages 2-42 to 2-43
	87	SP-2: page 2-43
	88	SP-3: page 2-43
	89	SF-1

Table E3b - FEIS' Resource Protection Measures (RPMs) to WDRs' Best Management Practices (BMPs) Crosswalk

WDRs BMP requirements are equal to or more stringent than the FEIS RPMs and are therefore to be followed throughout the Project, per WDR section B4.
(See also Table E3a and Attachment F)

Category	Issue	FEIS' RPMs	WDRs' BMPs
General BMPs	field discretion tracking	-	3
	cooperative review of undisclosed plans	-	4
	upland ground-based equipment operations - restrictions	-	7
	protection of riparian vegetation	-	19
	crossing protections	-	55
Air Quality		AQ-1	63
Pest Management		P-1	76
Focal Wildlife Species		WL-1	64
		WL-2	65
		WL-3	66
		WL-4	67
		WL-5	68
		WL-6	69
		WL-7	70
		WL-8	71
Aquatic Resources	removal of LWD / CWD	AR-1	17
	removal of trees near streambanks	AR-2	18
	directional falling; LWD / CWD deficiencies	AR-3	20
	stream shade	AR-4	18
Soil, Water, Riparian	spills	WS-1	1
	BMP placement before storms	WS-2	5, 23
	operable soil conditions	WS-3	5, 6
	fire prescriptions	WS-4	25 through 31
	water bars	WS-5	11
	end-lining	WS-6	10, 21
	flagging exclusion buffers	WS-7	12, 13c, 16, 26, 31a
	flagging special aquatic features	WS-8	12
	flame heights, ignition	WS-9	28
	crossing SEZs with inoperable soil moisture conditions	WS-10	6
	equipment ops in watercourses	WS-11	15, 53
	CTL equipment ops in SEZs	WS-12	13

Table E3b, continued

Category	Issue	FEIS' RPMs	WDRs' BMPs
	CTL / waterbody exclusion zone	WS-13	14
	waterbody buffer zones	WS-14	15
	WT equipment waterbody exclusions	WS-15	15
	WT equipment SEZ exclusions	WS-16	15, 21
	burn pile waterbody buffer zones (excluding ephemeral channels)	WS-17	25, 26
	burn pile ephemeral channel buffer zone	WS-18	25, 26
	fire creep	WS-19	25, 28
	piing within SEZs	WS-20	25, 31
	re-piling burn piles	WS-21	25, 29
	hot piling of burn piles	WS-22	25, 30
	landing construction	WS-23	48
	landing and fuel exclusions in SEZs	WS-24	49
	landing and fuel restrictions in RCAs	WS-25	1, 50
	landing drainage	WS-26	51
	landing decommissioning	WS-27	52, 21b, 39
	operations outside normal operating period	WS-28	22, 24, 3
	operations on lesser snow depths with operable soil moisture	WS-29	22, 24, 3
	flagging wet areas that do not freeze well	WS-30	13c, 16, 26
	monitoring conditions when approaching inoperable	WS-31	11, 22, 23
	timely removal of equipment and materials before conditions become inoperable	WS-32	23
	Over-snow operations in SEZs	WS-33	13b, 14, 22a
	temporary crossings when adequate snow or frozen soil conditions are not present	WS-34	24
Roads	implementation and maintenance of road BMPs	R-1	33 through 47
	rocking native surface roads at intersections with paved roads (normal operating period and dry conditions)	R-2	36
	reconstructing / maintaining USFS System Roads	R-3	33, 35
	dust abatement	R-4	34
	concrete storage, mixing, and wastes	R-5	2

Table E3b, continued

Category	Issue	FEIS' RPMs	WDRs' BMPs
	hydrologically disconnecting new temp roads from waterbodies	R-6	35, 37
	determination of permits and extent/type of stabilization at FS roads with City or County roads	R-7	36, 42
	construction and removal of temporary crossings on ephemeral channels.	R-8	38, 53, 54, 55, 56
	construction and removal of temporary crossings on intermittent channels.	R-9	38, 54, 55
	design flow for, and removal of temporary crossings on intermittent channels	R-10	38, 54, 55
	rocking native surface roads at intersections with paved roads (during wet conditions or outside of normal operating period)	R-11	42
	use of a rutted native surface road	R-12	43
	plowing paved roads for use	R-13	22, 44
	minimum snowpack on, & plowing of, native surface roads for use	R-14	22, 43, 44
	marking roads for plowing; avoiding plowing into sensitive areas	R-15	45
	identifying and protecting sensitive areas before winter operations commence	R-16	46
	providing adequate drainage during plowing	R-17	11, 47
	restoration of decommissioned roads to specified standards	R-18	41
	reconstruction of decommissioned roads	R-19	21b, 33, 37, 38, 39, 40
	blocking decommissioned roads and trails	R-20	39, 40
Sensitive Plants		SP-1	86
		SP-2	28, 76c, 87
		SP-3	88
Sensitive Fungi		SF-1	89
Noxious Weeds		WE-1	77
		WE-2	78
		WE-3	79
		WE-4	80
		WE-5	28, 81

Table E3b, continued

Category	Issue	FEIS' RPMs	WDRs' BMPs
		WE-6	52b, 82
Recreation		Rec-1	83
		Rec-2	84
		Rec-3	85
Scenic Resources		SR-1	59
		SR-2	60
		SR-3	61
		SR-4	62
Heritage Resources		HR-1	72
		HR-2	73
		HR-3	74
		HR-4	75

Table E3c – Crosswalk between the Best Management Practices (BMPs) in the 2011 USFS Region 5 Water Quality Management Handbook and the BMPs Listed in the FEIS

On December 5, 2011, the US Forest Service Regional Forester for the Pacific Southwest Region approved an updated Water Quality Management Handbook (R5 FSH 2509.22, Chapter 10) (WQMH), which provides equal or better protection than the 2000 Handbook. The FEIS' Resource Protection Measures (RPMs) were based on the BMPs from the 2000 Handbook.

The LTBMU South Shore Fuel Reduction and Healthy Forest Restoration Project's Record of Decision (ROD) specified that the updated handbook will be incorporated into the implementation of this Project. The following is a summary of the revised BMPs from the 2011 WQMH which apply to the South Shore Project for Road Building and Site Construction. All other non-road BMPs remain the same in numbering.

Best Management Practice	Description
BMP 2.2: General Guidelines for Location and Design of Roads Replaces former BMP 2-1 and 2-7	Location, design and construction of roads will be agreed upon by the IDT in order to result in minimal resource damage. This includes design and location of drainage features and road surfacing.
BMP 2.3: Road Construction and Reconstruction Replaces former BMP 2-3, 2-9, 2-10, 2-11, and 2-13	Temporary road construction and road re-construction activities will be conducted during the dry season, when rain and runoff are unlikely and weather and ground conditions are such that impacts to soils and water quality will be minimal. This also includes construction of drainage structures, erosion control measures on incomplete roads prior to precipitation events, and providing groundcover or mulch on disturbed areas. The operator shall limit the amount of disturbed area at a site at any one time, and shall minimize the time that an area is left bare.
BMP 2.4: Road Maintenance and Operations Replaces former BMP 2-7, 2-22, 2-23, and 2-24	Assess road maintenance needs periodically as it relates to water quality effects. Provide the basic maintenance required to protect the road and to ensure that damage to adjacent land and resources is prevented. At a minimum, maintenance must protect drainage structures and runoff patterns. This also includes road surface treatments and drainage structure improvements as needed based on road use.

Best Management Practice	Description
BMP2.7: Road Decommissioning Replaces former BMP 2-26	Temporary roads will be decommissioned following their intended use. Decommissioning may include re-contouring or outsloping to return the road prism to near natural hydrologic function, blocking the road to vehicle access, removing crossings and restoring natural drainage, and stabilizing road surfaces with ripping and/or revegetation.
BMP 2.8: Stream Crossings Replaces former BMP 2-13, 2-14, 2-15, 2-16, 2-17, and 2-20	Crossing locations shall be identified by the IDT to limit the number of crossings to minimize disturbance to the waterbody. During crossing installation, minimize streambank and riparian area excavation, ensure imported fill materials are free of toxins and invasive species, divert streamflow around work site as needed, dewater work areas, and stabilize streambanks and other disturbed surfaces following crossing installation or maintenance. The diverted flows shall be returned to their natural stream course as soon as possible after construction or prior to seasonal closures. Restore the original surface of the streambed upon completing the crossing construction or maintenance. Provide soil cover on exposed surfaces and revegetate disturbed areas. Remove temporary crossings and restore waterbody profile and substrate when the need for the crossing no longer exists.
BMP 2.9: Snow Removal and Storage Replaces former BMP 2-25	Where Forest Roads are used throughout the winter, the contractor will be responsible for snow removal that will protect roads and adjacent resources. Snow berms will be installed in places that will preclude concentration of snowmelt runoff and that will serve to rapidly dissipate melt water. Snow berms will be removed where they result in accumulation or concentration of snowmelt runoff on the road and erosive fill slopes. Store snow in pre-approved areas where snowmelt will not cause erosion or deposit snow or other materials directly into surface waters. Modify snow removal procedures as necessary to meet water-quality concerns.
BMP 2.11: Equipment Refueling and Servicing Replaces former BMP 2-12	Service and refueling sites shall be located away from wet areas and surface water. If the volume of stored fuel at a site exceeds 1,320 gallons, project Spill Prevention, Containment, and Counter Measures (SPCC) plans are required. Operators are required to remove service residues, waste oil, and other materials from National Forest land following completion of the project, and be prepared to take responsive actions in case of a hazardous substance spill, according to the Forest SPCC plan.

Best Management Practice	Description
BMP 2.13: Erosion Control Plan (ECP)[1] Replaces former BMP 2-2 and 2-9	Effectively plan erosion control measures to control or prevent sedimentation. Prior to initiation of construction activities, prepare a general erosion control plan for limiting and mitigating erosion and sedimentation from land disturbing activities.

[1] See WDR Attachment F, Best Management Practices and Mitigation Methods, BMP No. 90, for the details on the 2011 WQMH BMP 2.13 requirements for a project-specific ECP.

Table E4 - Stream Classification Crosswalk

California Term	USFS Term	Definition
Class I	Perennial or Intermittent	Fish always or seasonally present onsite, includes habitat to sustain fish migration and spawning.
Class II	Perennial or Intermittent	1) Fish always or seasonally present offsite within 1000 feet downstream; and/or 2) Contains aquatic habitat for non-fish aquatic species, including springs, fens, etc.; and 3) Excludes Class III tributaries to Class I waters.
Class III	Intermittent or Ephemeral	No aquatic life present, but watercourse shows evidence of being capable of sediment transport to Class I or II waterbody under normal high water flow conditions.
Class IV	Ephemeral	Man-made watercourses which provide beneficial uses downstream of project sites.
Unclassified	Ephemeral	Channel present, but no aquatic life or connection to Class I, II, or III waterbody exists.

The US Forest Service categorizes waterbodies as watercourses which tend to have permeable beds which connect surface waters to groundwater. A **perennial stream** is expected to flow throughout the year, albeit with only small dry-weather flows in some cases. An **intermittent stream** ceases to flow in dry periods. The flow may occur when the groundwater table is seasonally high, but there will not be flow when the groundwater table is significantly below the stream channel bed level. An **ephemeral stream** flows only after rain or snow-melt and has no base flow component. The WDRs, for the most part, uses these same terms to provide consistency between the WDRs and the FEIS/ROD.

However, it may be difficult at times to determine when a watercourse is responding to specific groundwater conditions. Additionally, that classification system does not impart an immediate sense for the potential long-term threat to water quality, aquatic species, or beneficial uses. Therefore, where Project activities potentially may cause impacts, the BMPs incorporated into these WDRs require the identification of waterbodies by biological habitat and ability to transport sediment, as defined in the California Code of Regulations, title 14 (2009 Forest Practice Rules) Watercourse and Lake Protection Zones (WLPZs).

Table E5 - Summary of Permanent Fill and Excavation on System Roads in or adjacent to SEZs, including Crossings

Road Number	Station	Excavation (CY)	Fill (CY)	Comments
11N13	308 to 723	0	60	Place road base on existing road through SEZ
12N01A	1873	10	200	Low water crossing – includes permeable fill material and surfacing of approaches
12N02	609	0	28	Rocking of low spot in roadway
12N08	713	0	12	Rocking of low spot in roadway
	2100	10	75	Culvert replacement – includes fill and road base
	6000	0	12	Rocking of low spot in roadway
	7540	0	24	Rocking of low spot in roadway
12N19	1312	0	12	Rocking of low spot in roadway
12N20	548	60	160	Culvert replacement - includes permeable fill material and surfacing of approaches
12N27 Seg A	827	0	12	Rocking of low spot in roadway
	1722	0	24	Road base required due to proximity to SEZ*
12N27 Seg B	N/A	0	50	Road base required to drain wet area in road
Temporary roads	various	5	5	
TOTALS		**85**	**674**	

1) All numbers are estimates. Discrepancies in totals between these numbers and that reported in the FEIS (as miles) are

Table E6 – Disturbance in Uplands and SEZs (in acres)	**Pre-Existing within the entire Project Area, to be Used During Project Activities**		**New Disturbance Due to Project Activities**		**Total Disturbance within Project area (existing + new) During Activities**	**Disturbance After Project Mitigation Measures are applied**		**Total New Disturbance in SEZs**	**Total SEZ Acres Restored**
	Upland	**SEZ**	**Upland**	**SEZ**	**Acres**	**Upland**	**SEZ**	**SEZ**	**SEZ**
System Roads	251	25	0	0	276	251	25	0	0
Road Maintenance			6.22	**0.6**	6.82	6.22	**0**	**0.6**	**0**
Road Reconstruction			8.34	**0.67**	9.01	8.34	0.67	**0.67**	**0**
Road Decommissioning (other than Temp Rds below)		**8.24**			**na**		**na**		**8.24**
Landings - reconstructed	36.4	0			36.4	0	0	0	
Landings - new construction			24.3	0	24.3	0	0	0	
Temporary Roads - reconstructed	11.51	0.18			**11.69**	0	0		**0.18**
Temporary Roads - new construction			5.75	**0.31**	**6.06**	0	0	0.31	**0.31**
Forwarder/Skid trail Crossings		0		**0.12**	0.12		**0**	0.12	**0**
System Trails	81.75	10.7	0	0	92.45	81.75	10.7	0	
Burn Piles in SEZ				42	42		0	42	42*
Aspen restoration									251**
TOTALS	380.66	35.88	44.61	**1.7**	462.85	341.09	36.37	**1.7**	**8.73****
TOTAL OF PROJECT-RELATED "ROAD" DISTURBANCE	416.54		46.31		499.25	377.46			

attributable to the following:

a. width estimates in calculating acreages (FEIS acreage is based on 14-foot widths; accurate assumed road widths, which vary between 4 [trails] and 40 [State and Federal Highways] feet, are shown in FEIS Table 3-46, p. 3-114),
b. maximum road length vs. actual sections of road requiring maintenance or reconstruction,
c. maintenance which could extend beyond current road widths (brushing, minor blading , etc.),
d. ground-truthing following publication of the FEIS, and/or
e. recent conversion of WT or CTL Units to Hand Treatment Units (thereby reducing the numbers of roads requiring maintenance or reconstruction).

2) Road decommissioning estimates are based on Forest Service GIS/INFRA database information within the South Shore Project area. Estimate includes decommissioned area from SEZ (combined road and trail acreage) since 2004. Assumed road width averages 14 feet and trail widths assumed width averages 4 feet.
3) All disturbance in SEZ is assumed to be creating 100% new land coverage, This is a conservative assumption as many SEZ crossings for the project involve existing land coverage in SEZs

"*The 42 acres of burn piles in SEZ is estimated based on a total 138 acres of SEZ in the project area that are planned to receive burn pile treatment. The WDR mandates a cap of no more than 30 percent of an SEZ area to be covered in burn piles and only 15 percent of the SEZ area may be burned in any given year. The 30 percent covered in piles equates to 42 acres.

**All Aspen restoration areas are assumed to be entirely within SEZ. The 251 acres of Aspen restoration is conservatively assumed to not involve restoration of existing disturbance or land coverage, and therefore, is not added to the total SEZ restored.

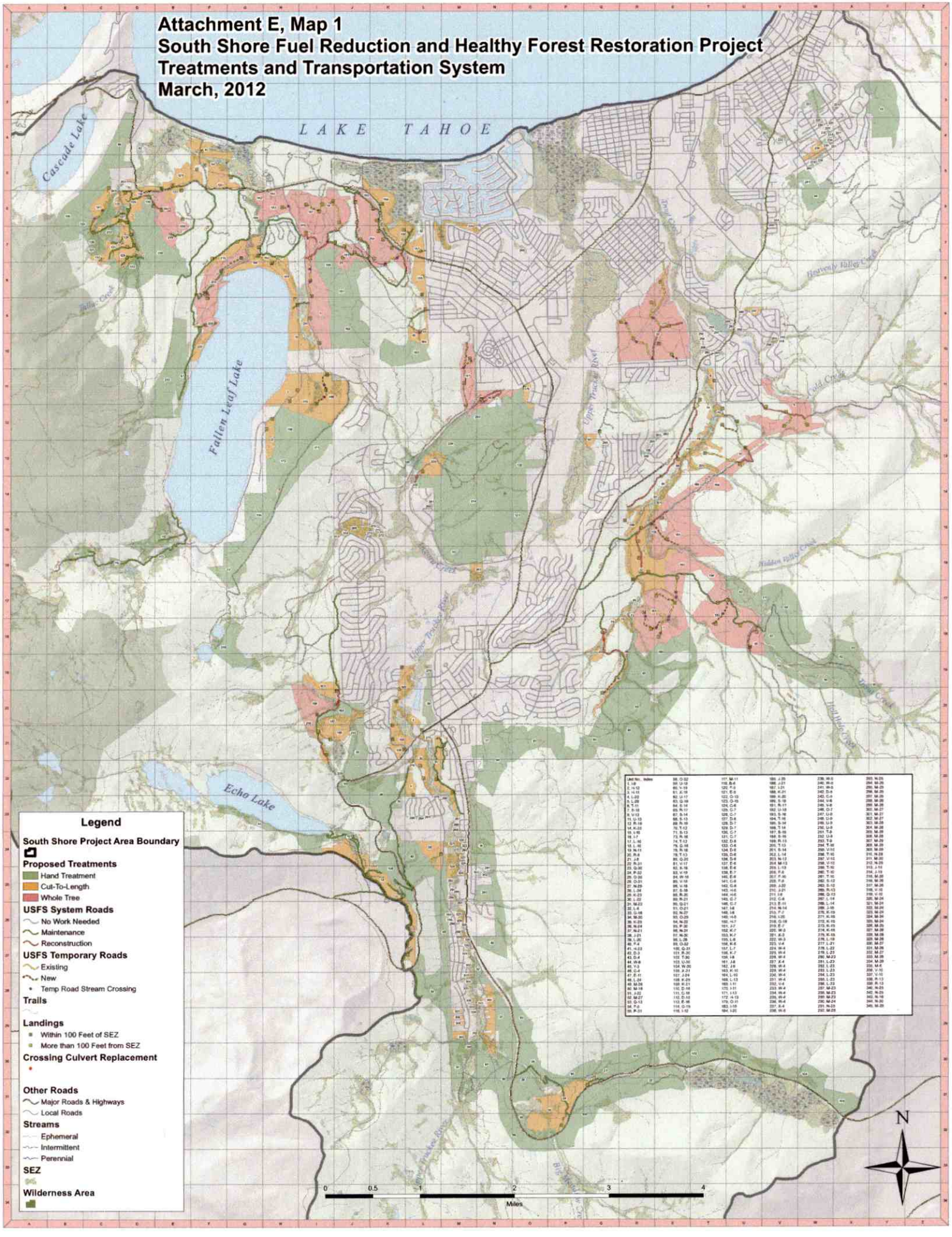
"SEZ" columns include stream crossings on Temp Roads and Forwarder/Skid Trails Crossings.

Table E7 - Maximum Distance Between Waterbreaks

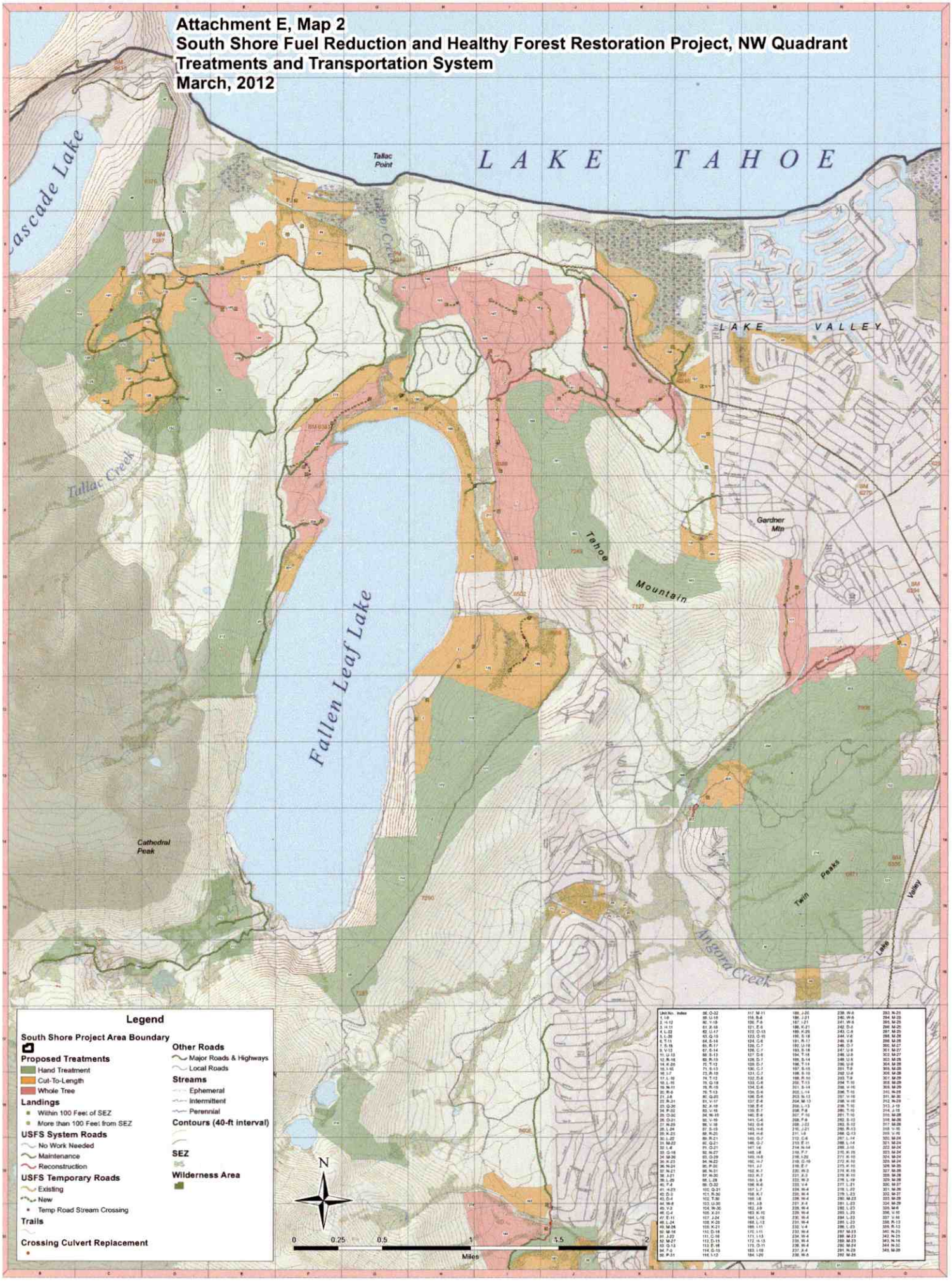
(see Attachment F, BMP No. 11)

Estimated Erosion Hazard Rating	US Equivalent Measure Road or Trail Gradient			
	10% or less	11-25%	26-50%	>50%
	feet	feet	feet	feet
Extreme	100	75	50	50
High	150	100	75	50
Moderate	200	150	100	75
Low	300	200	150	100

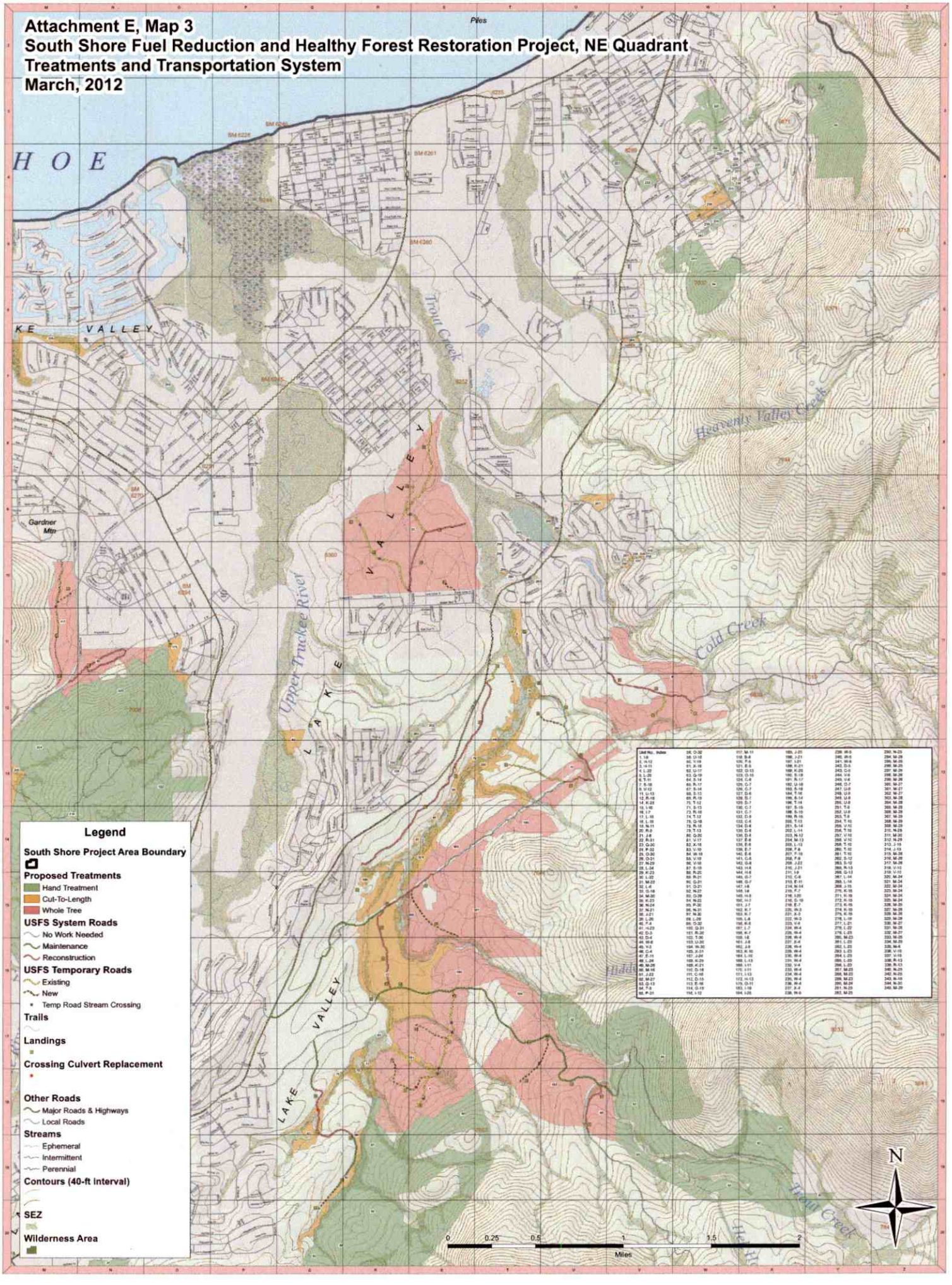
Attachment E, Map 1
South Shore Fuel Reduction and Healthy Forest Restoration Project
Treatments and Transportation System
March, 2012



Attachment E, Map 2
South Shore Fuel Reduction and Healthy Forest Restoration Project, NW Quadrant
Treatments and Transportation System
March, 2012



Attachment E, Map 3
South Shore Fuel Reduction and Healthy Forest Restoration Project, NE Quadrant
Treatments and Transportation System
March, 2012



Legend

South Shore Project Area Boundary

Proposed Treatments
- Hand Treatment
- Cut-To-Length
- Whole Tree

USFS System Roads
- No Work Needed
- Maintenance
- Reconstruction

USFS Temporary Roads
- Existing
- New
- Temp Road Stream Crossing

Trails

Landings

Crossing Culvert Replacement

Other Roads
- Major Roads & Highways
- Local Roads

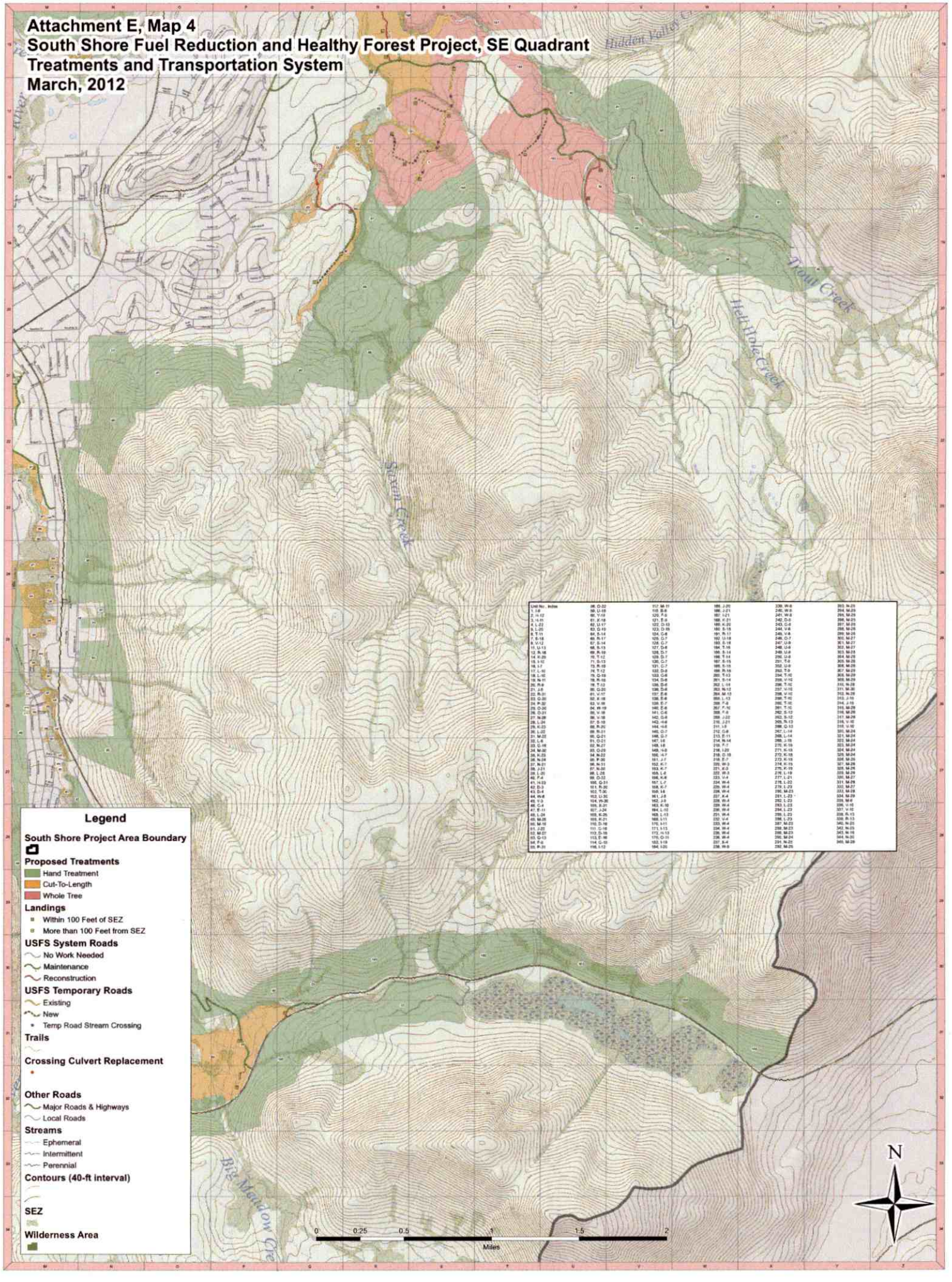
Streams
- Ephemeral
- Intermittent
- Perennial

Contours (40-ft interval)

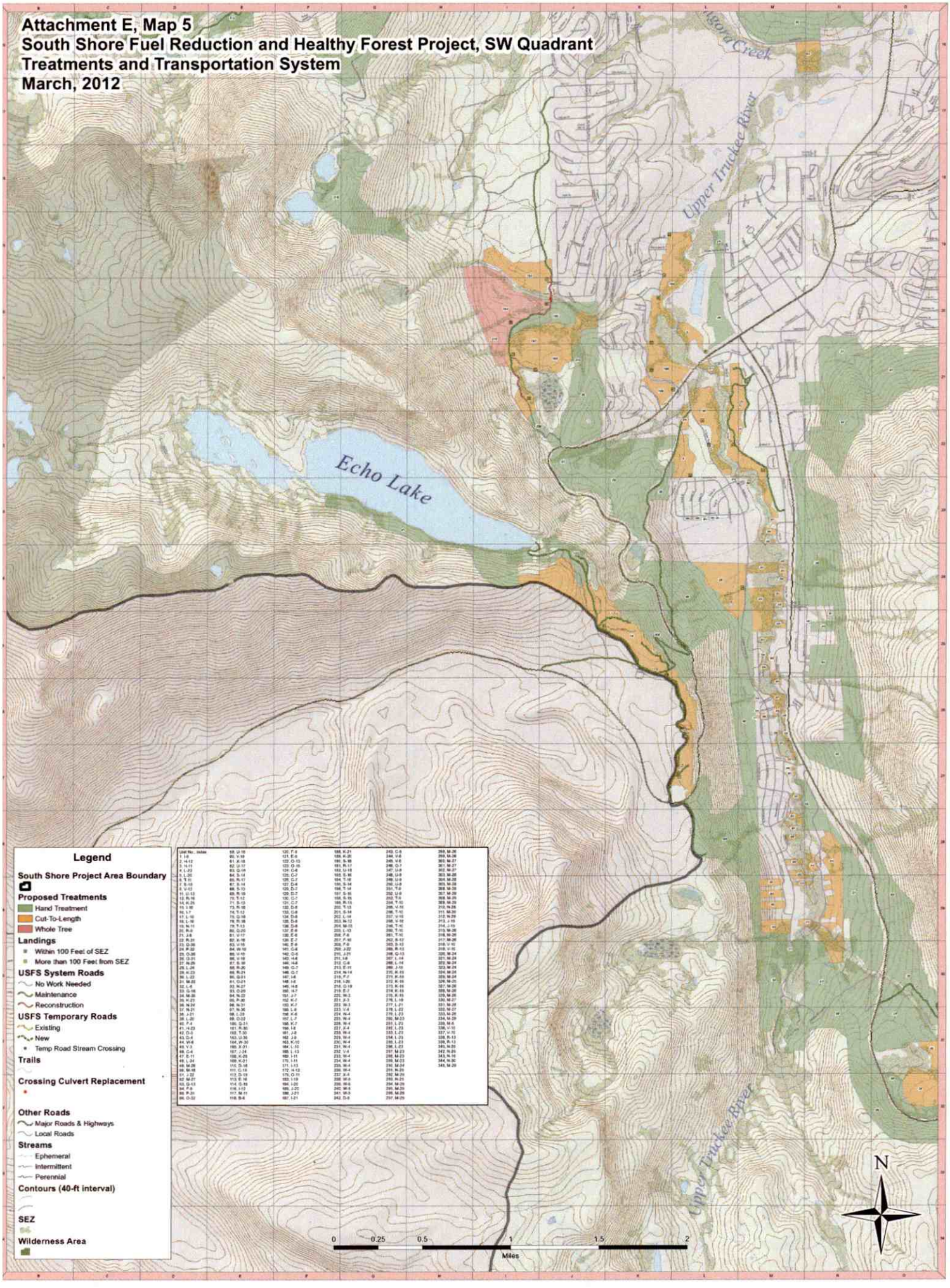
SEZ

Wilderness Area

Attachment E, Map 4
South Shore Fuel Reduction and Healthy Forest Project, SE Quadrant
Treatments and Transportation System
March, 2012



Attachment E, Map 5
South Shore Fuel Reduction and Healthy Forest Project, SW Quadrant
Treatments and Transportation System
March, 2012



WDR Attachment F

California Regional Water Quality Control Board
Lahontan Region

Best Management Practices and Mitigation Measures

South Shore Project Waste Discharge Requirements

Many terms used in this document have specific meanings as defined in Attachment A. All other terms shall have the same definitions as prescribed by the California Forest Practice Rules (California Code of Regulations, title 14, section 895.1 et seq.), Public Resources Code section 4528, subdivision (f), and the Porter-Cologne Water Quality Control Act (Water Code section 13000 et seq.), unless specified otherwise.

The following Best Management Practices (BMPs) may be subdivided into operations which may take place during or outside of dry conditions, or during or outside of normal operating periods. "Dry conditions" and "normal operating periods" shall be as defined in BMPs No. 5 and 6; "wet conditions" and "outside of normal operating periods" shall be defined as all other times.

General Best Management Practices

1) All equipment used shall be monitored daily for leaks, and immediately repaired and/or removed from service if necessary to protect water quality. All hazardous material spills, whether from equipment, fueling activities, or other materials handling and storage, shall be immediately contained and spilled materials and/or contaminated soils must be disposed of in a legal and responsible manner. An emergency spill kit adequate to contain spills that could result from hazardous materials or equipment on-site shall be at the project site at all times.

2) Uncured concrete materials shall be stored in a weatherproof area, away from Stream Environment Zones (SEZs) and waterbodies. Concrete mixing shall only occur within a self-contained and removable, impenetrable container that provides protection from accidental runoff. Concrete mixers or sweepings shall not be washed out within 50 feet of storm drains, open ditches, streets, SEZs, or waterbodies; concrete washings and wastes shall be stored in an impenetrable container for later disposal and shall be cleaned up and disposed of properly.

3) Where any part of BMPs No. 10, 13d, 17, 20, 21, 24, 39, 50 (limited to refueling issues), 52b, 54b, 55 and 82 is either not practicable or feasible due to the specified field conditions or is left to the Discharger's discretion, the

Discharger's staff, as noted in the relevant BMP, shall implement BMPs and mitigation measures that provide equal or better protection to these original BMPs. Where such deviations are made, additional explanation, evaluation, and reporting are required pursuant to the MRP. The new BMP shall be incorporated into the implementation monitoring checklist for the project area.

4) Where any of the WDR BMPs require submittal of additional details, plans, BMPs, mitigation measures, or any other design to Water Board staff, those designs shall be provided to Water Board staff for review and acceptance at least 30 days prior to site activities. Required designs may be submitted with the Annual Operating Plans or unit-specific workplans (per WDR Sections E.1 through E.5), or separately within the time frame noted. In rare cases where timing is critical, the Discharger may request a shorter time period for staff review and acceptance by the Water Board Executive Officer. This BMP does not apply to minor BMP deviations which can be covered under BMP No. 3, but applies to major BMP deviations and/or previously undeveloped, Unit-level plans. This includes, but is not limited to, the materials to be submitted as described under the following BMPs:

   - No. 6 (crossing SEZs with inoperable soil moisture conditions);
   - No. 11 (Final Contract Plans and Maps);
   - No. 12 (unit-specific SEZ maps) and 13d (identification and mapping of SEZ areas of insufficient material for operational slash mats, and providing equally protective BMPs);
   - No. 25 through 31 and 63 (Fire Prescription Plans);
   - No. 27 and 29 (updated, location-specific monitoring and mitigation plans for burn piles);
   - No. 34 and 90 (Erosion Control Plan);
   - No. 50 (in-lieu landing, fuel storage, and/or refueling plans);
   - No. 54c, 57, and 58 (Diversion and Dewatering Plans);
   - No. 57 and 58 (culvert replacement plans); and
   - No. 77 (Noxious Weed Plan).

Vegetation treatments in uplands (during normal operating period and dry conditions)

5) "Normal operating periods," as used throughout these documents, refers to that period between May 1st and October 15th, when conditions within the Lake Tahoe Basin are generally dry. However, ground-based equipment operations are allowed during this period only when soil moisture operability conditions, as determined pursuant to BMP No. 6, exist. Temporary erosion control measures as noted throughout this Attachment shall be in place throughout the Project prior to commencing any soil-disturbing activities, and the Discharger shall implement additional BMPs as required in BMP No. 23 prior to any forecast storm event which may mobilize loosened sediments towards waterbodies.

6) To determine operable dry soil conditions, the Discharger's Watershed Specialist shall evaluate soil moisture conditions at the 2 to 10-inch depth, where ruts to a depth of two inches or more for a distance of 25 feet or more will not be exceeded. Operable moisture conditions shall be only as noted in the Soil Moisture Operability Protocol, Table 1. The acceptable 'operable area' is as defined by those characteristics recommended for operable soils in the Table by both the USFS Regional Soil Scientist and Bob Powers (USFS PSW Soil Scientist). Where it is necessary to cross an SEZ with inoperable soil moisture conditions, the Discharger shall submit detailed justification and plans, including monitoring and mitigation measures, to Water Board staff for review and acceptance prior to implementation, pursuant to BMP No. 4, above.

Soil Moisture Operability Protocol, Table F1

Soil Moisture % Increases Downward	Coarse Soils	Light Soils	Med. Soils (<35% clay)	Heavy Soils (>35% clay)
	Loamy sands, fine sand loam, very fine sands, coarse sands	*Fine sandy loams, sandy loams, very fine sandy loam*	*Sandy clay loam, loam, silt loam, sandy clay loam, clay loam*	*Clay loam, sandy loam, silty clay loam, clay*
Dry Soils	Dry, loose, single grained flows thru fingers	Dry, loose, flows thru fingers	Powdery, dry, sometimes slightly crusted but breaks down into powdery conditions	Hard, baked, cracked sometimes has loose crumbs on surface
Moist Soil	Still appears dry, will not form a ball with pressure	Still appears to be dry; will not form a ball	Not Operable: Somewhat crumbly, but will hold together from pressure	Not Operable: Somewhat pliable; will form ball under pressure. At plastic limit.
Moist Soil	Still appears dry, will not form a ball with pressure	Not Operable: Tends to ball under pressure but seldom will hold together	Not Operable: Forms a ball and is very pliable, sticks readily if high in clay.	Not Operable: Easily ribbons out between fingers, has a slick feeling. At plastic limit.
Very Moist Soil	Not Operable: Tends to stick together slightly, sometimes forms a very weak ball	Not Operable: Forms a weak ball that breaks easily, will not stick. Plastic limit or nonplastic.	Not Operable: Forms a ball and is very pliable, sticks readily if high in clay. Exceeds plastic limit.	Not Operable: Easily ribbons out between fingers, has a slick feeling. Exceeds plastic limit.

7) Ground-based treatments may be used to reduce upland hazardous fuels on slopes less than 30% and soils not considered sensitive. Skid trails shall be designated and flagged to be at least 40 feet apart, except where they converge at landings.

8) On slopes greater than 30%, ground-based equipment shall not be used, however, hand treatments, end-lining, or equipment reach may be used to reduce hazardous fuels in these areas. See also BMP No. 9. Berms from

ruts created by end-lining or equipment reach shall be raked in, and disturbed soils shall be covered, as described in BMP No. 21b-c.

9) Where isolated, small areas of slopes greater than 30% are present in a treatment unit, trees shall be hand-felled and the logs end-lined (or removed by reaching in with an articulated boom) to a part of the treatment unit where they can be picked up by heavy equipment. Berms from ruts created by end-lining or equipment reach shall be raked in, and disturbed soils shall be covered, as described in BMP No. 21b-c.

10) Where end-lining or equipment reach occurs on slopes above 10%, materials shall be removed along slope contours (i.e., cross-slope) to avoid creating ruts in the soil that are oriented downhill. Berms from ruts created by end-lining or equipment reach shall be raked in, and disturbed soils shall be covered, as described in BMP No. 21b-c. Where this operation is not practicable, the Discharger shall follow BMP No. 3.

11) Water bars on skid trails shall be installed to provide proper drainage and prevent erosion before large precipitation events (one inch forecasted by the National Weather Service [NWS, http://www.nws.noaa.gov/]) and within 15 days after operations are complete. Spacing of water bars shall be in accordance with California Department of Forestry and Fire Protection's (CalFire's) California Forest Practice Rules 2009 (FPRs), California Code of Regulations, title 14, section 914.6:

Maximum Distance between Waterbreaks (Table F2)

Estimated Erosion Hazard Rating	**US Equivalent Measure Road or Trail Gradient (in percent)**			
	10 or less	11-25	26-50	>50
	feet	Feet	Feet	Feet
Extreme	100	75	50	50
High	150	100	75	50
Moderate	200	150	100	75
Low	300	200	150	100

These specific requirements of the FPR's design and spacing of waterbreaks (equivalent to water bars) shall be referenced in the Final Contract Plans and Maps provided to Water Board staff and the Contractor prior to operations. All water bars shall be evaluated to determine if additional energy dissipaters, per BMP No. 37d, are necessary.

Vegetation treatments in RCAs and SEZs (during and outside of normal operating periods).

12) SEZs shall be determined by application of the criteria set forth in the Tahoe Regional Planning Agency's (TRPA's) Water Quality Management Plan for the Lake Tahoe Region, Volume III, SEZ Protection and Restoration Program (1988). Prior to commencing operations within any treatment unit which contains SEZs, wetlands, or waterbodies, maps of sufficient scale shall be developed which clearly identify these sensitive areas. These maps shall be provided to the Water Board in the Annual Operating Plans or unit-specific workplans. SEZs shall also be flagged on the ground prior to operations. Flagging shall be maintained throughout the life of the Project activities (including prescribed fire activities) within any active treatment unit. Work in SEZs shall be limited to the time of year when soils are dry, or when operable conditions are present outside of normal operating season, as specified in BMPs No. 6, 22a, and 22b.

13) Ground-based equipment operations shall be limited in SEZ stands to Cut-to-Length (CTL) operations or operations using equipment that has been demonstrated to the Water Board Executive Officer to not result in permanent disturbance in SEZs.
   a) SEZ stands that exhibit equal or less sensitivity than the Heavenly Valley Creek SEZ Demonstration Project (HSEZ) site based on the Sensitivity Rating System may be treated with the above CTL or approved equivalent ground-based equipment under operable soil moisture conditions, as specified in BMP No. 6.
   b) Ground-based equipment shall not be used to treat SEZ stands that rate more sensitive than the HSEZ project site. These areas may be treated by hand crews, endlining or equipment reach (per BMPs No. 8, 9, 10, and 21), or mechanical over-snow operations (per BMP No. 22a).
   c) When SEZ stands are rated more sensitive than the HSEZ site, but only a portion of the stand is responsible for the high sensitivity rating, the less sensitive part may be treated with the above CTL or approved equivalent ground-based equipment, provided access to the less sensitive part across operable soils is available. The more sensitive portions of these stands must still be treated by hand crews, endlining or equipment reach, per BMPs No. 8, 9, 10, 14, 20, and 21, or mechanical over-snow operations, per BMP No. 22a. Waterbody buffer zones, per BMPs No. 14 and 15, from more sensitive SEZ soils, watercourse channels, wet soils, special aquatic features, or other sensitive features within these particular stands shall be flagged prior to commencement of CTL or approved equivalent mechanical operations.
   d) If operating within SEZs, CTL equipment must travel only over areas that have been scattered with sufficient limbs and tree tops to prevent rutting or compaction of underlying soils and minimize damage to native SEZ vegetation. The CTL Forwarder, or ther low ground pressure method, shall

remove this slash bed when backing out of a completed unit; sufficient slash shall be left to provide adequate ground cover, as defined in BMP No. 21b. In areas of the Project (e.g., near Trout Creek), where it can be pre-determined that sufficient slash will be unavailable to adequately control erosion, the Discharger shall identify and approximately map these areas, and detail equally-protective BMPs in either the Annual Operating Plans or unit-specific workplans. In limited areas where a pre-determination on slash availability cannot be made, the Discharger shall follow BMP No. 3. In developing alternative BMPs to driving on a bed of slash where sufficient slash is not available, the Discharger shall, at a minimum, create waterbreaks on these particular CTL equipment trails per BMP No. 11. Waterbreaks or more protective BMPs shall be either created by hand work or using the CTL equipment as it is backing out of the unit.

14) In the area between any waterbody and 25 feet beyond bankfull stage (or top of bank, whichever is greater) of any waterbody, CTL tree removal methods shall be limited to reaching in and removing logs with full suspension or via endlining to avoid ground disturbance. If soil ruts are created from equipment reach or endlining, the Discharger shall rake in and provide soil cover on these ruts (per BMP No. 21c), to avoid sediment delivery to waterbodies.

    CTL equipment shall maintain the 25-foot exclusion buffer on perennial and intermittent watercourses for over-the-snow and hard frozen soil operations in SEZs.

15) For Whole Tree (WT) equipment operations, waterbody buffer zones for all waterbodies shall be, at a minimum, as detailed in Table F-3 below:

Waterbody Buffer Zones (Table F3)

Slope of land adjacent to watercourse or lake (%)	**Class I**	**Class II (includes special aquatic features)**	**Class III**	**Class IV**
<30	75 feet	50 feet	25 feet	25 feet
30-50	100 feet	75 feet	50 feet	50 feet
>50	150 feet	100 feet	50 feet	50 feet

Ground-based equipment in WT treatment stands shall not operate in SEZs or within these waterbody buffer zones. Hand or CTL (per BMPs No. 13 and 14) treatments may be used in these areas. SEZ areas within WT stands shall be treated with hand crews, leaving the resulting logs in place, except as described in BMP No. 21. No standard buffer zone width has been

established for unclassified waterbodies. However, timber harvest and vegetation management activities shall be excluded from within the channel zone, except for use and maintenance of existing roads and crossings.

16) All waterbody buffer zones shall be flagged per BMP No. 15 prior to operations. Flagging shall be maintained throughout Project operations in all active Treatment Units.

17) Existing downed trees and Large Woody Debris (LWD, or Coarse Woody Debris, as denoted in the Final Environmental Impact Statement [FEIS]) that are in Class I, II, or III watercourses shall be left in place unless the Discharger's Hydrologist or Fisheries Biologist authorizes removal to protect or improve channel stability and the Discharger follows BMP No. 3. If embedded LWD must be removed, a sediment curtain shall be erected around the LWD to be removed and dewatered unless those portions of the LWD which are not embedded can be sawed off and removed to avoid disturbing stream bed and bank. Once the LWD has been removed, the disturbed bed and/or bank shall be stabilized prior to reintroducing stream flow.

18) Trees (live or dead) may be marked for removal within five feet of the bank edge of any waterbody only where fuel loads or stand densities exceed prescription and where LWD is at or above desired levels. No live trees greater than 14-inch dbh (diameter at breast height) which contribute to the stability of stream banks, as determined by the Discharger's Hydrologist or Fisheries Biologist, shall be removed.

    Stream bank, or near-stream vegetation removal shall also be managed to ensure there is no measurable increase in daily mean water temperatures where fuel reduction occurs. Shaded bank conditions shall be maintained on fish-bearing watercourses by retaining at least 50% of the stream bank site potential for herbaceous and shrub cover and at least 25% of the site potential for tree cover. Where natural tree cover is less than 20%, 80% of the potential shall be retained. Thirty-five to 70% of the stream shall be shaded from 11:00 AM to 4:00 PM.

19) Riparian vegetation, other than target species, that is found along waterbodies, or within or bordering meadows and wet areas, must be retained and protected during timber harvest and vegetation management activities. No more than 15% incidental damage to riparian vegetation shall occur.

20) Directional falling shall be used to keep felled trees out of Class I, II, or III watercourses unless the channel reach is identified as deficient in LWD. Taylor Creek is the only watercourse identified in the FEIS as being below desired LWD levels; therefore, within LWD-deficient section(s) of Taylor Creek, the Discharger's Fisheries Biologist shall select trees greater than 12-inch DBH, while adhering to BMPs No. 3 and 18, to be felled directionally into

the channel. The Discharger's Fisheries Biologist shall submit additional details and adequate justification to Water Board staff for review and acceptance per BMPs No. 3 and 4, prior to felling trees into any other watercourse within the units listed under Resource Protection Measure AR-3 in the FEIS.

21) To achieve desired fuel loading in SEZs within WT units, the Discharger's Watershed Specialist may determine to use equipment reach or end-line trees out of the SEZ, per BMP No. 3. Ruts caused by end-lining or equipment reach shall be mitigated, per Paragraph c below. Slash in excess of 15 tons per acre shall be removed by hand from waterbody buffers, per BMP No. 15, and may be piled and burned.
   a) Any other WT tree removal methods that disturb the ground surface within waterbody buffer zones, per BMP No. 15, shall be prohibited. Ground-based equipment may only reach in to remove material located within the distance noted in BMP No. 14 by using full suspension or via endlining, and may only operate within the waterbody buffer zone when constructing, removing, or utilizing temporary or permanent watercourse crossings.
   b) 90% ground cover shall be provided to a depth not to exceed an average of two inches with a maximum of four inches, to prevent erosion in disturbed areas. "Ground cover" means slash, wood chip, or masticated material (collectively termed "chip" throughout these BMPs), and includes sufficient existing surface rock, needle cast, and brush or other vegetative matter in contact with the soils. Existing ground cover shall be considered sufficiently effective where monitoring supports that the rock or vegetation retain soils, reduce raindrop splash, prevent erosion, and promote infiltration.
   c) Berms from ruts created by end-lining, which have the potential to discharge runoff to a waterbody or create nick points, shall be raked in and ground cover per Paragraph b, above, shall be provided to stabilize soils. Individual logs may be placed within SEZs to interrupt runoff flow and act as sediment barriers. These log berms must be placed on contour such that runoff is neither redirected around the ends nor under the logs.

Vegetation Treatments in uplands (outside of normal operating period)

22) When working outside of the normal operating period, conditions shall be adequate to prevent erosion, sediment delivery to water bodies, and soil compaction that could impact soil productivity or soil hydrologic function.
   a) Operations shall be permitted in hard-frozen soil conditions where operated vehicles, tractors, and equipment can travel without creating ruts in soil, road, or landing surfaces. Temperatures shall also remain low enough to preclude thawing of the soil surface sufficient to create rutting.
   b) For over-the-snow operations, a minimum of 12 inches of compact snow/ice shall be maintained on undisturbed ground, and six inches of compacted snow/ice shall be maintained on existing disturbed surfaces. Before over-snow operations begin, snow shall be packed on landings and

main trails to facilitate freezing. Wood chips may also be spread in packed snow base, to provide traction.

c) When snow conditions are at acceptable depth and temperatures, as defined in Paragraph b, to be suitable for over-the-snow operations, ground-based equipment operations shall be allowed per BMPs No. 22a and b and 23.

23) When conditions are approaching inoperable (i.e., outside the operable conditions defined in BMP No. 6), all BMPs designed to contain or infiltrate runoff before it reaches a waterbody shall be installed as equipment and materials are being moved to staging areas or paved locations. Discharger staff shall time activities to complete all tasks and safely stage equipment and materials prior to the arrival of the anticipated storm event or warming trend.

24) When adequate snow or frozen soil conditions are not present, but soils are operable per BMP No. 6, WT equipment operations and temporary crossings on Class II, III, or IV (intermittent or ephemeral) watercourses may be approved on a case by case basis through agreement between the Discharger's Sale Administrator and Watershed Specialist. These agreements shall be documented and performed according to the conditions of BMPs No. 3 and 53 through 55. Over-snow watercourse crossings may be constructed as long as they are designed to pass all flows during rain on snow events, snow melt, or other unexpected flow event equal to or greater than a 20-year, one-hour storm event, without the risk of diversion or obstruction of the natural flow of water within the channel, and removed at the conclusion of operations. Removal of such watercourse crossings shall be done without obstructing flows, impairing water quality, or disturbing watercourse bed or banks, per BMPs No. 54d through f, and 55.

Hand-Piling and Pile Burning in SEZs, and other Prescribed Fires

25) The Discharger shall develop and submit a Fire Prescription Plan, as specified in the WDR Section B.9, to Water Board staff prior to any Project-related burning activity, per BMP No.4. The Fire Prescription Plan shall include resource protection prescriptions, such as fire control [holding] resources, smoke mitigations, avoidance areas, and other resources protection measures/BMPs which apply to prescribed burning under BMPs No. 26 through 31, and 63. The Fire Prescription Plan shall therefore incorporate adaptive management strategies plus additional BMPs and Resource Protection Measures included in the Discharger's Project-specific Thinning Contract, Burn Plan, and Smoke Management Plan. Prescribed fire prescriptions shall be designed to ensure that fire intensity and duration do not result in severely burned soils and protect water, soil, and other resources. The BMPs and Resource Protection Measures specified in the accepted Fire Prescription Plan shall be adhered to throughout Project operations.

26) A 50-foot buffer (no hand piling or pile burning) shall be flagged and maintained along Class I or II (perennial or intermittent watercourses or springs) watercourses, and lakes. Piling and burning shall be permitted 10 feet or greater from the edge of Class III or IV (ephemeral) watercourses where slopes are less than or equal to 30%, and 25 feet or greater where slopes are greater than 30%.

27) Where effectiveness monitoring on burned piles in SEZs, as required in the MRP (WDR Attachment C), indicates hydrophobic soils were created beneath the burn piles, the burn area shall be raked to a depth of six inches to break up the hydrophobic soils, native organic matter shall be amended into the soils, and the area shall be covered as described in BMP No. 21b.

    If the effectiveness monitoring of the burn piles indicates that impacts had occurred on greater than 20% but less than 50% of these piles, the Discharger shall notify Water Board staff and provide an updated, location-specific monitoring and mitigation plan. If 50% or more of the piles subject to the original effectiveness monitoring effort indicate impacts, all remaining (unmonitored) burn piles in SEZs shall be monitored, and mitigated wherever additional impacts are observed. Mitigation measures shall include an adaptive management strategy for all future burn pile creation in SEZs.

28) Fire shall be allowed to creep between piles and into these buffers, except where sensitive plants, fens, and the noxious weeds whitetop and cheatgrass are present.

29) Each pile shall be allowed to be re-piled once after the initial ignition of the pile, as long as it is still burning. Where re-piling occurs, the locations of all sites where re-piling has occurred must be documented on the Implementation Checklist. Where effectiveness monitoring, as required in the MRP (WDR Attachment C), indicates hydrophobic soils were created beneath the burn piles, the burn area shall be raked to a depth of six inches to break up the hydrophobic soils, native organic matter shall be amended into the soils, and the area shall be covered as described in BMP No. 21b.

    If the effectiveness monitoring of the burn piles that were re-piled during burning indicates that impacts had occurred on greater than 20% but less than 50% of these piles, the Discharger shall notify the Water Board and provide a monitoring and mitigation plan. If 50% or more of the piles subject to the original effectiveness monitoring effort indicate impacts, all remaining (unmonitored) burn piles in SEZs shall be monitored, and mitigated wherever additional impacts are observed. Mitigation measures shall include an adaptive management strategy for all future burn pile creation in SEZs.

30) Hot piling of burn piles shall be prohibited within SEZs. Hot piling shall also be prohibited where burn piles have been created adjacent to aspen trees which are outside of SEZs. Exceptions may occur where specific conditions

(e.g., on coarse alluvium soils) and mitigation measures have been previously identified and detailed in the accepted Fire Prescription Plan.

31) Additional Fire Prescription Plan BMPs to reduce the potential impact to SEZ soils and water quality shall include:
   a) SEZs shall be identified and flagged during prescribed burns as described in BMP No. 12.
   b) Piles shall be placed in a non-linear pattern in each treatment unit.
   c) Maintain a minimum of 10 foot spacing between piles in each treatment unit.
   d) Maximum pile size shall not exceed approximately 10-foot diameter by approximately five-foot height.
   e) No more than 30% of any SEZ acre shall be occupied by piles.
   f) No more than 15% of any SEZ acre shall be piled or burned each year. This 15% limit does not apply to the expected fire creep between piles. Each burned area shall be monitored for potential problems and identified problems shall receive mitigation measures pursuant to FEIS BMP 6-3. Mitigation measures shall include an adaptive management strategy for all burned areas in SEZs.
   g) For broadcast burning activities, ignition shall not be allowed in SEZs but fire would be allowed to back into these areas.
   h) Water used to manage prescribed burns shall only be obtained from hydrants, and not be drafted from surface water sources, wetlands, or other special aquatic features.

Roads (during normal operating period and dry conditions)

32) No new permanent roads shall be constructed.

33) All roads used for this Project shall be maintained and/or restored to Forest Service standards that support equipment and trucks needed for activities and are tailored to protect beneficial uses and soil and water quality resources from the impacts of specific classifications of equipment use. The prescribed maintenance period for erosion controls on permanent and seasonal roads, associated landings, and drainage structures which have not been decommissioned (such that they are hydrologically invisible on the landscape) shall be for three years following completion of the Project.

34) Dust control, including the use of chips and slash, shall be used throughout the Project to prevent transport of fine sediment to waterbodies or to human receptors, such as open recreational areas, residences, etc. Roads and landings shall be watered for dust abatement at least as often as needed to keep dust down. Water used for dust abatement shall come from South Tahoe Public Utility Department hydrants. Water shall not be applied in excess so as to cause erosion into any waterbody. Commercial dust palliatives may be used, provided published materials indicate they do not have impacts on water quality. Oil-based palliatives shall therefore not be

used, but certain Organic Nonpetroleum - Lignin Derivatives, Synthetic Polymer Derivatives, and enzyme-based palliatives, among others, may be used. Material Safety Data Sheets (MSDSs) and publications such as the U.S. Forest Service's "Dust Palliative Selection and Application Guide" (Publication Number 9977-1207-SDTDC, 1999) shall be used to make the selection. The MSDSs for dust palliatives used during Project activities shall be included in the approved Project Erosion Control Plan (ECP) (see BMP No. 90). All environmental impacts and the product-specific BMPs for handling, storage, and use of the selected dust palliative(s) shall be reiterated under its own heading in the ECP. Since some dust palliatives which do not impact water quality may still have adverse effects on aquatic life, at a minimum, dust palliatives shall not be used within 50 feet of a waterbody, or 75 feet where the road gradient towards the waterbody exceeds 30%.

35) Road drainage shall be established and maintained on all roads used for Project activities so that roads do not channel runoff. All drainage features shall be evaluated to determine if additional energy dissipaters, per BMP No. 37d, are necessary. Reconstructed and new temporary roads shall be outsloped to ensure proper drainage.

36) Where a native surface road meets a paved road, the road intersection shall be covered with no less than a four-inch lift of three-inch plus competent rock, for a distance of at least 25 feet, to prevent tracking of mud onto the paved road. This coverage shall be maintained in operable condition throughout use. The paved roads shall be swept clean whenever dirt tracking does occur. Where vehicles continue to track soils onto the paved road, additional measures, such as rumble strips or tire wash-offs shall be installed. Encroachment permits shall be obtained to access City of South Lake Tahoe streets and/or El Dorado County roads from Forest Service lands. On site meetings with City or County engineering department staff shall determine the extent and type of stabilization to utilize at each intersection. Soil type, grade, and alignment shall determine the extent of the stabilization above minimum requirements.

37) When a temporary road would use the alignment of a previously decommissioned road, the following reconstruction activities shall take place:
   a) Vegetation removal.
   b) Grading: Obstacles such as ruts, water bars, leadoff ditches, and pronounced dips shall be graded out to make the road suitable for logging traffic during operations.
   c) Crossings: Facilities such as culverts or fords shall be installed to accommodate the free flow of channels and ditches. All such crossing work shall occur within the road prism. The outflow of these structures shall be fitted with sufficient rock, slash, or viable, clean material to ensure dispersal of waters such that erosion of the streambed does not occur. The dissipation material shall be removed from the streambed and

stabilized in a secure upland location immediately following removal of the crossing.

d) Drainage of runoff: Dips and leadoff ditches shall be installed to facilitate occasional thunderstorm runoff. All such dips and leadoff ditches shall be evaluated to determine if additional energy dissipaters, such as rock, slash, or vegetation, to prevent erosion and/or facilitate immediate infiltration of occasional thunderstorm runoff, is necessary. Where existing materials are insufficient to infiltrate runoff within 20 feet of any drainage (other than channels), additional energy dissipaters shall be installed and maintained.

38) Within the Project treatment units, existing and new temporary roads shall be decommissioned within 30 days after use. Drainage shall be restored during decommissioning by removing all temporary culverts and/or fords. Water bars shall be installed as specified in BMP No. 11 to prevent accumulating water on the road surface. All water bars shall be evaluated to determine if additional energy dissipaters, per BMP No. 37d, are necessary. Intersections with City and County roads would be temporary and blocked or obliterated when the Project is complete.

39) Temporary road decommissioning shall include ripping where the rock content of the soil allows (<35% cobble by volume, as determined by the Discharger's Watershed Specialist, per BMP No. 3). All compacted temporary roads shall be ripped and mulched upon completion of harvest and post-harvest operations. Ground cover shall be applied to adequately prevent erosion. Mulch shall be ripped into the decommissioned roads as a mitigation measure. In SEZs, decommissioning shall meet the ground cover requirements of BMP No. 21b, prior to ripping. Ripping shall be accomplished using a winged subsoiler or other equipment that will lift and fracture the subsoil by vertical and lateral shattering, leaving the soil loosened through the full width and depth of the compacted layer with the topsoil remaining substantially in place rather than being inverted. Subsoiling shall extend to a depth of 18 inches. The Discharger's Watershed Specialist, pursuant to BMP No. 3, may agree to lesser depths when excessive rock or other limiting site conditions are encountered. This work shall be done when the soil is dry.

40) Barriers shall be strategically established along open areas adjacent to decommissioned road or trail access (boulders, split rail fence, and barriers/signs) to discourage post-treatment establishment of user-created routes that are not designated routes. In addition, natural barriers such as large logs and rocks shall be placed at un-gated road or trail entrance points to prevent continued use of decommissioned road alignment.

41) All existing temporary roads shall be returned to their original use and width under the Discharger's Access and Travel Management Plans (ATMs) (e.g., trail to road conversions would be returned to trail width). However, all existing temporary roads' previous uses and widths shall be evaluated.

Where it is determined that the original features were inadequate, the temporary road shall be reworked during decommissioning to prevent erosion and sediment transport to waters (including SEZs).

Roads (during wet conditions or outside of normal operating period)

42) Where a native surface road meets a paved road, the road intersection shall be covered with no less than a four-inch lift of three-inch plus competent rock or equivalent method, for a distance of at least 25 feet, to prevent tracking of mud onto the paved road. This coverage shall be maintained in operable condition throughout use. The paved roads shall be swept clean whenever dirt tracking onto a snowless road does occur. Where vehicles continue to track soils onto the paved road additional measures, such as rumble strips or tire wash-offs shall be installed. If this native surface road is only to be used outside of normal operating periods or during wet conditions and the preceding coverage has not been provided, adequate snow cover or frozen soil conditions, as defined in BMPs No. 22a and 22b, must be maintained throughout use. Rough organic material (e.g., chip) may be used where roads are packed with at least six inches of snow and additional traction is required. Encroachment permits shall be obtained to access City of South Lake Tahoe streets and/or El Dorado County roads from Forest Service lands. On site meetings with City or County engineering department staff shall determine the extent and type of stabilization to utilize at each intersection. Soil type, grade, and alignment shall determine the extent of the stabilization past above minimum requirements.

43) If a native surface road becomes rutted, the road shall be closed. Rutting is defined as creating depressions to a depth of two-inches or more for a distance of 25 feet or more. If monitoring of the area indicates the rutting is an isolated instance and adequate conditions, as defined in BMP No. 22, exist throughout the rest of the treatment unit, the rutted area may be temporarily repaired with spot rocking with an even-graded sub-base material (FS Specification A, B, or equivalent). Use may continue after the impacted area is re-covered in six inches of packed snow as long as conditions throughout the rest of the treatment unit remain adequate. Where this temporary fix is used, the "repaired" area shall be added to the high risk effectiveness monitoring sites.

44) During operations outside of the normal operating season, paved surfaced roads, including paved turnouts, may be plowed, if the action will not cause damage to the road surface and associated drainage structures. Native surfaced roads may also be plowed, as long as the minimum amount of snow, as described in BMP No. 22b remains. Soil in quantities deleterious to water quality shall not be intermixed with the side-cast snow during plowing.

45) Road alignments within the contract area that require snow removal shall be visibly marked on both sides along the entire alignment to facilitate plowing. Plowed snow shall not be placed into waterbodies, SEZs, or riparian areas.

46) Before over-the-snow operations begin, existing culvert locations, and nearby waterbodies, SEZs, and riparian areas shall be clearly marked such that markings shall be visible in deep snowpack. During and after operations, all culverts and ditches shall be open and functional.

47) When roads are plowed, snow berms shall be breached to allow drainage during snowmelt. Outlets shall be spaced every 100 feet, at a minimum, so as not to concentrate road surface flows. Erosion control structures, per BMP No. 11, shall be installed as necessary at outlets as snow melts, to collect road generated sediment.

Landings

48) All reasonable efforts shall be made to use existing landings. Where no existing landings are available new landings shall be constructed (see exceptions in BMPs No. 49 and 50). New landings shall be no larger than required in order to safely facilitate the handling and removal of biomass material in compliance with OSHA requirements. Individual landings shall average less than one acre in size and the maximum size shall be two acres.

49) Landings, fuel storage, and refueling shall be prohibited in SEZs.

50) Landings, and refueling areas shall be located outside RCAs, except where operationally infeasible, which means either a suitable landing currently exists in an RCA or it is cost-prohibitive to locate a new landing outside of the RCA. Fuel storage is prohibited in RCAs.

51) The Discharger's Watershed Specialist shall evaluate all existing landings that will be used for determining the presence of existing or potectial erosion problems. The Discharger must apply appropriate BMPs to prevent adverse erosion prior to use of the landing. Landings with slopes >2% shall be outsloped to provide proper drainage. Drainage ditches, where used, shall not hydrologically connect with a waterbody. The outlets of these drainage ditches shall be evaluated to determine if additional energy dissipaters, per BMP No. 37d, are necessary.

52) Landings shall be decommissioned after operations are complete in each area using the following methods:
   a) Chips shall be applied to each landing as described in BMP No. 21b.
   b) After chipping, all landings within 50 feet of an SEZ shall be ripped as described in BMP No. 39, and seeded with a native seed mix of grasses, forbs, and shrubs, unless the landing slopes away from the SEZ. Chips shall be ripped into the landings as a mitigation measure. Ripping shall

not occur in a known area infested with noxious weeds, or in very rocky soils (>35% cobble by volume). The Discharger must comply with alternative procedures and documentation as specified in BMP No. 3 for all areas where ripping is not feasible due to these specific field conditions.

Crossings and Culvert Replacements

53) Equipment operations are prohibited in Class III or IV (ephemeral) watercourses, except at crossings. Class III or IV watercourse crossings shall not exceed one crossing every 800 feet of channel length.

54) Temporary crossings on Class II and III (intermittent and ephemeral) watercourses shall be constructed as follows:
   a) Construction shall only occur when the channels are dry (i.e., seasonally non-flowing).
   b) Temporary crossings shall be "modified Spittlers," and installed such that water flow is not obstructed. The incorporated culvert shall be sized to pass a 20-year, one-hour storm event, so that these crossings do not need to be removed prior to a storm event. A "Humboldt" crossing may be used as a deviation to a modified Splitter crossing, per BMP No. 3, on Class III watercourses, but must be removed, and the associated soils stabilized, prior to any one-inch storm event forecast by the NWS.
   c) Detailed Diversion Plans (for Class II watercourse crossings only) and Dewatering Plans (for all crossings) as required in WDR Section E. 3, Reports Required, shall be implemented where flow or standing water is encountered during installation and removal. The Diversion Plans shall include provisions for damming any potential stream flow above the construction site, transporting all anticipated flows around the construction site, and discharging the flow below the construction site in a manner which shall not create disturbance of the stream bed or banks. The Dewatering Plans shall specify that any accumulated groundwaters, rainwater, or other unexpected water collected in the construction area shall be pumped to an upland (i.e., non-waterbody, floodplain, riparian, or SEZ) location where discharge will infiltrate without returning to any waterbody or SEZ.
   d) Temporary over-snow crossings shall be constructed and removed according to BMP No. 24.
   e) Photo-point monitoring, using MRP Attachment G, shall occur at those crossings which have flow during installation or removal.
   f) All temporary crossings, with the exception of over-snow crossings, shall be properly removed, with the channel bed and banks stabilized, prior to October 15th, per BMP No. 55.
   g) The FEIS identifies one temporary road crossing, located on the Saxon Creek intermittent channel, which will overwinter. This crossing may be required during winter operations and constructing and removing it numerous times during the fall, winter, and spring would create

unnecessary sedimentation. The Discharger shall submit additional details and adequate justification to Water Board staff for review and acceptance per BMP No. 4, prior to leaving any other crossing in place overwinter. Crossings on temporary roads, which remain in place outside of the normal operating period, shall be constructed such that they can pass the 100-year flood flow and associated debris.

55) All native-surfaced road and skis trail crossings on all SEZs and waterbodies shall be evaluated for protection from side-sloughing. Where soils or sediments can be discharged to an SEZ, watercourse, or 100-year floodplain from the crossing, the Discharger shall provide adequate protection, such as placing coir logs, straw bales, or the equivalent (including well-rocked aprons) along the edges of the crossing above the sensitive area. The evaluated and remedy, where required, shall be documented per BMP No. 3. Any accumulated or sloughed-in soils in an SEZ, watercourse, or 100-year floodplain, following removal of a temporary crossing shall be removed and stabilized in an upland location, and the SEZ and/or stream bed, banks and 100-year floodplains shall be restored to their original configuration. Disturbed soils shall be stabilized per BMP No. 21b.

56) NOTE: BMP No. 56 is not applicable to this Project since the Discharger is no longer proposing work involving the culvert crossing on Powerline Road (Rd 12N08). The BMP No. 56 has been removed in entirety and this note now occupies the previous BMP description in this Attachment to preserve the numbering of the BMPs.

57) The permanent watercourse crossing on Forest Service system road 12N01A over an intermittent tributary to Saxon Creek shall be replaced and improved in the fall, when the channel is dry and the meadow is drier than at other times of the year. Diversion and Dewatering Plans shall be implemented per BMP No. 54c. Possible designs to be evaluated for reducing installation disturbance to the floodplain include: 1) a series of pre-fabricated bridge segments with gabion basket supports filled with small boulders permeable to water flow, and 2) a series of multiple arched culverts surrounded by the gabion baskets, with the center culvert large enough to pass the bankfull water volume. The FEIS identifies the latter of these options as the proposed design, but leaves the options open. The final design shall be provided to Water Board staff per BMP No. 4 at least 30 days prior to site activities for acceptance and any other design used shall be at least as protective of beneficial uses and soil and water resources as these two potential designs. Excavation in the floodplain (within the existing road prism) would be required to remove the existing fill and connect the foundation of the road with the crossing to support equipment and hauling trucks. Excavated fill shall be removed to an upland location and stabilized, and all other waste materials from the existing crossing shall be properly disposed of off-site. The removed fill would be replaced with clean granular rock to support the weight of the crossing and the intended use. Any other areas disturbed by the excavation

or filling for road crossing replacement shall be covered with chips per BMP No. 21b, except on the approaches and crossing itself. These areas shall be covered with clean, three-inch plus competent angular rock, with no less than eight-inch lift at any spot at any time, to provide stability. In addition, drainage features shall be constructed such that discharge from the approaches or crossing shall infiltrate immediately into soils without reaching a waterbody (per BMP No. 37d). In the event that road drainage from the approaches to the crossing cannot be discharged away from the water course, the entire length of incised road shall be rocked with a minimum eight inch lift of three-inch plus competent rock with the minimum binder necessary to provide a stable road surface. Photo-point monitoring, using MRP Attachment G, shall occur at this location during installation and removal.

58) A crushed culvert on Forest Service system road 12N20 in the Osgood Swamp watershed shall be removed, and the crossing over the spring-fed Class I watercourse shall be improved. An objective for this crossing is the maintenance of a natural stream bed, with possible designs including a bottomless arched culvert, a prefabricated steel span, or a prefabricated concrete "box" culvert with the underside buried under the natural stream bed. The final design shall be provided to Water Board staff at least 30 days prior to site activities for approval, any other design used shall be at least as protective of beneficial uses and soil and water resources as these three potential designs. Because this channel is spring fed, it flows perennially. The flow therefore shall be diverted around the site during culvert replacement. Diversion and Dewatering Plans shall be implemented per BMP No. 54c. The Discharger shall contact Water Board staff at least 48 hours prior to initiating the Diversion and Dewatering plan to allow Water Board staff an opportunity to be present when the diversion is started. The Discharger is not required or expected to delay project implementation to accommodate Water Board staff availability to inspect project initiation activities. Once the construction area is free of standing water, the unsuitable materials (i.e., organic soil) shall be removed to an upland location and stabilized, and the existing pipes shall be properly disposed of off-site. The new crossing shall be installed with its footings extending below the existing channel to allow for a natural material bed. Finally, fill consisting of clean cobble, gravel, or sand shall be placed around and over the new culvert to connect the existing road surface elevation with the culvert crossing. Road drainage shall be provided as described in BMP No. 57. Prior to allowing the channel flow back into the downstream reach after crossing installation, re-introduced water would be retained behind the lower coffer dam and pumped to upland areas until turbidity levels are less than 3 NTU at the downstream end. If a turbidity level of less than 3 NTU cannot be reached after three days of pumping, pumping and infiltration will continue until decreases in turbidity greater than 25% of the previous measured turbidity are no longer being achieved and turbidity is less than or equal to 20 NTUs prior to releasing flows into the existing channel. The Discharger will contact Water Board staff to inform them of: 1) the turbidity level in the new channel; and 2) how long it is anticipated

treatment shall occur, should this final step be necessary. Monitoring shall include photo-points, using MRP Attachment G, at this crossing during installation and removal, as well as the data collected to achieve the 3 NTU standard.

Aesthetics

59) Retain up to 15% of existing 4 to10-inch dbh trees and shrubs within foreground views (generally 100 feet) from the following travel routes: Pioneer Trail, Hwy 50, Hwy 89. Create irregular spacing and clumping distribution between trees and groups of trees within foreground views where practical. To determine practicality of the tree spacing and clumping, the Discharger's Forest Landscape Architect will conduct a site inspection and look for physical features that must be considered (such as rock outcrops and other geomorphic variation) in designing the appropriate spacing and clumping to ensure the effects from planned tree thinning and burning will be less than significant.

60) Design prescribed fires to retain up to 15% of selected understory vegetation, as well as to reduce evidence of tree scorching within foreground views (generally 100 feet) from Pioneer Trail, Hwy 50, and Hwy 89.

61) Minimize cut stump heights. Stump heights shall not exceed approximately six inches measured from the uphill side.

62) Locate mechanical treatment landings beyond foreground views (generally 100 feet) from travel routes Pioneer Trail, Hwy 50, and Hwy 89 where feasible. To determine feasibility of the locations, the Discharger's Forest Landscape Architect will inspect the sites and consider physical obstacles to avoid, such as rock outcrops, SEZ, sensitive vegetation in siting the landings to ensure there are no significant impacts from the landings.

Air Quality

63) Scheduling of prescribed burn activities shall comply with air quality standards and restrictions, and the Discharger shall acquire the relevant permits from California Air Resources Board (CARB)/EDAQMD for prescribed burning and smoke mitigations (e.g., Smoke Management Plan). The Smoke Management Plan shall follow the guidance and direction in the following documents to protect air quality:
   a) Interim Air Quality Policy on Wildland and Prescribed Fires, issued by the Environmental Protection Agency in 1998;
   b) Memorandum of Understanding between the (CARB) and the USDA Forest Service, signed on July 13, 1999; and
   c) Smoke Management Guidelines in Title 17 of the Code of Federal Regulations.

Biological Resources

64) For California Spotted Owl protected activity centers (PACs), maintain a limited operating period (LOP) prohibiting vegetation treatments, prescribed fire, or road or trail building within approximately ¼ mile of the activity center, if known, or within ¼ mile of the PAC, if unknown, during the breeding season (March 1 to August 15).

65) For northern goshawk PACs, maintain a LOP prohibiting vegetation treatments, prescribed fire, or road or trail building within approximately ¼ mile of the activity center, if known, or within ¼ mile of the PAC, if unknown, during the breeding season (February 15 to September 15).

66) For northern goshawk disturbance zones, maintain a LOP restricting management activities, including habitat manipulation for purposes other than habitat improvement, within approximately ½ mile of existing nest trees located outside urban zones from February 15 to September 15.

67) For the bald eagle winter habitat near Taylor and Tallac Creeks, maintain a LOP restricting management activities, including habitat manipulation for purposes other than habitat improvement, from October 15 to March 15.

68) For suitable habitat surrounding an active willow flycatcher nest, maintain a LOP prohibiting vegetation treatments, prescribed fire, or road or trail building during the breeding season (June 1 to August 31).

69) For osprey disturbance zones, maintain a LOP restricting management activities, including habitat manipulation for purposes other than habitat improvement, within approximately ¼ mile of the nest during the breeding season from March 1 to August 15.

70) For peregrine falcon disturbance zones, maintain a LOP restricting management activities, including habitat manipulation for purposes other than habitat improvement, within approximately ¼ mile of the nest from April 1 to September 30.

71) Except in Wildlife Areas where specific snag retention is prescribed: Where available an average of four of the largest diameter snags and four downed logs per acre would be retained. Snags would be at least 15-inch dbh in clumped and irregular spacing, depending on the average size class in the stand. (This does not supersede the removal of hazard trees).

Cultural Resources

72) Flag identified cultural sites and prohibit mechanical equipment from entering these sites.

73) Use hand thinning treatments to reduce wildfire effects within heritage sites.

74) The Discharger's Archeologist will evaluate linear features pursuant to protocols specified by the California State Historical Preservation Officer to establish possible crossing areas, and develop the methodology for crossing these features without creating a significant impact to cultural resources.

75) Protect arborglyphs during prescribed fire, per BMP No. 25.

Pest Management

76) If it is determined that treatment of annosus root disease is needed, then live true fir and pine tree cut stumps 14 inches diameter and greater shall be treated with an EPA-registered borate compound (Sporax), which is registered in California for the prevention of annosus root disease.
   a) Sporax shall be applied to conifer stumps within 24 hours of creation.
   b) Sporax shall not be applied within 25 feet of any waterbody.
   c) Sporax shall not be applied in flag and avoid areas to protect threatened, endangered, or sensitive plants.
   d) Sporax shall not be applied during precipitation events.

77) Invasive and/or noxious weed infestations identified within the Project area (including travel routes and staging or landing areas) shall be immediately treated by methods accepted for use by the Discharger's Noxious Weed Coordinator, or flagged for avoidance before Project implementation within any given unit. Invasive and noxious weed species known to occur within the Project area are listed in FEIS Table 3-98. The FEIS did not identify specific eradication methods; if chemical means of eradication are chosen, the Discharger's Noxious Weed Coordinator shall develop and submit a Noxious Weed Plan, which shall include and follow the MSDSs specific to the applicable pesticide, to Water Board staff for review and acceptance prior to using any pesticides to control or eradicate invasive or noxious weeds, per BMP No.4 and WDR Section B.10.

78) All off-road equipment used on this project shall be washed before moving into the Project area to ensure that the equipment is free of soil, seeds, vegetative material, or other debris that could contain or hold seeds of invasive and/or noxious weeds. "Off-road equipment" includes all logging and construction equipment and such brushing equipment as brush hogs, masticators, and chippers; it does not include log trucks, chip vans, service vehicles, water trucks, pickup trucks, and similar vehicles not intended for off-road use. When working in known weed infested areas equipment shall be cleaned before moving to other National Forest System lands which do not contain noxious weeds. The Discharger's Contract Administrator shall document required equipment washing.

79) All gravel, fill, or other imported materials shall be weed-free. The Discharger's Contract Administrator shall inspect all imported materials and off-road equipment brought onto the Project sites and document certifications for weed-free materials. On-site sand, gravel, rock, or organic matter shall be used where available, when these materials can be removed without creating a potential discharge to surface waters.

80) Certified weed-free mulches and native seed sources shall be used for all revegetation activities, including on decommissioned roads and landings. The Discharger's Forest Botanist will approve the proposed seed mixes to ensure there will be no significant impacts from using the seed mixes.

81) Pile burning or underburning shall be prohibited within areas of invasive or noxious weed infestations of species known to spread with fire (see also BMP No. 28).

82) Ground and vegetation disturbance shall be minimized in construction areas by adhering to the applicable BMPs noted above. In addition to the requirements of BMP No. 52b, native vegetation shall be re-established where necessary and feasible on disturbed bare ground, such as decommissioned staging, landing, and road areas to minimize weed establishment and infestation and stabilize soils. To determine the feasibility and necessity of re-establishing native vegetation on bare ground, the Discharger's Watershed Specialist will consider natural physical constraints to replanting, such as lack of soil, rock talus slope, coarse decomposed granite, tree canopy shading a thick duff layer, to ensure affects will be less than significant.

Recreation

83) The extent and duration of temporary forest closures associated with mechanical treatments shall be minimized by restricting the size of active treatment units, and completing operations within each unit in a safe and timely manner. The Discharger shall provide signage during area closures informing the public of the reasons for the closure and alternative options for recreation access during the closure. Based on consultation with the Discharger's Federal Forestry Professional and Recreation Officer, the Forest Supervisor shall authorize plans for temporary closures and activities from the Project to ensure the safest conditions for the Discharger's workers and the general public.

84) The Forest Supervisor shall authorize the scheduling of mechanical treatments where practical to avoid peak visitor use recreation times (July 1 – Labor Day) in and adjacent to the following developed recreation areas: Camp Richardson Resort, Camp Richardson Corral, Fallen Leaf Campground, Baldwin Beach, Tallac Historic Estates, and recreation

residence tracts. To determine the practicality of avoiding the peak visitor use times for the planned activity from the project, the Discharger's Federal Forestry Professional will consult with the Discharger's Recreation Officer to plan the optimal mechanical treatment during low visitor times, which are typically in late Fall

85) The Discharger shall provide information to the public through their visitor services regarding current and planned temporary forest closures associated with treatment units.

Sensitive and Special Interest Plants and Fungi

86). All identified sensitive plant populations, sensitive plant communities, and special interest Sphagnum areas, as noted in FEIS Resource Protection Measure (RPM) SP-1, shall be flagged prior to Project activities within the specified treatment units. The protection buffer shall extend 100 feet from the edge of the population. The Discharger's Botanist shall conduct field investigations to identify and record sensitive and special interest plant locations prior to Project activity in Units 266 & 269.

87) No Project activities shall be allowed to occur within flagged sensitive or special interest plant protection buffers, unless approved by the Discharger's Botanist, per BMP No. 3. These prohibited Project activities include, but are not limited to, hand or mechanical treatment, endlining, directional felling into the buffer zones, piling or burning of piles, and prescribed fire.

88) If any additional sensitive plants or sensitive plant communities are found prior to or during implementation of Project activities, they shall also be recorded, flagged, buffered, and avoided per BMP No. 87.

89) The Discharger's Botanist shall be notified immediately prior to any Project activities in Treatment Unit #83 to flag the designated Regional Sensitive Fungi monitoring plot. No Project activities, per BMP No. 87, shall occur within the flagged area.

Supplemental Best Management Practice

90) On December 5, 2011, the US Forest Service Regional Forester for the Pacific Southwest Region approved an updated Water Quality Management Handbook (R5 FSH 2509.22, Chapter 10) (WQMH), which provides equal or better protection than the 2000 handbook's BMPs, which the FEIS' RPMs were based on. The Discharger's Project Record of Decision (ROD) specified that the updated handbook will be incorporated into the implementation of the South Shore Fuel Reduction and Healthy Forest Restoration Project. Of particular importance to this Project WDR is BMP 2.13 of the WQMH, the requirement for a project-specific ECP.

The stated Objective of the WQMH is to "(e)ffectively limit and mitigate erosion and sedimentation from any ground-disturbing activities, through planning prior to commencement of project activity, and through project management and administration during project implementation." One requirement of this Objective is to "provide seamless transition between planning-level (NEPA) mitigation descriptions and on-the-ground implementation of erosion-control measures tailored to site conditions."

The FEIS' mitigation measures (RPMs), developed before the approval of the WQMH, allow for undisclosed field decisions without sufficient criteria for the protection of the environment to make those decisions, or do not provide adequate protection to the tributaries to Lake Tahoe. The WDR BMPs incorporate all of the FEIS RPMs and BMPs, while adding specific requirements to ensure environmental resources are protected. The WDR therefore requires the exclusive use of the specific BMPs in this Attachment, which incorporate and supersede the RPMs and BMPs noted in the FEIS.

Because the WQMH was approved by the Regional Forester and incorporated by reference in the ROD immediately prior to the public release of the Project WDR, many of the requirements of the WQMH were not captured in the WDR BMPs. For example, the WQMH includes a requirement for the development of a Project-specific ECP, which in turn requires the development of storm preparedness plan. The requirements of the WQMH are hereby also incorporated into this WDR, where those requirements are equal to, or more stringent than the requirements and mitigation measures specified in the WDR and its attachments, including the BMPs in this attachment.

The Discharger shall develop a Project-specific ECP as described in BMP 2.13 of the WQMH, with the following additions:

- The mitigation measures specified in the ECP shall be equal to or more stringent than those specified in this WDR Attachment F.
- The ECP shall include the MSDS requirement of BMP No. 34.
- The Discharger shall develop a storm preparedness plan no later than the calendar day 24 hours prior to any anticipated precipitation event. An anticipated precipitation event is any weather pattern that is forecast, per BMP No. 11 above, to have a 30 percent or greater chance of producing precipitation as rainfall in the project area. During periods when thunderstorm activity is anticipated, the Discharger's shall monitor weather conditions during the course of the day, and implement the storm preparedness plan when visual observations indicate imminent precipitation.
- The storm preparedness plan shall be developed for all phases of the Project operations until the WDR is terminated by the Water Board (see WDR Attachment D).

- The storm preparedness plan shall include a list of the additional control practices and actions to perform prior to the rain event, per BMP No. 23 above.

WDR Attachment G

California Regional Water Quality Control Board
Lahontan Region

Rationale for Bioassessment Monitoring

South Shore Project Waste Discharge Requirements

The EPA's Water Quality Handbook, Chapter 4 (40 CFR 131.12), section 4.7 Outstanding National Resource Waters (ONRW) – 40 CFR 131.12 (a)(3) notes that ONRWs, such as Lake Tahoe, are provided the highest level of protection under the antidegradation policy. According to this source, Best Management Practices (BMPs) for timber harvesting in ONRW watersheds should include preventive measures more stringent than for similar logging in less environmentally sensitive areas.

The Discharger is proposing potentially soil-disturbing activities in the project area which will last for several years. These activities include culvert replacements at stream crossings, road maintenance and reconstruction, vegetative fuel treatment by various methods (hand, cut to length, whole tree), and pile burning in SEZs. Water Board staff has therefore determined that in-stream effectiveness monitoring is needed in addition to visual observations of BMP performance by the Discharger's staff. Visual observations of BMP effectiveness are extremely important because they can allow the Discharger's staff to timely identify and correct potential erosion and other water quality problems, and because the visual inspections can focus the Discharger on specific practices that may threaten water quality and beneficial uses of water. However, since the visual inspections are based on a random selection of sites, and are performed intermittently throughout the life of the Project, these alone cannot verify that water quality objectives are met, specifically to comply with the narrative water quality objective for nondegradation of aquatic communities and populations, which states in part:

> *All wetlands shall be free from activities that would substantially impair the biological community as it naturally occurs due to physical, chemical and hydrologic processes.*

In-stream bioassessment monitoring is needed to ensure the biological communities are not impaired from the project activities and to verify the Discharger's assertion that the expected relatively high rates of BMP implementation and visual effectiveness observations will translate into compliance with Basin Plan objectives and protection of beneficial uses of water.

The transport and deposition of coarse and/or fine sediments (fine sediments are less than 16 micrometers in size) from roads, log landings, stream crossings,

skid trails and other silvicultural activities have been identified as likely to occur as a result of this Project (reference: Analytical Conclusions Section of the CEQA document) and can affect aquatic life. Benthic (i.e., bottom-dwelling) macroinvertebrate communities are sensitive to suspended sediments as well as settleable sediments that cover and bury stream habitats. Therefore, accelerated erosion and sediment delivery can degrade habitat quality and affect the survival, diversity and composition (i.e., health) of macroinvertebrate communities. The use of in-stream macroinvertebrate communities as indicators of stream health is known as "bioassessment." Bioassessment monitoring of long-term projects such as this one can reveal project-induced impacts often missed by intermittent visual observations of BMPs. Any significant shifts in macroinvertebrate assemblages associated with this Project would also indicate the potential for sediment delivery to Lake Tahoe (i.e., a reduction in population would show that there is excessive sediment getting into the tributaries, which would also eventually distribute this sediment to the Lake).

Monitoring of benthic macroinvertebrate communities shall be used in conjunction with the other monitoring procedures described in Attachment C, Monitoring and Reporting Program (MRP) to indicate the effectiveness of the Project's management measures at preventing/mitigating discharges of sediment to watercourses and protecting aquatic life. Bioassessment monitoring results will be used to validate that the mitigation measures implemented during the Project have not impaired the biological communities in the wetland. Bioassessment monitoring is expected to show natural variation through the project due to many natural factors, such as climate and precipitation. When compared to reference site bioassessment scores, such as Hidden Valley Creek in the Tahoe basin, the bioassessment for this project will indicate if degradation is within the range of natural variability or if the degradation is greater than the range of natural variability and likely due to anthropogenic affects.

Specified habitat measurements (i.e., "pebble counts," cobble embeddedness, etc.) are required to be collected along with (i.e., at the same time as) the bioassessment samples. This will allow staff to determine if any changes in macroinvertebrate communities are associated with sedimentation. Further, where coarse sediment is found in streambeds, fine sediment (if no longer present) was likely delivered downstream.

The Saxon Creek site specified for bioassessment monitoring (see MRP Attachment A) was selected based on a variety of treatments and project activities in the watershed without potential affect from adjacent urban development.The project activities may disturb soils that can then easily be transported to the nearby surface waters in storm runoff, or may compact soils, thereby reducing infiltration capacity in near-stream areas and increasing runoff volumes. Pile burning may create extreme temperatures that may "scorch" soils (reducing infiltration; killing seeds, roots, and rhizomes thereby inhibiting revegetation; and reducing the nutrient removal capacity of wetlands).

Conducting these activities within or in close proximity to SEZs greatly increases the potential that sediments may be transported into Lake Tahoe's tributaries. The site was also selected to reduce any potential for confounding interferences (i.e., the site is located downstream of primarily Project-specific vegetation management activities and above the influence of other potential sources, such as urban developments, roads, highways, etc). Finally, this site has been used for bioassessment monitoring in the past, which provides additional historical data for comparative purposes.

WDR Attachment H

California Regional Water Quality Control Board
Lahontan Region

CEQA Environmental Checklist

South Shore Project Waste Discharge Requirements

PROJECT DESCRIPTION AND BACKGROUND

Project Title:	**Issuance of Waste Discharge Requirements for the South Shore Fuel Reduction and Healthy Forest Restoration**
Lead agency name and address:	Lahontan Regional Water Quality Control Board 2501 Lake Tahoe Blvd. South Lake Tahoe, CA 96150
Contact person and phone number:	George Cella, (530) 542-5426
Project Location:	Within the South Shore area of Lake Tahoe, CA: The Project extends from Cascade Lake on the northwest to the Heavenly Mountain Resort Special Use Permit boundary and the Nevada State line on the northeast, and from Lake Tahoe on the north to the LTBMU National Forest boundary on the south.
Project sponsor's name and address:	US Forest Service Lake Tahoe Basin Management Unit (LTBMU) 35 College Drive South Lake Tahoe, CA 96150
General plan designation:	Wildland Urban Interface (WUI)
Zoning:	National Forest-owned urban lots and National Forest System land (El Dorado County)

Description of project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation.)	The Project is intended to reduce fuel hazards and restore ecosystem health through vegetation treatments on lands owned by the U.S.A. and managed by the U.S. Forest Service. The primary management objective is the reduction of hazard fuels within the South Shore of the Lake Tahoe Basin WUI in order to change fire behavior resulting in lower fire severity and reduced rates of spread. Secondary objectives include providing healthy wildlife habitat, restoration of a forest structure with increased resistance to drought, disease, and insects, and restoration of aspen stands within the South Shore Project area. The Project will apply vegetative treatments to reduce hazardous fuels on up to 10,670 acres within the South Shore WUI on a minimum three to seven-year schedule, with initial thinning treatments on approximately 2,660 acres per year. Of this, no more than 1,350 acres would be mechanically thinned per year. It is anticipated the Project area would remain within desired condition limits for a period of 15 to 20 years. Hazardous fuel reduction would occur on Forest Service-managed lands in all three zones of the WUI: within the urban core where undeveloped public and developed private lands are adjacent; within the Defense Zone where undeveloped public lands extend ¼ mile from places where people live and/or work; and within the Threat Zone where undeveloped public lands extend 1 ¼ miles beyond the Defense Zone. A combination of the following methods will be used to meet the fuels and vegetation objectives for the Project area, including Stream Environment Zones (SEZs): Mechanical thinning of brush and trees, using Cut-to-Length (CTL) or whole-tree operations (WT); hand thinning of brush and trees; saw log and biomass removal, with chipping and/or masticating of slash and brush; removal of infested, diseased, and dead trees, both standing and down; and prescribed pile burning and underburning subsequent to vegetation treatments. The thinning operations used will be based on soil

	type, slope, and associated water quality concerns such as risk of sediment delivery to surface water. Hand treatments, end-lining, or reaching in by equipment would be used where slopes or soil conditions are not suitable for mechanical treatments and where road access is not feasible. Overall, mechanical harvesting using ground-based equipment with follow-up biomass removal, chipping, mastication, or prescribed burning, would occur on up to 5,728 acres. Hand thinning with similar follow-up fuels treatments would occur on up to 5,961 acres. The Project will involve the discharge of waste earthen materials to waters of the State in the Project area. Such discharges are subject to regulation pursuant to the California Water Code section 13263. The Water Board will regulate discharges from the Project by issuing Waste Discharge Requirements (WDR); therefore, the Water Board is the Lead Agency under CEQA. Best Management Practices (BMPs), mitigation measures, and a Monitoring Plan are incorporated into the Project description and in this WDR to avoid or substantially lessen adverse environmental impacts. See attached CEQA Checklist, Final Environmental Impact Assessment (FEIS) and WDR for specific additional details.
Surrounding land uses and setting; briefly describe the project's surroundings:	Urban and forested settings: the WUI is the zone surrounding the urban core where structures and other human development meet or intermingle with undeveloped wildland. The wildlands are managed by the LTBMU for resources, recreation, and transportation routes.
Other public agencies whose approval is required (e.g. permits, financial approval, or participation agreements):	Tahoe Regional Planning Agency, El Dorado Air Quality Management District

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project. Please see the checklist beginning on page 3 for additional information.

☒	Aesthetics	☐	Agriculture and Forestry	☒	Air Quality
☒	Biological Resources	☒	Cultural Resources	☒	Geology/Soils
☒	Greenhouse Gas Emissions	☒	Hazards and Hazardous Materials	☒	Hydrology/Water Quality
☐	Land Use/Planning	☐	Mineral Resources	☒	Noise
☐	Population/Housing	☐	Public Services	☐	Recreation
☐	Transportation/Traffic	☐	Utilities/Service Systems	☒	Mandatory Findings of Significance

DETERMINATION:

On the basis of this initial evaluation:

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

Signature: Harold J Singer	**Date:** April 12, 2012
HAROLD J. SINGER **EXECUTIVE OFFICER**	
Printed Name:	**For:**

CEQA Environmental Checklist

This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included either following the applicable section of the checklist or is within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Environmental Review Requirements

The Project is subject to the requirements of both the federal National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The LTBMU is the NEPA Lead Agency. The LTBMU has developed a Final Environmental Impact Statement and Record of Decision (FEIS/ROD) for the Project, pursuant to NEPA.

The Project involves the discharge of earthen wastes (fill) and/or waste organic materials (e.g., slash, chips, bark, burn piles, etc.) to waters of the State in the Project area, including wetlands. The California Regional Water Quality Control Board (Water Board) will regulate the proposed discharge of wastes by issuing Waste Discharge Requirements (WDR) pursuant to Section 13263 of the California Water Code. Because it will issue WDR for the Project, the Water Board is the Lead Agency under CEQA.

Section 15221 of the CEQA Guidelines directs that when a project requires compliance with both NEPA and CEQA, state Lead Agencies should use the EIS rather than preparing a separate Environmental Impact Report or Initial Study, as long as the EIS complies with the requirements of CEQA. Water Board staff has reviewed the information contained in the FEIS/ROD for compliance with CEQA, and determined that additional mitigation measures and information are needed to comply with CEQA requirements.

Therefore, the Water Board is circulating tentative WDR, and a CEQA checklist, along with the FEIS/ROD to support a Mitigated Negative Declaration in compliance with CEQA guidelines. This CEQA checklist was developed by Water Board staff to inform the public and interested agencies of the additional mitigation measures identified as necessary by the Water Board, and included in its tentative WDR. It also summarizes the mitigation measures contained in the FEIS/ROD. A discussion of growth inducing impacts and mandatory findings of significance, as required by CEQA, is also included in the CEQA checklist.

I. AESTHETICS: Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista	☐	☐	☑	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	☐	☑	☐	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☑	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☑	☐

The Project is consistent with, and would meet scenic standards and thresholds in the Lake Tahoe Basin (FEIS Chapter 3 Scenic Resources). There are no scenic highways in the Project area.

Mitigation Measures for I.b):

Tree thinning and prescribed burning operations would be implemented with the following measures to mitigate potential impacts:

- Waste Discharge Requirements Best Management Practice (WDR BMP) No. 59: Retain up to 15% of existing 4 to10-inch dbh trees and shrubs within foreground views (generally 100 feet) from the following travel routes: Pioneer Trail, Hwy 50, Hwy 89. Create irregular spacing and clumping distribution between trees and groups of trees within foreground views where practical. To determine practicality of the tree spacing and clumping, the LTBMU's Forest Landscape Architect will conduct a site inspection and look for physical features that must be considered (such as rock outcrops and other geomorphic variation) in designing the appropriate spacing and clumping to ensure the effects from planned tree thinning and burning will be less than significant.

- WDR BMP No. 25: The LTBMU shall develop and submit a Fire Prescription Plan, as specified in the WDR Section B.9, to Water Board staff for review and acceptance prior to any Project-related burning activity, per BMP No.4. The Fire Prescription Plan shall include resource protection prescriptions (such as fire control [holding] resources, smoke mitigations, avoidance areas, and other resources protection measures/BMPs which apply to prescribed burning under BMPs No. 26 through 31, and 63), The Fire Prescription Plan shall therefore incorporate adaptive management strategies plus additional BMPs and Resource Protection Measures included in the LTBMU's Project-specific Thinning Contract, Burn Plan, and Smoke Management Plan. Prescribed fire prescriptions shall be designed to ensure that fire intensity and duration do not result in severely burned soils and protect water, soil, and other resources. The BMPs and Resource Protection Measures specified in the accepted Fire Prescription Plan shall be adhered to throughout Project operations.

- WDR BMP No. 4: Where any of the WDR BMPs require submittal of additional details, plans, BMPs, mitigation measures, or any other design to Water Board staff, those designs shall be provided to Water Board staff for review and acceptance at least 30

days prior to site activities. In rare cases where timing is critical, the LTBMU may request a shorter time period for staff review and acceptance by the Water Board Executive Officer. This BMP does not apply to minor BMP deviations which can be covered under BMP No. 3, but applies to major BMP deviations and/or previously undeveloped, Unit-level plans. This includes, but is not limited to, the materials to be submitted with the Annual Operating Plans or unit-specific workplans (per WDR Sections E.1 through E.5), and described under the following BMPs:

- No. 6 (crossing SEZs with inoperable soil moisture conditions);
- No. 11 (Final Contract Plans and Maps);
- No. 12 (unit-specific SEZ maps) and 13d (identification and mapping of SEZ areas of insufficient material for operational slash mats);
- No. 25 through 31 and 63 (Fire Prescription Plans);
- No. 27 and 29 (updated, location-specific monitoring and mitigation plans for burn piles);
- No. 34 and 90 (Erosion Control Plan);
- No. 50 (in-lieu landing, fuel storage, and/or refueling plans);
- No. 54c, 57, and 58 (Diversion and Dewatering Plans);
- No. 57 and 58 (culvert replacement plans); and
- No. 77 (Noxious Weed Plan).

- WDR BMP No. 60: Design prescribed fires to retain up to 15% of selected understory vegetation, as well as to reduce evidence of tree scorching within foreground views (generally 100 feet) from Pioneer Trail, Hwy 50, and Hwy 89.

- WDR BMP No. 61: Minimize cut stump heights. Stump heights shall not exceed approximately six inches measured from the uphill side.

- WDR BMP No. 62: Locate mechanical treatment landings beyond foreground views (generally 100 feet) from travel routes Pioneer Trail, Hwy 50, and Hwy 89 where feasible. To determine feasibility of the locations, an LTBMU Forest Landscape Architect will inspect the sites and consider physical obstacles to avoid, such as rock outcrops, SEZ, sensitive vegetation in siting the landings to ensure there are no significant impacts from the landings..

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:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☑
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☑
c) 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?	☐	☐	☐	☑

There are no agricultural resources in or adjacent to the Project treatment units.

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:

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

Mitigation Measures for III.a) through III.d):

The Project area lies within the jurisdiction of the El Dorado Air Quality Management District (EDAQMD), which is responsible for the El Dorado County portion of the Lake Tahoe Air Basin. The proposed treatment areas, where both prescribed pile and underburning is proposed, are within and adjacent to the city of South Lake Tahoe and surrounding unincorporated communities. The Project includes meeting applicable air quality standards and permits and contains the following mitigations:

- WDR BMP No. 25: The LTBMU shall develop and submit a Fire Prescription Plan, as specified in the WDR Section B.9, to Water Board staff for review and acceptance prior to any Project-related burning activity, per BMP No.4. The Fire Prescription Plan shall include resource protection prescriptions (such as fire control [holding] resources, smoke mitigations, avoidance areas, and other resources protection measures/BMPs which apply to prescribed burning under BMPs No. 26 through 31, and 63), The Fire Prescription Plan shall therefore incorporate adaptive management strategies plus additional BMPs and Resource Protection Measures included in the LTBMU's Project-specific Thinning Contract, Burn Plan, and Smoke Management Plan. Prescribed fire prescriptions shall be designed to ensure that fire intensity and duration do not result in severely burned soils and protect water, soil, and other resources. The BMPs and Resource Protection Measures specified in the accepted Fire Prescription Plan shall be adhered to throughout Project operations.

- WDR BMP No. 63: Scheduling of prescribed burn activities shall comply with air quality standards and restrictions, and the LTBMU shall acquire the relevant permits from California Air Resources Board (CARB)/EDAQMD for prescribed burning and smoke mitigations (e.g., Smoke Management Plan). The Smoke Management Plan shall follow the guidance and direction in the following documents to protect air quality:

- Interim Air Quality Policy on Wildland and Prescribed Fires, issued by the Environmental Protection Agency in 1998;
- Memorandum of Understanding between the (CARB) and the USDA Forest Service, signed on July 13, 1999; and
- Smoke Management Guidelines in Title 17 of the Code of Federal Regulations.

The Project would substantially reduce expected smoke, including greenhouse gases (GHGs – see Section VII) such as CO_2, as compared to a high intensity wildfire.

IV. BIOLOGICAL RESOURCES: Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☑	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☑	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☑	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☑	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☑
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☑

Mitigation Measures for IV,a), IV.b), and IV.d):

The Project includes the following measures to conduct project activities in a manner that minimizes impacts to wildlife and habitat. Consultation was conducted with the US Fish and Wildlife Service for Lahontan Cutthroat Trout, and the Project would not impact recovery efforts for this species. Findings in the FEIS support no significant impact to terrestrial or aquatic wildlife.

- WDR BMP No. 64: For California Spotted Owl protected activity centers (PACs), maintain a limited operating period (LOP) prohibiting vegetation treatments, prescribed fire, or road or trail building within approximately ¼ mile of the activity center, if known, or within ¼ mile of the PAC, if unknown, during the breeding season (March 1 to August 15).

- WDR BMP No. 65: For northern goshawk PACs, maintain a LOP prohibiting vegetation treatments, prescribed fire, or road or trail building within approximately ¼ mile of the activity center, if known, or within ¼ mile of the PAC, if unknown, during the breeding season (February 15 to September 15).

- WDR BMP No. 66: For northern goshawk disturbance zones, maintain a LOP restricting management activities, including habitat manipulation for purposes other than habitat

improvement, within approximately ½ mile of existing nest trees located outside urban zones from February 15 to September 15.

- WDR BMP No. 67: For the bald eagle winter habitat near Taylor and Tallac Creeks, maintain a LOP restricting management activities, including habitat manipulation for purposes other than habitat improvement, from October 15 to March 15.

- WDR BMP No. 68: For suitable habitat surrounding an active willow flycatcher nest, maintain a LOP prohibiting vegetation treatments, prescribed fire, or road or trail building during the breeding season (June 1 to August 31).

- WDR BMP No. 69: For osprey disturbance zones, maintain a LOP restricting management activities, including habitat manipulation for purposes other than habitat improvement, within approximately ¼ mile of the nest during the breeding season from March 1 to August 15.

- WDR BMP No. 70: For peregrine falcon disturbance zones, maintain a LOP restricting management activities, including habitat manipulation for purposes other than habitat improvement, within approximately ¼ mile of the nest from April 1 to September 30.

Black-backed Woodpecker Habitat Modification

On December 15, 2011 the California Fish and Game Commission (FGC) agreed to consider the Black-Backed Woodpecker (BBWO) for listing as either endangered or threatened pursuant to the California Endangered Species Act. In general, the primary threat to BBWO habitat is removal of snags within BBWO breeding habitat. The guidelines recommend retaining snags within the range of natural variability within watersheds affected by fire. BBWOs excavate nesting cavities in snags occurring in intensively burned forests.

The FEIS, p 3-296, estimates that the potential change in snag densities due to the Project will not alter the existing population trend, or change the distribution of BBWO. Of the 3,614 acres of burned forest in the Project area, fuels treatments will occur on approximately 315 acres, resulting in reduced snag densities in those 315 acres only. The resulting snag densities on burned forest acres will not fall below Forest Plan guidelines.

- WDR BMP No. 71: Except in Wildlife Areas where specific snag retention is prescribed: Where available an average of four of the largest diameter snags and four downed logs per acre would be retained. Snags would be at least 15-inch dbh in clumped and irregular spacing, depending on the average size class in the stand. (This does not supersede the removal of hazard trees).

- WDR BMP No. 17: Existing downed trees and Large Woody Debris (LWD, or Coarse Woody Debris, as denoted in the FEIS) that are in Class I, II, or III watercourses shall be left in place for habitat unless the LTBMU's Hydrologist or Fisheries Biologist authorizes removal to protect or improve channel stability and the LTBMU follows WDR BMP No. 3 (see WDR Attachment F).

- WDR BMP No. 18 (in part): Trees (live or dead) may be marked for removal within five feet of the bank edge of any waterbody only where fuel loads or stand densities exceed prescription and where LWD is at or above desired levels. No live trees greater than 14-inch dbh which contribute to the stability of stream banks, as determined by the LTBMU's Hydrologist or Fisheries Biologist, shall be removed (for shade, stability, habitat, and water quality impacts).

- WDR BMP No. 20: Directional falling shall be used to keep felled trees out of Class I, II, or III watercourses unless the channel reach is identified as deficient in LWD (for habitat).

Taylor Creek is the only watercourse identified in the FEIS as being below desired LWD levels; therefore, within LWD-deficient section(s) of Taylor Creek, the LTBMU's Fisheries Biologist shall select trees greater than 12-inch DBH, while adhering to WDR BMPs No. 3 and 18, to be felled directionally into the channel. The LTBMU's Fisheries Biologist shall submit additional details and adequate justification to Water Board staff for review and acceptance per WDR BMPs No. 3 and 4, prior to felling trees into any other watercourse within the units listed under FEIS RPM AR-3.

- WDR BMP No. 18 (in part): Stream bank or near-stream vegetation removal shall also be managed to ensure there is no measurable increase in daily mean water temperatures where fuel reduction occurs. Shaded bank conditions shall be maintained on fish-bearing watercourses by retaining at least 50% of the stream bank site potential for herbaceous and shrub cover and at least 25% of the site potential for tree cover. Where natural tree cover is less than 20%, 80% of the potential shall be retained. Thirty-five to 70% of the stream shall be shaded from 11:00 AM to 4:00 PM.

- WDR BMP No. 54b (in part): Temporary crossings shall be "modified Spittlers," and installed such that water flow is not obstructed.

- WDR BMP No. 58 (in part): An objective for this System Road 12N20 crossing is the maintenance of a natural stream bed, with possible designs including a bottomless arched culvert, a prefabricated steel span, or a prefabricated concrete "box" culvert with the underside buried under the natural stream bed. The final design shall be provided to the Water Board staff at least 30 days prior to site activities for approval, any other design used shall be at least as protective of beneficial uses and soil and water resources as these three potential designs.

- WDR BMP No. 77: Invasive and/or noxious weed infestations identified within the Project area (including travel routes and staging or landing areas) shall be immediately treated by methods accepted for use by the LTBMU Noxious Weed Coordinator, or flagged for avoidance before Project implementation within any given unit. Invasive and noxious weed species known to occur within the Project area are listed in FEIS Table 3-98. The FEIS did not identify specific methods; the LTBMU Noxious Weed Coordinator shall therefore develop and submit a Noxious Weed Plan to Water Board staff for review and acceptance prior to using any pesticides to control or eradicate invasive or noxious weeds, per WDR BMP No.4 and WDR Section B.10.

- WDR BMP No. 78: All off-road equipment used on this project shall be washed before moving into the Project area to ensure that the equipment is free of soil, seeds, vegetative material, or other debris that could contain or hold seeds of invasive and/or noxious weeds. "Off-road equipment" includes all logging and construction equipment and such brushing equipment as brush hogs, masticators, and chippers; it does not include log trucks, chip vans, service vehicles, water trucks, pickup trucks, and similar vehicles not intended for off-road use. When working in known weed infested areas equipment shall be cleaned before moving to other National Forest System lands which do not contain noxious weeds. The LTBMU Contract Administrator shall document required equipment washing.

- WDR BMP No. 79: All gravel, fill, or other imported materials shall be weed-free. The LTBMU Contract Administrator shall inspect all imported materials and off-road equipment brought onto the Project sites and document certifications for weed-free materials. On-site sand, gravel, rock, or organic matter shall be used where available, when these materials can be removed without creating a potential discharge to surface waters.

- WDR BMP No. 80: Certified weed-free mulches and native seed sources shall be used for all revegetation activities, including on decommissioned roads and landings. An LTBMU Forest Botanist will approve the proposed seed mixes to ensure there will be no significant impacts from using the seed mixes.

- WDR BMP No. 81: Pile burning or underburning shall be prohibited within areas of invasive or noxious weed infestations of species known to spread with fire (see also WDR BMP No. 28).

- WDR BMP No. 28: Fire shall be allowed to creep between piles and into these buffers, except where sensitive plants, fens, and the noxious weeds whitetop and cheatgrass are present.

- WDR BMP No. 82: Ground and vegetation disturbance shall be minimized in construction areas by adhering to the applicable BMPs noted above. In addition to the requirements of WDR BMP No. 52b, native vegetation shall be re-established where necessary and feasible on disturbed bare ground per WDR BMP No. 3, such as decommissioned staging, landing, and road areas to minimize weed establishment and infestation and stabilize soils. To determine the feasibility and necessity of re-establishing native vegetation on bare ground, the LTBMU Watershed Specialist will consider natural physical constraints to replanting, such as lack of soil, rock talus slope, coarse decomposed granite, tree canopy shading a thick duff layer, to ensure affects will be less than significant.

- WDR BMP No. 86: All identified sensitive plant populations, sensitive plant communities, and special interest Sphagnum areas, as noted in FEIS RPM SP-1, shall be flagged prior to Project activities within the specified treatment units. The protection buffer shall extend 100 feet from the edge of the population. An LTBMU Botanist shall conduct field investigations to identify and record sensitive and special interest plant locations prior to Project activity in Units 266 & 269.

- WDR BMP No. 87: No Project activities shall be allowed to occur within flagged sensitive or special interest plant protection buffers, unless approved by the LTBMU's Botanist,. These prohibited Project activities include hand or mechanical treatment, endlining, directional felling into the buffer zones, piling or burning of piles, and prescribed fire.

- WDR BMP No. 88: If any additional sensitive plants or sensitive plant communities are found prior to or during implementation of Project activities, they shall also be recorded, flagged, buffered, and avoided per WDR BMP No. 87.

- WDR BMP No. 89: The LTBMU's Botanist shall be notified immediately prior to any Project activities in Treatment Unit #83 to flag the Regionally-designated Sensitive Fungi monitoring plot. No Project activities, per WDR BMP No. 87, shall occur within the flagged area.

- WDR BMP No. 3: Where any part of the above mitigation measures is either not practicable or feasible due to the specified field conditions or are left to the LTBMU's discretion, the LTBMU's staff, as noted in the relevant mitigation measure, shall implement BMPs and mitigation measures that provide equal or better protection to these original mitigation measures. Where such deviations are made, additional explanation, tracking, and reporting are required pursuant to the MRP. The new BMP shall be incorporated into the implementation monitoring checklist for the project area.

Mitigation Measures for IV,c):

- WDR BMP No. 12: SEZs (Stream Environment Zones) shall be determined by application of the criteria set forth in the Tahoe Regional Planning Agency's (TRPA's) Water Quality Management Plan for the Lake Tahoe Region, Volume III, SEZ Protection and Restoration Program (1988). Prior to commencing operations within any treatment unit which contains SEZs, wetlands, or waterbodies, maps of sufficient scale shall be developed which clearly identify these sensitive areas. These maps shall be provided to the Water Board in the Annual Operating Plans or unit-specific workplans. SEZs shall also be flagged on the ground prior to operations. Flagging shall be maintained throughout the life of the Project activities (including prescribed fire activities) within any active treatment unit. Work in SEZs shall be limited to the time of year when soils are dry, or when operable conditions are present outside of normal operating season, as specified in WDR BMPs No. 6, 22a, and 22b.

- WDR BMP No. 31h: h) Water used to manage controlled prescribed burns shall only be obtained from hydrants, and not be drafted from undeveloped surface water sources, wetlands, or other special aquatic features..

- WDR BMP No. 14: In the area between any waterbody and 25 feet beyond bankfull stage (or top of bank, whichever is greater) of any waterbody, CTL (Cut-to-Length) tree removal methods shall be limited to reaching in and removing logs with full suspension to avoid ground disturbance.

  CTL equipment shall maintain the 25-foot exclusion buffer on perennial and intermittent watercourses for over-the-snow and hard frozen soil operations in SEZs.

- WDR BMP No. 15: For Whole Tree (WT) equipment operations, waterbody buffer zones for all waterbodies shall be, at a minimum, as detailed in WDR Attachment F Table F3.

  Ground-based equipment in WT treatment stands shall not operate in SEZs or within these waterbody buffer zones. Hand or CTL (per WDR BMPs No. 13 and 14) treatments may be used in these areas. SEZ areas within WT stands shall be treated with hand crews, leaving the resulting logs in place, except as described in WDR BMP No. 21. Additional waterbody buffer widths shall be implemented based on proximity to Lake Tahoe and Class I watercourses, slopes, and ground cover. No standard buffer zone width has been established for unclassified waterbodies. However, timber harvest and vegetation management activities shall be excluded from within the channel zone, except for use and maintenance of existing roads and crossings.

- WDR BMP No. 16: All waterbody buffer zones shall be flagged per WDR BMP No. 15 prior to operations. Flagging shall be maintained throughout Project operations in all active Treatment Units.

V. CULTURAL RESOURCES: Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☑	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☑	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☑	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☑

Mitigation Measures for V.a), V.b), and V.c):

The area of potential effects (APE) for heritage and cultural resources analysis extends to proposed areas of disturbance across Forest Service lands within the South Shore project area. The survey of the proposed treatment areas was conducted at the intensity appropriate to identify all heritage resources that might be affected by project activities. Copies of all archaeological surveys are on file at the Forest Service's LTBMU Supervisor's Office. Current environmental review policies must be in compliance with antiquities mandates and guidelines established by NEPA, Section 106 and 110 of the National Historic Preservation Act (NHPA), and regulations of the Advisory Council on Historic Preservation (e.g., ACHP, 36 CFR 800). These mandates require public agencies to identify, evaluate, and protect heritage resources on lands under their jurisdiction, and to ensure that their actions do not inadvertently impact heritage remains.

Direct physical impacts to heritage resources can occur if alterations are made to the integrity of the resource itself or to its surroundings. Mechanical thinning, construction, or uncontrolled burns could compromise these sites. The Project would protect heritage and cultural resources through both passive and active methods. Passive methods are to research, field identify, flag, and avoid cultural or heritage sites. Active methods include avoidance and/or hand thinning to reduce the risk of damage from high-intensity wildfire and removal of conifer encroachment in aspen stands to reduce competition for aspens with arborglyphs (historical carvings on trees).

The Project is consistent with the programmatic agreement between the State of California and the US Forest Service. There are no human remains/burial sites in project area. Mitigation Measures include the following:

- WDR BMP No. 72: Flag identified cultural sites and prohibit mechanical equipment from entering these sites.

- WDR BMP No. 73: Use hand thinning treatments to reduce wildfire effects within heritage sites.

- WDR BMP No. 74: The LTBMU's Archeologist will evaluate linear features pursuant to protocols specified by the California State Historical Preservation Officer to establish possible crossing areas, and develop the methodology for crossing these features without creating a significant impact to cultural resources.

- WDR BMP No. 75: Protect arborglyphs during prescribed fire, per WDR BMP No. 25.

- WDR BMP No. 25: The LTBMU shall develop and submit a Fire Prescription Plan, as specified in the WDR Section B.9, to Water Board staff for review and acceptance prior to any Project-related burning activity, per BMP No.4. The Fire Prescription Plan shall include resource protection prescriptions (such as fire control [holding] resources, smoke mitigations, avoidance areas, and other resources protection measures/BMPs which apply to prescribed burning under BMPs No. 26 through 31, and 63), The Fire Prescription Plan shall therefore incorporate adaptive management strategies plus additional BMPs and Resource Protection Measures included in the LTBMU's Project-specific Thinning Contract, Burn Plan, and Smoke Management Plan. Prescribed fire prescriptions shall be designed to ensure that fire intensity and duration do not result in severely burned soils and protect water, soil, and other resources. The BMPs and Resource Protection Measures specified in the accepted Fire Prescription Plan shall be adhered to throughout Project operations.

VI. GEOLOGY AND SOILS: Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☐	☑
ii) Strong seismic ground shaking?	☐	☐	☐	☑
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☑
iv) Landslides?	☐	☐	☑	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☑	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☑	☐
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?	☐	☐	☐	☑

Mitigation Measures for VI.b):

High geologic risk areas are not common within the Project sites, and are usually confined to hillslopes with a slope gradient greater than 60%. No mechanical treatment activity will occur on slopes above a 30% gradient, including where those high risk areas identified within the lower-Impact Cut-to-Length units. Only hand treatments, which do not result in measurable ground disturbance, will be conducted on slopes greater than 30%.

Impacts to soils are more likely to occur from Project activities, although hillslopes with a gentle gradient (i.e., less than 30%) could become active due to fuel management activities on saturated soils. Soils could also become compacted, rutted, and/or displaced due to heavy equipment use, loosened soils could be transported and cause erosion, and soils could become hydrophobic from uncontrolled burns and burning piles.

- WDR BMP No. 5 (in part): "Normal operating periods," as used throughout the WDR, refers to that period between May 1st and October 15th, when conditions within the Lake Tahoe Basin are generally dry. However, ground-based equipment operations are allowed during this period only when soil moisture operability conditions, as determined pursuant to WDR BMP No. 6, exist. Temporary erosion control measures as noted throughout WDR Attachment F shall be in place throughout the Project prior to commencing any soil-disturbing activities, and the LTBMU shall implement additional

BMPs as required in WDR BMP No. 23 prior to any forecast storm event which may mobilize loosened sediments towards waterbodies.

The WDR and WDR BMP No. 5 also require the LTBMU to annually develop and submit, and Water Board staff to review Erosion Control Plans (ECPs) to augment unit-specific workplans. Annually, workplans could contain modifications to operational prescriptions (e.g., unit designations, specific road use or need, etc.) specified in the FEIS, ROD, or WDR. The ECP updates will reflect those modifications and designate the proposed treatment units for the year, while ensuring that the BMPs required by these WDR are adhered to.

The WDR,Attachment F, Best Management Practices and Mitigation Measures, also includes BMPs for operable soil moisture conditions, slopes, sensitive soils, water barring, and vegetation treatments in Resource Protection Areas and SEZs (see WDR BMPs No. 6 through 18 and 20 through 48), to ensure that soils are protected during Project activities..

The Water Board considers the Project WDR necessary to adequately address potential and planned impacts to waters of the State, including potential impacts from damage to sensitive soils in the Stream Environment Zones (SEZs). The Water Board therefore requires mitigation for these impacts to comply with the prohibitions specified in the Water Quality Control Plan for the Lahontan Region (Basin Plan). Principle control methods in the Basin Plan include prohibiting new development in SEZs or with excess impervious surface coverage. Under specific conditions where impacts to SEZ soils are necessary, the Basin Plan requires project proponents to restore existing SEZ land coverage in the amount of 1.5 to 1 of the amount of new land coverage proposed within the SEZ.

This Project proposes to add approximately 1.7 acres of SEZ disturbance in order to properly accomplish its goals (see WDR Attachment E, Table E6). To provide the worst case scenario, Water Board staff has assumed that the entire 1.7 acres constitutes 100% "new" land coverage within the SEZs, therefore requiring a minimum 2.55 acres of existing SEZ land coverage to be restored. Since 2004, the LTBMU has decommissioned 8.24 acres of roads and trails located within Project SEZ areas, thereby meeting this Basin Plan requirement, and reducing the overall impact to sensitive soils from the proposed Project activities.

VII. GREENHOUSE GAS EMISSIONS: Would the project:

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

Wildfires produce excessive GHG emissions. The South Shore Project proposes to reduce the threat of wildfires in the South Shore region by removing excess fuels within the WUI. Ladder and ground fuels will be removed by hand and mechanical methods. While these forestry management practices could affect particulate matter (PM10) and carbon dioxide levels significantly, methane or nitrous oxide emissions may only be affected at very low levels by the open burning of slash, or at slightly higher levels by allowing the slash to decay on site. However, these effects will be far less than that produced in a catastrophic wildfire.

The emerging role of the California Environmental Quality Act (CEQA) in addressing climate change and greenhouse gas emissions has been the subject of much discussion since the passage of Assembly Bill 32 (Global Warming Solutions Act of 2006). Although the Governor's Office of Planning and Research (OPR) drafted CEQA guidelines for the mitigation of greenhouse gas emissions of the effects of greenhouse emissions, they have not yet transpired into a final rulemaking. None-the-less, an assessment of GHG and climate change is included in the body of the FEIS (pp. 3-37, 3-152, and 3-320 through 3-324). The LTBMU has included this information in order to provide the public and decision-makers as much information as possible about the Project. However, GHG is unique compared to most other potential environmental impacts, or impacts that have the potential to accumulate, which have a defined geographic assessment area which could serve as the area of focus for analysis. With GHG, the "relevant" area for assessment is earth's entire atmosphere, since the gases mix and circulate worldwide. 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.

Mitigation Measures for VII.a):

The LTBMU will coordinate with the state and local air quality agencies to schedule prescribed burn activities to comply with air quality standards and restrictions (per FEIS RPM No. AQ-1 and WDR BMP No. 63) and implement a Fire Prescription Plan (WDR "Reports Required," Section D.1, p. 20) which will ensure Project-related prescribed fires, including the burning of piles, are kept under control and emissions are reduced:

- WDR BMP No. 25: The LTBMU shall develop and submit a Fire Prescription Plan, as specified in the WDR Section B.9, to Water Board staff for review and acceptance prior to any Project-related burning activity, per BMP No.4. The Fire Prescription Plan shall include resource protection prescriptions (such as fire control [holding] resources, smoke mitigations, avoidance areas, and other resources protection measures/BMPs which apply to prescribed burning under BMPs No. 26 through 31, and 63), The Fire Prescription Plan shall therefore incorporate adaptive management strategies plus additional BMPs and Resource Protection Measures included in the LTBMU's Project-specific Thinning Contract, Burn Plan, and Smoke Management Plan. Prescribed fire prescriptions shall be designed to ensure that fire intensity and duration do not result in severely burned soils and protect water, soil, and other resources. The BMPs and Resource Protection Measures specified in the accepted Fire Prescription Plan shall be adhered to throughout Project operations.

- WDR BMP No. 63: Scheduling of prescribed burn activities shall comply with air quality standards and restrictions, and the LTBMU shall acquire the relevant permits from California Air Resources Board (CARB)/EDAQMD for prescribed burning and smoke mitigations (e.g., Smoke Management Plan). The Smoke Management Plan shall follow the guidance and direction in the following documents to protect air quality:
    - Interim Air Quality Policy on Wildland and Prescribed Fires, issued by the Environmental Protection Agency in 1998;
    - Memorandum of Understanding between the (CARB) and the USDA Forest Service, signed on July 13, 1999; and
    - Smoke Management Guidelines in Title 17 of the Code of Federal Regulations.

Fugitive dust from thinning operations, construction, and use of unpaved roads will be mitigated using the following specified dust abatement methods:

- WDR BMP No. 34: Dust control, including the use of chips and slash, shall be used throughout the Project to prevent transport of fine sediment to waterbodies or to human receptors, such as open recreational areas, residences, etc. Roads and landings shall be watered for dust abatement at least as often as needed to keep dust down. Water used for dust abatement shall come from South Tahoe Public Utility Department hydrants. Water shall not be applied in excess so as to cause erosion into any waterbody. Commercial dust palliatives may be used, provided published materials indicate they do not have impacts on water quality. Oil-based palliatives shall therefore not be used, but certain Organic Nonpetroleum - Lignin Derivatives, Synthetic Polymer Derivatives, and enzyme-based palliatives, among others, may be used. Material Safety Data Sheets (MSDSs) and publications such as the U.S. Forest Service's "Dust Palliative Selection and Application Guide" (Publication Number 9977-1207-SDTDC, 1999) shall be used to make the selection. The MSDSs for dust palliatives used during Project activities shall be included in the approved Project Erosion Control Plan (ECP) (see BMP No. 90). All environmental impacts and the product-specific BMPs for handling, storage, and use of the selected dust palliative(s) shall be reiterated under its own heading in the ECP. Since some dust palliatives which do not impact water quality may still have adverse effects on aquatic life, at a minimum, dust palliatives shall not be used within 50 feet of a waterbody, or 75 feet where the road gradient towards the waterbody exceeds 30%.

- WDR BMP No. 36: Where a native surface road meets a paved road, the road intersection shall be covered with no less than a four-inch lift of three-inch plus competent angular rock, for a distance of at least 25 feet, to prevent tracking of mud onto the paved road. This coverage shall be maintained in operable condition throughout use. The paved roads shall be swept clean whenever dirt tracking does occur. Where vehicles continue to track soils onto the paved road, additional measures, such as rumble strips or tire wash-offs shall be installed. Encroachment permits would be obtained to access City of South Lake Tahoe streets and/or El Dorado County roads from Forest Service lands. On site meetings with City or County engineering department staffs shall determine the extent and type of stabilization to utilize at each intersection. Soil type, grade, and alignment shall determine the extent of the stabilization above minimum requirements.

- WDR BMP No. 42: (During wet conditions or outside of normal operating period): Where a native surface road meets a paved road, the road intersection shall be covered with no less than a four-inch lift of three-inch plus competent rock, for a distance of at least 25 feet, to prevent tracking of mud onto the paved road. This coverage shall be maintained in operable condition throughout use. The paved roads shall be swept clean whenever dirt tracking onto a snowless road does occur. Where vehicles continue to track soils onto the paved road, additional measures, such as rumble strips or tire wash-offs shall be installed. If this native surface road is only to be used outside of normal operating periods or during wet conditions and the preceding coverage has not been provided, adequate snow cover or frozen soil conditions, as defined in WDR BMPs No. 22a and 22b, must be maintained throughout use. Rough organic material (e.g., chip) may be used where roads are packed with at least six inches of snow and additional traction is required. Encroachment permits shall be obtained to access City of South Lake Tahoe streets and/or El Dorado County roads from Forest Service lands. On site meetings with City or County Engineering staffs engineers shall determine the extent and type of stabilization to utilize at each intersection. Soil type, grade, and alignment shall determine the extent of the stabilization past above minimum requirements.

VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:

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

Mitigation Measures for VIII.a) through VIII.c) and VIII.e) through Viii.h):

The purpose of the Project is to protect community from wildfire. Minor hazardous materials are used for equipment maintenance and re-fueling that would not create a significant threat to people or the environment. The Project includes the following materials handling requirements to ensure safe storage, transport, and use of hazardous materials:

- WDR BMP No. 1: All equipment used shall be monitored daily for leaks, and immediately repaired and/or removed from service if necessary to protect water quality. All hazardous material spills, whether from equipment, fueling activities, or other materials handling and storage, shall be immediately contained and spilled materials and/or contaminated soils must be disposed of in a legal and responsible manner. An emergency spill kit adequate to contain spills that could result from hazardous materials or equipment on-site shall be at the project site at all times.
- WDR BMP No. 49: Landings, fuel storage, and refueling shall be prohibited in SEZs.
- WDR BMP No. 50: Landings, fuel storage, and refueling areas shall be located outside Resource Conservation Areas (RCAs) unless a specific site plan detailing reasoning for the proposed in-lieu practice and adequate additional mitigation measures is submitted to Water Board staff for review and acceptance prior to implementation (per WDR BMPs No. 3 and 4).
- WDR BMP No. 2: Uncured concrete materials shall be stored in a weatherproof area, away from SEZs and waterbodies. Concrete mixing shall only occur within a self-contained and removable, impenetrable container that provides protection from accidental runoff. Concrete mixers or sweepings shall not be washed out within 50 feet of storm drains, open ditches, streets, SEZs, or waterbodies; concrete washings and wastes shall be stored in an impenetrable container for later disposal and concrete wastes shall be cleaned up and disposed of properly.
- WDR BMP No. 76: Live true fir and pine tree cut stumps 14 inches diameter and greater shall be treated with an EPA registered borate compound (Sporax), which is registered in California for the prevention of annosus root disease.
    - Sporax shall be applied to conifer stumps within 24 hours of creation.
    - Sporax shall not be applied within 25 feet of standing or running water.
    - Sporax shall not be applied in flag and avoid areas to protect threatened, endangered or sensitive plants.
    - Sporax shall not be applied during precipitation events

WDR BMP No. 77: Invasive and/or noxious weed infestations identified within the Project area (including travel routes and staging or landing areas) shall be immediately treated by methods accepted for use by the LTBMU's Noxious Weed Coordinator, or flagged for avoidance before Project implementation within any given unit. Invasive and noxious weed species known to occur within the Project area are listed in FEIS Table 3-98. The FEIS did not identify specific eradication methods; if chemical means of eradication are chosen, the LTBMU's Noxious Weed Coordinator shall develop and submit a Noxious Weed Plan, which shall include and follow the MSDSs specific to the applicable pesticide, to Water Board staff for review and acceptance prior to using any pesticides to control or eradicate invasive or noxious weeds, per WDR BMP No.4 and WDR Section B.10.

Discussion for VIII.d):

There are no treatments at Meyers Landfill site, which is the only location which would fit this category within the Project area.

IX. HYDROLOGY AND WATER QUALITY: Would the project:

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

Mitigation Measures for IX.a), IXc), and IX.f):

The Water Board considers the WDR necessary to adequately address potential and planned impacts to waters of the State from this project, to require mitigation for these impacts to comply with the water quality standards specified in the Water Quality Control Plan for the Lahontan Region (Basin Plan). The WDR therefore incorporate WDR Attachment F, Best Management Practices and Mitigation Measures, which contain the necessary measures to meet this requirement (see WDR BMPs No. 1 through 58).Water quality standards and control measures

for surface and ground waters of the Lahontan Region are contained in the Basin Plan, which became effective on March 31, 1995. The Basin Plan designates beneficial uses for water bodies and establishes water quality objectives (WQOs), waste discharge prohibitions, and other implementation measures to protect those beneficial uses. In 2011, the Basin Plan was amended to incorporate the Lake Tahoe Total Maximum Daily Load, including requirements for forest management agencies. The WDR Attachment B contains excerpts from the Basin Plan on the beneficial uses, WQOs, prohibitions, and TMDL requirements applicable to this Project (see WDR Attachment B). The WDR implements the Basin Plan by specifying orders the LTBMU must comply with **Mitigation Measures for IX.d) and IX.h):**

- WDR BMP No. 20: Directional falling shall be used to keep felled trees out of Class I, II, or III watercourses unless the channel reach is identified as deficient in LWD. Taylor Creek is the only watercourse identified in the FEIS as being below desired LWD levels; therefore, within LWD-deficient section(s) of Taylor Creek, the LTBMU's Fisheries Biologist shall select trees greater than 12-inch DBH, while adhering to WDR BMPs No. 3 and 18, to be felled directionally into the channel. The LTBMU's Fisheries Biologist shall submit additional details and adequate justification to Water Board staff for review and acceptance per WDR BMPs No. 3 and 4, prior to felling trees into any other watercourse within the units listed under Resource Protection Measure AR-3 in the FEIS.

- WDR BMP No. 24 (in part): Over-snow watercourse crossings may be constructed as long as they are designed to pass all flows during rain on snow events, snow melt, or other unexpected flow event equal to or greater than a 20-year, one-hour storm event, without the risk of diversion or obstruction of the natural flow of water within the channel, and removed at the conclusion of operations. Removal of such watercourse crossings shall be done without obstructing flows, impairing water quality, or disturbing watercourse bed or banks, per WDR BMPs No. 54d through f, and 55.

- WDR BMP No. 46: Before over-the-snow operations begin, existing culvert locations, and nearby waterbodies, SEZs, and riparian areas shall be clearly marked such that markings shall be visible in deep snowpack. During and after operations, all culverts and ditches shall be open and functional.

- WDR BMP No. 54 (in part): Temporary crossings on Class II and III (intermittent and ephemeral) watercourses shall be constructed as follows:
    - Temporary crossings shall be "modified Spittlers," And installed such that water flow is not obstructed. The incorporated culvert shall be sized to pass a 20-year, one-hour storm event, so that these crossings do not need to be removed prior to a storm event. Upon consultation with Water Board staff, "Humboldt" crossings may be used, but must be removed, and the associated soils stabilized, prior to any one-inch storm event forecast by the NWS.
    - Temporary over-snow crossings shall be constructed and removed according to WDR BMP No. 24.
    - All temporary crossings, with the exception of over-snow crossings, shall be properly removed, with the channel bed and banks stabilized, prior to October 15th, per WDR BMP No. 55.
    - The FEIS identifies one temporary road crossing, located on the Saxon Creek intermittent channel, which will overwinter. This crossing may be required during winter operations and constructing and removing it numerous times during the fall, winter, and spring would create unnecessary sedimentation. The LTBMU shall submit additional details and adequate justification to Water Board staff for review and acceptance per WDR BMP No. 4, prior to leaving any other crossing in place overwinter. Crossings on temporary roads, which remain in place outside of the normal operating period, shall be constructed such that they can pass the 100-year flood flow and associated debris.

- WDR BMP No. 55: All crossings on all waterbodies shall be protected from side-sloughing of native-surfaced roads by placing coir logs, straw bales, or the equivalent along the edges of the crossing above the creek. Any accumulated or sloughed-in soils in the channel following removal of a temporary crossing shall be removed and stabilized in an upland location, and the stream bed and banks shall be restored to their original configuration. Disturbed soils shall be stabilized per WDR BMP No. 21b.

- WDR BMP No. 57: The permanent watercourse crossing on Forest Service system road 12N01A over an intermittent tributary to Saxon Creek shall be replaced and improved in the fall, when the channel is dry and the meadow is drier than at other times of the year. Diversion and Dewatering Plans shall be implemented per WDR BMP No. 54c. Possible designs to be evaluated for reducing installation disturbance to the floodplain include: 1) a series of pre-fabricated bridge segments with gabion basket supports filled with small boulders permeable to water flow, and 2) a series of multiple arched culverts surrounded by the gabion baskets, with the center culvert large enough to pass the bankfull water volume. The FEIS identifies the latter of these options as the proposed design, but leaves the options open. The final design shall be provided to Water Board staff per WDR BMP No. 4 at least 30 days prior to site activities for acceptance and any other design used shall be at least as protective of beneficial uses and soil and water resources as these two potential designs. Excavation in the floodplain (within the existing road prism) would be required to remove the existing fill and connect the foundation of the road with the crossing to support equipment and hauling trucks. Excavated fill shall be removed to an upland location and stabilized, and all other waste materials from the existing crossing shall be properly disposed of off-site. The removed fill would be replaced with clean granular rock to support the weight of the crossing and the intended use. Any other areas disturbed by the excavation or filling for road crossing replacement shall be covered with chips per WDR BMP No. 21b, except on the approaches and crossing itself. These areas shall be covered with clean, three-inch plus competent angular rock, with no less than eight-inch lift at any spot at any time, to provide stability. In addition, drainage features shall be constructed such that discharge from the approaches or crossing shall infiltrate immediately into soils without reaching a waterbody (per WDR BMP No. 37d). In the event this road drainage cannot be discharged away from the watercourse, the entire length of incised road shall be rocked with a minimum eight inch lift of three inch plus competent angular rock with the minimum binder necessary to provide a stable road surface. Photo-point monitoring, using MRP Attachment G, shall occur at this location during installation and removal.

- WDR BMP No. 58: A crushed culvert on Forest Service system road 12N20 in the Osgood Swamp watershed shall be removed, and the crossing over the spring-fed Class I watercourse shall be improved. An objective for this crossing is the maintenance of a natural stream bed, with possible designs including a bottomless arched culvert, a prefabricated steel span, or a prefabricated concrete "box" culvert with the underside buried under the natural stream bed. The final design shall be provided to Water Board staff at least 30 days prior to site activities for approval, any other design used shall be at least as protective of beneficial uses and soil and water resources as these three potential designs. Because this channel is spring fed, it flows perennially. The flow therefore shall be diverted around the site during culvert replacement. Diversion and Dewatering Plans shall be implemented per WDR BMP No. 54c. The LTBMU shall contact Water Board staff at least 48 hours prior to initiating the Diversion and Dewatering plan to allow Water Board staff an opportunity to be present when the diversion is started. The LTBMU is not required or expected to delay project implementation to accommodate Water Board staff availability to inspect project initiation activities. Once the construction area is free of standing water, the unsuitable materials (i.e., organic soil) shall be removed to an upland location and stabilized, and the existing pipes shall be properly disposed of off-site. The new crossing shall be installed with its footings extending below the existing channel to allow for a natural material bed. Finally,

fill consisting of clean cobble, gravel, or sand shall be placed around and over the new culvert to connect the existing road surface elevation with the culvert crossing. Road drainage shall be provided as described in WDR BMP No. 57. Prior to allowing the channel flow back into the downstream reach after crossing installation, re-introduced water would be retained behind the lower coffer dam and pumped to upland areas until turbidity levels are less than 3 NTU at the downstream end. If a turbidity level of less than 3 NTU cannot be reached after three days of pumping, pumping and infiltration will continue until decreases in turbidity greater than 25% of the previous measured turbidity are no longer being achieved and turbidity is less than or equal to 20 NTUs prior to releasing flows into the existing channel. The LTBMU will contact Water Board staff to inform them of: 1) the turbidity level in the new channel; and 2) how long it is anticipated treatment shall occur, should this final step be necessary. Monitoring shall include photo-points, using MRP Attachment G, at this crossing during installation and removal, as well as the data collected to achieve the 3 NTU standard.

- To mitigate for new disturbance or land coverage within SEZs largely attributable to roads and trails for this project, the LTBMU must restore a minimum of 2.55 acres of existing disturbance or land coverage within SEZs. The 2.55 acre restoration requirement is a calculation of 1.7 acres (from WDR Attachment E Table E6) of new disturbance or land coverage in SEZs multiplied by 1.5. This calculation conservatively assumes that the 1.7 acres of new disturbance or land coverage does not have any existing disturbance or land coverage. Within three years of project commencement involving ground disturbance, the LTBMU must submit documentation from the Tahoe Regional Planning Agency that verifies the LTBMU has restored a minimum 2.55 acres of SEZ disturbance or land coverage.

- To meet the TMDL requirements specified in section 3 of WDR Attachment B, the LTBMU must comply with this WDR, including WDR Attachments B, C, F, I.

X. LAND USE AND PLANNING: Would the project:

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

The Project is consistent with applicable laws, regulation, and policy (FEIS Chapter 1). The LTBMU proposes to reduce the risk of high intensity wildfire on National Forest System lands in the wildland urban interface (WUI) in order to
provide a defense zone between the Forest and urban and/or suburban development. The Healthy Forest Restoration Act of 2003 (HFRA) authorizes projects on federal lands to reduce fuel loads and increase or maintain healthy forest conditions. It provides a foundation to work collaboratively with at-risk communities to reduce wildfire hazards caused by fuel loads within the wildland urban intermix (WUI) that exceed desired conditions as defined by the Forest Plan (HFRA Sec.102 (b)). The Act requires federal agencies to consider recommendations made by at-risk communities that have developed community wildfire protection plans (HFRA Sec. 101 (3)). An updated list of urban wildland interface communities within the vicinity of federal lands that are at high risk from wildfire was published in the Federal Register on August 17, 2001. The community of South Lake Tahoe is listed in the Federal Register as a community at-risk. The South Lake Tahoe Fire Department, Lake Valley Fire Protection District, Tahoe Douglas Fire Protection District, and Fallen Leaf Fire Department have developed community wildfire protection plans (CWPPs). Coordination with these agencies in the development and use of their CWPPs is an important part of the HFRA analysis for this project. The community fire safe council worked with corresponding fire departments and fire protection district personnel to design these CWPPs for effective vegetation and fuels treatments and defensible space across all land ownerships, including National Forest System lands.

The LTBMU collaborated with the local fire districts and fire safe councils to design fuel reduction activities that are consistent with the CWPPs and provide the defensible space identified in the CWPPs where it occurs on National Forest System lands.

The LTBMU conducted surveys in wildlife analysis areas following the USFS Region 5 Protocols in Proposed Activity Centers and Habitat Conservation Areas.

XI. MINERAL RESOURCES: Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☑
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☑

There are no known mineral resources or locally-important mineral resource recovery sites within the Project area.

XII. NOISE: Would the project result in:

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

The Project would cause minor short term and temporary noise impacts from chainsaw and equipment usage near neighborhoods. To ensure the project activities, such as chainsaws, masticators, backhoes, wood chippers, and other mechanized machinery, do not create a significant noise effect, the LTBMU will adhere to the standards set forth in the Tahoe Regional Planning Agency (TRPA) Code of Ordinances regarding community noise equivalent levels. To protect its workers from potential adverse noise impacts, the LTBMU will follow the noise standards sets forth in the federal occupational health standards which are at least as stringent as those prescribed in California Code of Regulations, Title 8, Subchapter 7, Group 15 Occupational Noise.

XIII. POPULATION AND HOUSING: Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☑
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑

The Project does not incorporate plans which would influence population growth, housing, businesses, or infrastructure.

XIV. PUBLIC SERVICES:

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:				
a) Fire protection?	☐	☐	☐	☑
b) Police protection?	☐	☐	☐	☑
c) Schools?	☐	☐	☐	☑
d) Parks?	☐	☐	☐	☑
e) Other public facilities?	☐	☐	☐	☑

The Project does not include provisions for new or physically altered governmental facilities.

XV. RECREATION:

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

The Project area does not include activities within existing neighborhood or regional parks. Forest recreational users could be displaced from sites where Project activities are taking place for short periods of time, generally not lasting more than a few weeks. Some use of these active sites would be irretrievably lost. As the operations moved to new locations, both people and wildlife would return to use the site. Taken in context of the whole Project area and duration of the Project this irretrievable commitment would be so small as to be insignificant. The sites of active treatment would be small compared to the entire analysis area which includes the areas proposed for treatment and area that is not proposed for treatment. Recreational users would have innumerable options to use other nearby inactive portions of the forest.

- WDR BMP No. 83: The extent and duration of temporary forest closures associated with mechanical treatments shall be minimized by restricting the size of active treatment units, and completing operations within each unit in a safe and timely manner. The LTBMU shall provide signage during area closures informing the public of the reasons for the closure and alternative options for recreation access during the closure. Based on consultation with the Discharger's Federal Forestry Professional and Recreation Officer, the Forest Supervisor shall authorize plans for temporary closures and activities from the Project to coincide with low visitor times to ensure the safest conditions for the Discharger's workers and the general public.

- WDR BMP No. 84: The LTBMU Forest Supervisor shall authorize the scheduling of mechanical treatments where practical to avoid peak visitor use recreation times (July 1 – Labor Day) in and adjacent to the following developed recreation areas: Camp Richardson Resort, Camp Richardson Corral, Fallen Leaf Campground, Baldwin Beach, Tallac Historic Estates, and recreation residence tracts. To determine the practicality of avoiding the peak visitor use times for the planned activity from the project, an LTBMU Federal Forestry Professional will consult with an LTBMU Recreation Officer to plan the optimal mechanical treatment during low visitor times, which are typically in late Fall.

- WDR BMP No. 85: The LTBMU shall provide information to the public through the LTBMU visitor services regarding current and planned temporary forest closures associated with treatment units.

XVI. TRANSPORTATION/TRAFFIC: Would the project:

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

The transportation system plays a critical role in supporting Project activities through providing access to, from, and within treatment units. In addition the road system also provides access to the public and for forest administration beyond this Project. The Project will not impact air traffic patterns.

The transportation system includes FS System roads, temporary roads and landings, plus existing state, county and city roads and streets. The analysis in FEIS covers the transportation system as means to access the area. The impacts of roads, road maintenance, and road construction are covered in detail in each of the appropriate resource sections in the FEIS (Soils, Water and Riparian, Aquatic Wildlife, Terrestrial Wildlife, Recreation).

The California Department of Transportation (CalTrans) manages and maintains the state highway system that provides access into and out of the project area. This system of highways provides a high degree of user comfort and mobility. Speed is controlled by speed limits and traffic congestion, vertical and horizontal alignments are seldom a factor in determining vehicle speeds. All of the state routes into the project area are double-lane paved roads.

El Dorado County manages and maintains a system of urban and rural roads within the project area. This system of roads provides access to homes, businesses and recreation sites from the State highway system. These roads provide an adequate degree of user comfort and mobility. Speed is usually determined by local speed limits and occasionally by traffic congestion. There are several county roads within the project area where speeds are controlled by horizontal and

vertical alignment as well as road width. The preponderance of the county transportation system consists of double-lane paved roads.
The City of South Lake Tahoe manages and maintains a system of streets linking homes and businesses to the state and county road network. User comfort and mobility is adequate for the intended use. Speeds are controlled by posted speed limits and prima facia speed laws. Horizontal and vertical alignments are not the limiting factor in determining speed. All city streets within the project area are paved and double-lane.

The LTBMU manages and maintains a system of permanent roads (the FS System roads) that links the forest user or administrator to the state, county and city network of roads and streets. User comfort and mobility are not the primary purpose of these roads. Speed is generally controlled by horizontal and vertical alignment as well as road width and surface type. The standard for FS System roads vary based on the purpose and need of the road.

The LTBMU would use only 3.9 miles of City of South Lake Tahoe streets out of a total of 127 miles within the project area. There would be no environmental effects because there would not be a need to improve or reconstruct any of these streets.

There are approximately 38 miles of El Dorado Count/State roads that would be utilized for both action alternatives out of a total of 121 miles in the project area. As with the City streets, there would be no environmental effects because there would not be a need to improve or reconstruct any of these roads.

There is a potential for some Forest Service roads to be expanded or improved at existing intersections with both City, County, and State roads to accommodate the equipment and vehicles that would be used for project activities. WDR BMPs and FEIS RPMs stated throughout this checklist, the FEIS/Record of Decision (ROD), and the WDR would be applied appropriate to the soil type, grade and alignment that would prevent environmental impacts.

Where native surface Forest Service roads, both permanent and temporary, used in the Project intersect any paved or chip sealed road from any jurisdiction, City and County engineers would be contacted, and the appropriate BMPs and RPMs will again be implemented that prevent the tracking of soil onto the surfaced road. Consequently there are no environmental impacts associated with road junctions.

Overall there would be no lasting effect on the State/County/City road systems. Traffic may increase temporarily on roads that access active units during different stages of the project. There is no way to estimate the exact increase since it depends on what stage of the project is being implemented. It can be anticipated that in some areas heavy equipment will move in then spend time operating in the forest.

During this time service trucks, crew transport, chip hauling trucks, etc. will be using the public road system in varying amounts. There may then be a period up to several years with little increased traffic in any given area until the follow up fuels treatments are initiated (primarily prescribed burning).

XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:

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

The Project will not produce waste or storm waters which require the use of wastewater treatment facilities. The WDR BMPs and FEIS RPMs described throughout this checklist, the FEIS/ROD, and the WDR are designed to slow and infiltrate stormwater runoff.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

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

Mitigation Measures for XVIII.a) and XVIII.c):

The LTBMU used an iterative process to schedule the Project treatment units in order to reduce potential cumulative impacts on any particular watershed and decrease the number of watersheds that exceed the threshold of concern due to fuels treatments. However, short-term impacts were expected to occur mainly from the inherent inability of the LTBMU's current BMPs and RPMs, as described in the FEIS and ROD, to effectively retain fine sediments following heavy rainstorms (greater than one inch per hour).

The WDR, Appendix F, Best Management Practices and Mitigation Measures, disclose the specific BMPs and mitigation measures, which, when implemented in conjunction with this WDR, will ensure that significant effects are avoided; where impacts cannot be avoided, these BMPs are sufficiently detailed to ensure that impacts will be fully mitigated. WDR BMP No. 3 allows the LTBMU to use discretion in the field where any part of a required BMP is not practicable or feasible due to the specified field conditions. Under this particular BMP, the LTBMU has agreed to implement BMPs and mitigation measures that provide equal or better protection to the original BMP in the WDR. Where such deviations are made, additional explanation, tracking, and reporting are required pursuant to the WDR Monitoring and Reporting Program (MRP).

The MRP, as described in the WDR Attachment C, specifies procedures for verifying that the BMPs are successful in avoiding significant impacts to soil stability, soil productivity, and riparian plant growth. Results from this monitoring will be used to either support the current BMPs, or to modify them through an adaptive management strategy to provide additional protection and mitigation measures in SEZs. The WDR also require 100 percent of the BMPs associated with all Project activities be properly implemented and are functional. The Monitoring Program allows the LTBMU to use the their Best Management Practices Evaluation Program (BMPEP) to test the effectiveness of these BMPs and identify areas which need to be strengthened, and the prescribed Forensic Monitoring outlined in the MRP to determine the source of any impact or potential impact in order to correct the problem. Additional monitoring is included in the MRP to verify the effectiveness of BMPs implemented for high-risk activities; where impacts are noted, the MRP includes an adaptive management strategy to correct the impacts and change future

BMPs for these activities. The MRP shall be used to determine if compliance with WDR has been achieved, and includes inspection checklists, specific provisions for when monitoring must occur, and follow-up procedures to ensure that actions have been documented and mitigation measures have been implemented and performed as intended.

WDR Attachment I

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

STANDARD PROVISIONS
FOR WASTE DISCHARGE REQUIREMENTS

1. Inspection and Entry

The discharger shall permit Regional Board staff:

a. to enter upon premises in which an effluent source is located or in which any required records are kept;

b. to copy any records relating to the discharge or relating to compliance with the waste discharge requirements;

c. to inspect monitoring equipment or records; and

d. to sample any discharge.

2. Reporting Requirements

a. Pursuant to California Water Code 13267(b), the discharger shall immediately notify the Regional Board by telephone whenever an adverse condition occurred as a result of this discharge; written confirmation shall follow within two weeks. An adverse condition includes, but is not limited to, spills of petroleum products or toxic chemicals, or damage to control facilities that could affect compliance.

b. Pursuant to California Water Code Section 13260 (c), any proposed material change in the character of the waste, manner or method of treatment or disposal, increase of discharge, or location of discharge, shall be reported to the Regional Board at least 120 days in advance of implementation of any such proposal. This shall include, but not be limited to, all significant soil disturbances.

c. The owner(s) of, and discharger upon, property subject to waste discharge requirements shall be considered to have a continuing responsibility for ensuring compliance with applicable waste discharge requirements in the operations or use of the owned property. Pursuant to California Water Code Section 13260(c), any change in the ownership and/or operation of property subject to the waste discharge requirements shall be reported to the Regional

Board. Notification of applicable waste discharge requirements shall be furnished in writing to the new owners and/or operators and a copy of such notification shall be sent to the Regional Board.

d. If a discharger becomes aware that any information submitted to the Regional Board is incorrect, the discharger shall immediately notify the Regional Board, in writing, and correct that information.

e. Reports required by the waste discharge requirements, and other information requested by the Regional Board, must be signed by a duly authorized representative of the discharger. Under Section 13268 of the California Water Code, any person failing or refusing to furnish technical or monitoring reports, or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars ($1000) for each day of violation.

f. If the discharger becomes aware that their waste discharge requirements are no longer needed (because the project will not be built or the discharge will cease) the discharger shall notify the Regional Board in writing and request that their waste discharge requirements be rescinded.

3. Right to Revise Waste Discharge Requirements

The Board reserves the privilege of changing all or any portion of the waste discharge requirements upon legal notice to and after opportunity to be heard is given to all concerned parties.

4. Duty to Comply

Failure to comply with the waste discharge requirements may constitute a violation of the California Water Code and is grounds for enforcement action or for permit termination, revocation and reissuance, or modification.

5. Duty to Mitigate

The discharger shall take all reasonable steps to minimize or prevent any discharge in violation of the waste discharge requirements which has a reasonable likelihood of adversely affecting human health or the environment.

6. Proper Operation and Maintenance

The discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the discharger to achieve compliance with the waste discharge requirements. Proper operation and maintenance includes adequate laboratory

control, where appropriate, and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by the discharger, when necessary to achieve compliance with the conditions of the waste discharge requirements.

7. Waste Discharge Requirement Actions

The waste discharge requirements may be modified, revoked and reissued, or terminated for cause. The filing of a request by the discharger for waste discharge requirement modification, revocation and reissuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any of the waste discharge requirements conditions.

8. Property Rights

The waste discharge requirements do not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

9. Enforcement

The California Water Code provides for civil liability and criminal penalties for violations or threatened violations of the waste discharge requirements including imposition of civil liability or referral to the Attorney General.

10. Availability

A copy of the waste discharge requirements shall kept and maintained by the discharger and be available at all times to operating personnel.

11. Severability

Provisions of the waste discharge requirements are severable. If any provision of the requirements is found invalid, the remainder of the requirements shall not be affected.

12. Public Access

General public access shall be effectively excluded from treatment and disposal facilities.

13. Transfers

Providing there is no material change in the operation of the facility, this Order may

be transferred to a new owner or operation. The owner/operator must request the transfer in writing and receive written approval from the Regional Board Executive Officer.

14. Definitions

a. "Surface waters" as used in this Order, include, but are not limited to, live streams, either perennial or ephemeral, which flow in natural or artificial water courses and natural lakes and artificial impoundments of waters. "Surface waters" does not include artificial water courses or impoundments used exclusively for wastewater disposal.

b. "Ground waters" as used in this Order, include, but are not limited to, all subsurface waters being above atmospheric pressure and the capillary fringe of these waters.

15. Storm Protection

All facilities used for collection, transport, treatment, storage, or disposal of waste shall be adequately protected against overflow, washout, inundation, structural damage or a significant reduction in efficiency resulting from a storm or flood having a recurrence interval of once in 100 years.

Attachment J

California Regional Water Quality Control Board
Lahontan Region

Forestry Activities Exempt from Requiring Basin Plan Discharge Prohibition Exemptions Under the 2009 Timber Waiver

South Shore Project Waste Discharge Requirements

To protect beneficial uses and achieve water quality objectives, the Basin Plan contains prohibitions against waste discharges to lands within 100-year floodplains and "permanent disturbance" in Stream Environment Zones (SEZs) in the Lake Tahoe Hydrologic Unit (see Attachment B). These prohibitions may apply to certain timber harvest and vegetation management activities conducted in these areas.

On May 14, 2009, the California Regional Water Quality Control Board, Lahontan Region (Water Board) adopted Board Order No. R6T-2009-0029, which waives waste discharge requirements for discharges resulting from timber harvest and vegetation management activities in the Lahontan Region (2009 Timber Waiver). Below is an abbreviation of Table N1 from Attachment N of the 2009 Timber Waiver (Table N1), and is provided here for informational purposes only, to describe the timber harvest management activities within SEZs and 100-year floodplains in the Lake Tahoe Hydrologic Unit (HU) which do not violate Discharge Prohibitions. See the 2009 Timber Waiver at: http://www.waterboards.ca.gov/lahontan/water_issues/programs/waste_discharge_requirements/timber_harvest/timberwaiver.shtml for the specific conditions and criteria listed below.

Timber harvest and vegetation management activities listed in Table N1, when conducted in compliance with the Timber Waiver and the conditions specified in Table N1, do not result in discharges in conflict with the Basin Plan waste discharge prohibitions and do not require a prohibition exemption.

Timber Harvest and Vegetation Management Activities within SEZs and 100-year Floodplains in the Lake Tahoe Hydrologic Unit (HU) Which Do Not Violate Waste Discharge Prohibitions

Activity	100-year Floodplains	Stream Environment Zones
Hand crew operations (except for pile burning)	Prohibited discharges to 100-year floodplains or permanent disturbance in SEZs do not occur if activities meet the eligibility criteria and comply with the conditions of the 2009 Timber Waiver Category 2.	

Activity	100-year Floodplains	Stream Environment Zones
Over-snow equipment operation (no placement of slash within SEZs or 100 year floodplains)	Prohibited discharges to 100-year floodplains or permanent disturbance in SEZs do not occur if activities meet the eligibility criteria and comply with the conditions of the 2009 Timber Waiver Category 1, 4, 5, or 6.	
Operations on existing roads	Prohibited discharges to 100-year floodplains or permanent disturbance in SEZs do not occur if activities meet the eligibility criteria and comply with the conditions of the applicable 2009 Timber Waiver Category.	
Broadcast Burning	Prohibited discharges to 100-year floodplains or permanent disturbance in SEZs do not occur if activities meet the eligibility criteria and comply with the conditions of the applicable 2009 Timber Waiver Category.	
Operation of cut-to-length equipment with less than 13 psi ground pressure on granitic soils off existing roads in SEZs and 100-year floodplains	Prohibited discharges to 100-year floodplains do not occur if activities meet all the following conditions: a. Equilibrated groundwater levels are at least two feet below the soil surface. b. Soils are dry (as defined in Attachment A) to a depth between 2 and 10 inches. c. Slash mats are employed or sufficient ground cover exists to prevent discharge of earthen materials to surface waters. d. Eligibility criteria and conditions of the applicable 2009 Timber Waiver Category are met.	Permanent disturbance in SEZs does not occur if activities meet all the following conditions: a. Equilibrated groundwater levels are at least 2 feet below the soil surface. b. Soils are dry (as defined in Attachment A) to a depth between 2 and 10 inches. c. Slash mats are employed or sufficient ground cover exists to prevent discharge of earthen materials to surface waters. d. Eligibility criteria and conditions of the applicable 2009 Timber Waiver Category are met.
Construction and removal of temporary watercourse crossings	Prohibited discharges to 100-year floodplains do not occur if activities meet all the following conditions: a. Temporary stream crossings are constructed with clean cobbles or logs. If sand or soil is used as running surface, BMPs must be in place (e.g. filter cloth, brow logs) to prevent discharge of earthen materials to surface waters. b. Stream crossings are completely removed at the end of operations, or prior to the winter period (as defined in Attachment A), whichever is sooner. c. Eligibility criteria and conditions of the applicable 2009 Timber Waiver Category are met.	Permanent disturbance in SEZs does not occur if activities meet Basin Plan Section 5.13 criteria: "Crossing of perennial streams or other wet areas shall be limited to improved crossings in accordance with the [TRPA] BMP handbook or to temporary bridge spans that can be removed upon project completion or the end of the work season, whichever is sooner, and damage to SEZ associated with a temporary crossing shall be restored within one year of removal."
Placement of chips or masticated material	Prohibited discharges to 100-year floodplains do not occur if activities meet a. or b., and c. below: a. Chips or masticated material is incorporated into the soil, or b. Chips or masticated material do not exceed an average of two	Placement of chips or masticated material does not result in "permanent soil disturbance" in SEZs if: a. Chips or masticated material is incorporated into the soil, or b. Chips or masticated material do

Activity	100-year Floodplains	Stream Environment Zones
	inches in depth, with a maximum of four inches, and c. Eligibility criteria and conditions of the applicable 2009 Timber Waiver Category are met.	not exceed an average of two inches in depth, with a maximum of four inches, and c. Eligibility criteria and conditions of the applicable 2009 Timber Waiver Category are met.
Repair or replacement of permanent crossings for existing roads, when new crossing is same size as existing.	Prohibited discharges to 100-year floodplains do not occur if activities do not involve the loss of additional floodplain area or volume (Basin Plan Sections 4.1 and 5.2).	New permanent SEZ disturbance is not attributable to maintenance, repair, or replacement of an existing structure that does not result in greater land coverage (Basin Plan 5.2).

Notes:

1. For equipment use on steep slopes in the Lake Tahoe HU, refer to the Basin Plan or the TRPA code of ordinances for prohibitions and exemption criteria.
2. Water Board will consider new information to update this list.