

TRANSPORTATION SYSTEM MANAGEMENT PLAN

BIG CREEK HYDROELECTRIC SYSTEM

**MAMMOTH POOL
BIG CREEK Nos. 1 AND 2
BIG CREEK Nos. 2A, 8, AND EASTWOOD
BIG CREEK No. 3**

FERC Project Nos. 2085, 2175, 67, and 120

FEBRUARY 2007

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1.0 OBJECTIVE

This Transportation System Management Plan (Plan) has been developed for Southern California Edison's (SCE) Projects included in the Big Creek Alternative Licensing Process (ALP), located in the Upper San Joaquin River Watershed. The Big Creek ALP is comprised of four FERC licenses (Projects): Mammoth Pool (FERC No. 2085), Big Creek Nos. 1 and 2 (FERC No. 2175), Big Creek Nos. 2A, 8, and Eastwood (FERC No. 67), and Big Creek No. 3 (FERC No. 120). These Projects consist of seven powerhouses and four major reservoirs with a combined dependable operating capacity of approximately 890 megawatts (MW).

The objective of the Plan is to address transportation system management issues in a comprehensive manner and to put all requirements for the above licenses in one plan that would cover Big Creek Hydro System Operations. The Plan will describe the transportation system used by SCE to access the ALP Project facilities. The Plan will address road and trail issues related to access, maintenance activities, rehabilitation needs, road use and traffic control measures. The Plan will describe measures that SCE will implement to repair, minimize, or eliminate impacts associated with the maintenance and operation of SCE's Big Creek ALP Hydroelectric Projects.

This Plan only addresses Project Roads and Trails: (1) located within FERC Project boundaries; (2) used by SCE for the operation and maintenance of the Project; and (3) closed to public motor vehicle use. Table 1 provides a list of Project roads and trails that are addressed by this Plan. SCE's use of Sierra National Forest (SNF) open access public roads (non-Project roads) is not addressed in this Plan. SCE's use of SNF public access roads will be addressed through a separate SNF Road Use Permit (RUP) in a manner consistent with other commercial uses of SNF roads. Minor changes in Project Boundaries may be required to ensure consistency with SCE's operations and maintenance use patterns.

2.0 DESCRIPTION OF PROJECT ACCESS TRANSPORTATION SYSTEM

The transportation system in the Project vicinity includes one state route, county roads, open access roads on public lands, closed access roads on public lands, closed access roads on private lands, and foot trails. State route (SR) 168 is a two-lane highway that serves as a main access route into the Big Creek and Kaiser Basins from the Fresno metropolitan area. State route 168 provides access to the community of Shaver Lake and ends near the community of Lakeshore along the northeast shore of Huntington Lake. County roads in the Big Creek Basin considered primary access roads include: (1) Jose Basin Road (M2441 in Fresno County) and Italian Bar Road (M2080 in Fresno County and road 225 in Madera County) that provide access to the Big Creek No. 3 Project facilities; (2) Huntington Lake Road (FRE 2710 in Fresno County) that provides access from Shaver Lake to the community of Big Creek and continues to Huntington Lake; and (3) Huntington Lodge Road (FRE 3380) provides access to Dams 1 and 2 and other Project facilities south of Huntington Lake. Other access roads on public

lands in the basin are United States Forest Service (USDA-FS) roads. Principal USDA-FS access roads are: (1) Kaiser Pass Road (NFSR 5S80) that provides access from Huntington Lake over Kaiser Pass into the upper basin area and ends near Thomas A. Edison Lake; (2) Florence Lake Road (NFSR 7S01) that provides access to Florence Lake from the Kaiser Pass Road; (3) Railroad Grade Road (NFSR 8S08) that leads from the community of Big Creek to the Jose Basin area; (4) Minarets Road (NFSR 4S81) that provides access to the Mammoth Pool Reservoir and Project facilities; (5) Mammoth Pool Road (NFSR 6S25) from Minarets Road to Mammoth Pool; and (6) Mammoth Pool Powerhouse Road (NFSR 8S03) that provides access from Minarets Road to the Mammoth Pool Powerhouse. These are routes used by SCE and by the public when traveling through or within the basin. In addition to these primary roads, there are numerous other roads throughout the Forest that are open to the public and provide access to campgrounds, Project facilities such as reservoirs, dispersed and developed recreation facilities, and areas of interest in the ALP Project vicinity.

There are several roads within the basin that are closed to public motor vehicle access and are used almost exclusively by SCE to access ALP Project facilities. The Canyon Road (NFSR 8S05) is an SCE road that originates off of Huntington Lake Road near the community of Big Creek and ends near the Big Creek No. 3 Project facilities. The segment of the Mammoth Pool Powerhouse Road (NFSR 8S03) between Mammoth Pool Powerhouse and the Canyon Road (NFSR 8S05) is also an SCE road segment that is closed to public motor vehicle access. Both roads are integral components of the SCE transportation network that provide access to SCE hydroelectric Project facilities in the Big Creek canyon and the San Joaquin River canyon. SCE also uses a number of foot trails to access Project facilities (i.e., stream gages and small diversions).

SCE will maintain roads and trails within the basin that are within license boundaries, closed to public motor vehicle use, and are used almost exclusively by SCE to access various Project facilities (Table 1). SCE will maintain roads and trails outside license boundaries where the primary purpose is to provide access for SCE to operate its facilities. These roads will be authorized by a Road Use Permit and SCE will be responsible for maintenance at a rate commensurate with SCE use. The USFS will calculate commensurate share responsibilities based on SCE access to SCE facilities. Estimates may be based on traffic surveillance, recreation use reports, or estimates derived through observation. SCE may perform maintenance of these roads and/or provide the Forest Service with deposits for maintenance activities at Forest Service discretion.

The three roads most commonly used by SCE vehicles are Huntington Lake Road (FRE 2710), Canyon Road (NFSR 8S05), and Mammoth Pool Powerhouse Road (NFSR 8S03) between Mammoth Powerhouse and Big Creek Powerhouse No. 8. The majority of SCE vehicle trips originate from SCE's Northern Hydro facilities near the town of Big Creek. From this location Huntington Lake Road and Canyon Road are main routes to reach all the Project facilities in the basin. Other commonly used roads include Kaiser Pass Rd. (NFSR 5S80), Florence Lake Rd. (NFSR 7S01), Mammoth Pool Powerhouse 8 Rd. (NFSR 8S03) from Rd. 4S81 to PH 8, Minarets Rd (4S81), and Mammoth Pool Rd. (NFSR 6S25). The majority of SCE vehicles are trucks or pick-up trucks with four-

wheel drive. To a lesser extent sport utility vehicles with four-wheel drive are also used. Other SCE vehicles which require “critical vehicle” access include dump trucks to haul gravel or soil, flatbed and lowbed trucks to haul equipment, a grader, a loader, and a crane (SCE 2004).

SCE uses this network of roads and trails to travel to their administrative offices and hydroelectric facilities to conduct routine operation and maintenance activities. However, travel in some areas of the basin is limited by restrictions imposed to reduce impacts to deer or T&E species, or by season when snowfall closes roads. For example, travel on the Mammoth Pool Road (NFSR 6S25) is restricted during deer migration season from May 1 to June 15 to reduce impacts to mule deer. Winter snowfall restricts vehicular access into the upper basin area east of Kaiser Pass and to Mammoth Pool Reservoir because the Kaiser Pass Road and Minarets Road over Mile High Vista are not normally plowed during the winter and were not designed for all weather use. These seasonal travel conditions influence SCE vehicle activity in these areas. Therefore, maintenance at facilities east of Kaiser Pass and Mammoth Pool Reservoir is concentrated during months when the roads are open, whereas maintenance at facilities that can be reached year-round tends to be distributed more evenly throughout the year.

Roads and trails associated with each of the ALP Projects are presented in Table 1. Table 1 provides information on Project Roads and Trails including: road name; Sierra National Forest (SNF) transportation inventory road number; project related road length (in miles); and road surface type. These roads and trails are depicted on Figures 1a through 1c and detailed sheets 1 through 5.

SCE and USFS will review and revise Table 1 contents as the need arises. SCE and USFS will maintain a list of additions, deletions, and corrections to Table 1. A meeting will occur once every five years to revalidate the contents of Table 1, or when either party seeks review. Changes in Table 1 will occur with SCE and SNF concurrence, and will become guidance for this Plan.

3.0 TRANSPORTATION SYSTEM MAINTENANCE ACTIVITIES

Routine road and trail maintenance activities that SCE conducts include grading or re-graveling of unpaved dirt and gravel surfaces to ensure surface drainage is functioning properly, paving or patching of existing paved roads, cleaning of culverts and ditches, vegetation trimming and clearing along roads and trails, hazard tree removal, snow removal, and sanding. These activities are conducted on an as needed basis. Table 1 provides information on the type and frequency of maintenance activities SCE conducts on roads and trails. The frequency at which maintenance activities are conducted is identified in Table 1 as (1) annual (activity typically occurs once a year), (2) regular (activity will occur one or more times during a five-year period), or (3) infrequent (activity typically will occur during a 20-year period, but less than once every five years). Vegetation control by clearing or trimming along road and trail margins may be performed using hand tools or mechanical methods, and is typically conducted on a

regular schedule (one or more times during a five-year period). Grading, drainage maintenance, and paving activities are typically conducted on an as needed basis, as outlined in Table 1. SCE also maintains signage, fencing, and gates.

At locations where trails share their alignment with a Project road, the trails will be maintained to a road use standard, which will also accommodate use of the road by hikers and pack animals.

SCE will perform, at its expense and using qualified personnel, periodic condition surveys of roads and trails to ensure that maintenance activities are being performed with adequate frequency. Condition surveys will identify necessary changes in frequency, methodology being used and deferred maintenance requirements in order to ensure minimal impacts to resources. Condition surveys will be coordinated with the USFS, and will not preclude separate condition surveys or inspections being conducted by the USFS. Initial condition surveys on all roads in Table 1 will be performed by SCE within 1 year of License and at 5 year intervals thereafter unless otherwise agreed to by USFS.

3.1 SAN JOAQUIN RIVER TRAIL MAINTENANCE

Portions of the San Joaquin River Trail share an alignment with Project roads NFSR 9S42, 8S44, and 8S44Y along a section of the trail between Italian Bar Bridge at Redinger Reservoir and Mammoth Pool Powerhouse. These roads are used by SCE to provide access to the Mammoth Pool Powerhouse Transmission Line between Big Creek Powerhouse No. 3 and Mammoth Pool Powerhouse. The public uses portions of these roads when hiking the San Joaquin River Trail. The surface of these roads is graded natural, which is a graded dirt surface suitable for vehicle, hiker, and pack animal use. The graded natural road surface provides a footing surface for pack animal use. SCE will continue to maintain the graded natural road surface on portions of the road that have a shared trail alignment, and also at those locations where the San Joaquin River Trail crosses a Project Road.

4.0 MEASURES TO MINIMIZE OR ELIMINATE POTENTIAL IMPACTS FROM ROAD MAINTENANCE ACTIVITIES

This section describes general measures that will be used, where applicable, for SCE maintained roads and trails to minimize potential impacts on the environment that may occur as the result of maintenance or improvements. These measures will incorporate applicable Best Management Practices (BMPs) for water quality management and will correspond with prescriptions identified in other Project resource management plans, as appropriate. If the need for road improvements other than routine maintenance activities occurs, then specific measures will be developed on a case-by-case basis to protect other resources that may be affected. Specific measures will depend on the site and physical conditions encountered. These measures are expected to include erosion and traffic control, cultural resource protection, and biological resource protection. In addition, these measures will incorporate, but are not limited to, applicable BMPs for

water quality management found in sections 12.2, 12.21, and 12.22 of the field *guide Water Quality Management for Forest System Lands in California*. These measures comply with federal laws including, but not limited to, the National Environmental Policy Act (NEPA), Endangered Species Act (ESA), National Historic Preservation Act (NHPA), Clean Air Act (CAA), Clean Water Act (CWA), and the National Forest Management Act (NFMA). Measures that may be implemented by SCE and coordination activities with other resource management plans are summarized in the following sections.

4.1 EROSION CONTROL

The following measures will be implemented in conjunction with road maintenance activities, where applicable. In addition, specific road maintenance direction is included in the SNF "Road Maintenance P-Specifications" in Attachment A.

4.1.1 GRADING AND CONTOURING

Grading will conform to natural ground contours, where feasible. To the extent possible, efforts will be made to retain the original drainage patterns and not create patterns that will accelerate erosion. SCE will not sidecast materials. Disposal sites for excess material will be agreed upon in advance by SCE and USFS.

4.1.2 CONSTRUCTION OF EROSION CONTROL STRUCTURES

In areas prone to significant flows and/or erosion, structures such as riprap, water bars, culverts, or small concrete retaining structures may be necessary. Where required, sedimentation basins (and/or sediment fences) may be used to control sediments where work is conducted in or adjacent to streams.

4.1.3 SLOPE STABILIZATION

Certified weed free straw and/or jute matting will be used for slope stabilization where applicable. The matting would be placed on graded slopes and used to hold the slope prior to revegetation and after revegetation until plants have been established.

4.1.4 REVEGETATION

Where applicable, revegetation may be used to control erosion and sedimentation on a long-term basis. Revegetation methods and plant palettes are site-specific and would require preparation of a revegetation plan to identify types of plants to be used and the appropriate method and time of planting. The revegetation plan would be prepared in consultation with the SNF at the time the maintenance work is performed.

4.1.5 WIND EROSION

Long-term wind erosion can be reduced through revegetation or the intermittent use of dust-palliatives if revegetation is not an option. Lath fences or earthen berms may be used to reduce wind velocities in areas prone to wind erosion.

4.2 HISTORIC PROPERTIES MANAGEMENT PLAN

SCE maintains a Historic Properties Management Plan (HPMP) in consultation with the State Historic Preservation Officer (SHPO), SNF, and local Native American representatives to address potential Project effects on cultural resources. The HPMP describes procedures for regulatory consultation and treatment for archaeological properties during routine Project maintenance and operation related activities, and measures for unforeseen circumstances requiring prompt emergency response. Project related road use is addressed in the HPMP as follows:

- The operation of SCE vehicles and the movement of SCE heavy equipment across National Register of Historic Places Archaeological properties shall be avoided unless operation and movement occurs on an existing roadway or an emergency arises (see below);
- Reasonable effort shall be made to avoid road maintenance activities that may affect archaeological properties. Signage and protection requirements are described in the HPMP;
- Archaeological properties traversed by existing roads where SCE has maintenance responsibility shall be protected, and appropriate restrictions on use or maintenance shall be applied;
- If measures to protect archaeological properties fail under normal circumstances (i.e., routine operation and maintenance), SCE, in consultation with SHPO, Commission, and the SNF (for those properties on SNF lands), shall follow the provisions of 36 CFR Part 800.4-800.6;
- Under extraordinary circumstances (i.e., unusual system outages caused by severe weather, flood, landslide, earthquake, or other natural cataclysm) where prompt restoration of electrical service is a vital necessity, reasonable effort shall be made to minimize effects on archaeological properties during emergency repair work. The provisions of 36 CFR Part 800.4-800.6 shall be followed to determine appropriate additional treatment; and
- Previously undiscovered historic properties encountered during operation and maintenance of the ALP Projects shall be treated in accordance with the HPMP in consultation with SHPO, Commission, and the SNF (for properties on SNF lands). Under circumstances where those newly discovered resources cannot be preserved partially or wholly in place, they shall be evaluated in accordance with 36 CFR Part 60; and treatment shall be determined pursuant to 36 CFR Part 800.4-800.6.

4.3 VEGETATION MANAGEMENT AND INVASIVE/NOXIOUS WEED CONTROL

Vegetation management and invasive/noxious weed control are described in the Vegetation and Noxious Weed Management Plan for the ALP Projects. This plan includes evaluation and implementation of maintenance activities related to vegetation, potential impacts, and mitigation measures, where necessary. Locations of vehicle cleaning sites are described in the Vegetation and Noxious Weed Management Plan.

4.4 ESAP PROGRAM

The Endangered Species Alert Program (ESAP) was developed to provide SCE personnel with a means for identifying the potential occurrence of legally protected plant and animal species in the SCE Service Territory. For each sensitive species within the SCE Service Territory, the ESAP Manual includes a photograph, description, natural history information, and map showing the species' distribution in relation to SCE's facilities. This manual and maps are reviewed prior to implementing any ground disturbing activities in the Project area. Should a proposed activity have a potential to conflict with a known sensitive species population, SCE Environmental Affairs staff is contacted to evaluate the situation and, if needed, coordinate the appropriate permits with the regulatory agencies. SCE's Northern Hydro Division will develop an additional section to supplement the existing ESAP Noxious Weeds and Forest Service Sensitive Species potentially occurring in the Project area.

5.0 REHABILITATION NEEDS

SCE, in consultation with the SNF, has full responsibility and will take appropriate measures to rehabilitate unsafe conditions or resource damage on Project Roads and Trails as shown in Table 1. SCE and the SNF will identify and agree upon specific road rehabilitation projects (including activity types, scheduling, and protection of other key resources) during an annual coordination meeting and document them in the Annual Plan of Operation. Gates or other vehicle control measures may be installed, where necessary, to achieve resource protection or facility security. Maintenance or construction projects on roads other than Project Roads and Trails on lands administered by USFS are generally subject to authorization through a Special Use Permit or 7700-41 Road Use Permit issued by the SNF, and have their own set of conditions and schedules covering maintenance needs.

5.1 IMMEDIATE REHABILITATION NEEDS

Four Project roads have been identified with as needing immediate rehabilitation to provide for public safety or resource protection. These are 1) 8S03 Mammoth Pool Powerhouse Road between 8S05 Canyon Road and 8S08A Access road to Powerhouse No. 8; 2) 8S05F Access road to Powerhouse No. 8 penstock from 8S05; 3) 8S05FB Access road to Powerhouse No. 8 penstock from 8S05; and 4) 8S08A Access road south from Railroad Grade to West Portal. The rehabilitation projects can be performed by SCE staff, through the use of private contractors, or by the USFS through collection agreements. SCE, or its designee, will be responsible for performing all

needed rehabilitation activities through the provision of necessary personnel, equipment, materials, and management.

Rehabilitation projects will be designed and constructed after review of USDA-FS specifications and standards applicable at the time of construction. Plans and specifications for rehabilitation projects shall be submitted to the USFS for review and approval prior to commencement of work.

5.2 FUTURE PROJECTS

During the life of the License, rehabilitation or major maintenance will be required on roads and trails as they reach their service life. SCE will, at that time, be responsible for rehabilitation and maintenance costs of Project roads and trails as condition surveys require. Projects may include but are not limited to reapplication of gravel surface, chip seals, and repaving.

SCE agrees to become a cooperator as equal (50/50) partner with USFS on future Capital Investment Projects and on Forest Service Public Roads projects that affect access to SCE facilities. Project proposals and status will be discussed at annual coordination meetings between SCE and USFS.

5.1 REHABILITATION OF UNNEEDED ROADS

There are existing roads in the project area which are no longer needed for SCE's operations and maintenance of facilities. Roads that were previously used by SCE but no longer serve their needs and are not needed by the USFS for its land management activities are candidates for decommissioning. SCE will be responsible for the decommissioning of these roads. This may be done by SCE or by the USFS through collection agreements. Roads to be decommissioned will be identified, and agreed upon, during annual coordination meetings. The USFS will be responsible for the design and strategy of decommissioning efforts. Environmental compliance and required permits will be the responsibility of SCE.

6.0 ROAD ACCESS

SCE will allow the SNF unrestricted access and use of any road constructed within the Project area for all purposes deemed necessary or desirable in connection with the protection, administration, management, and utilization of Federal lands or resources. The SNF shall have the right to extend rights and privileges for use of the right of way and road thereon to States and local subdivisions thereof, as well as to other users, including members of the public. The Forest shall control such use so as not to unreasonably interfere with use of the road by the Licensee. Unless approved separately in a plan for a particular project, SCE shall drive or park all Project vehicles, including but not limited to administrative and transportation vehicles and construction and inspection equipment, on roads, turnouts or specifically designated areas.

SCE shall ensure that all SCE gates on Project related roads are maintained and signed according to SNF gate standards. These gates shall be constructed to allow SNF to install a USFS lock for SNF access or parking. SCE will ensure that authorized locks are kept in position so as to remain useful.

A separate Road Use Permit or Special Use authorization shall be required of SCE for new construction or activities or when its activities fall outside normal and routine maintenance and operational needs.

7.0 ROAD USE/TRAFFIC CONTROL MEASURES

SCE will install and maintain traffic controls to provide the public with adequate warning and protection from hazardous or potentially hazardous conditions associated with the Licensee's operations when conducting construction or maintenance activities adjacent to or on SNF roads that are open to public travel. Traffic control measures would be implemented on publicly accessed roads to support maintenance activities. These measures would be designed and coordinated in conjunction with the Fresno and/or Madera Sheriff Departments, the Fresno and/or Madera County Planning and/or Public Works Departments, and the SNF, as needed. SCE will consult with SNF regarding road sign repair and/or replacement needs on Project Roads and Trails identified in Table 1. Sign requirements will meet standards listed in the Manual on Uniform Traffic Control Devices of the U.S. Department of Transportation, Federal Highway Administration.

8.0 ANNUAL CONSULTATION REQUIREMENTS

SCE shall consult with the SNF each year to identify specific road rehabilitation and maintenance projects and other activities that will be performed each forthcoming year. Planned road maintenance activities by SCE will be identified and documented in the Annual Plan of Operations submitted to the SNF for concurrence. The Plan of Operations will document specific maintenance activities, schedules, and measures required for BMPs and resource protection resources. The Annual Plan of Operations will also include the identification of key resources (e.g., cultural resources) that may be affected by the planned road maintenance activities. Maintenance activities will follow prescriptions and correspond with other resource management plans, as appropriate. If the need for road improvement other than routine maintenance activities occurs, then specific measures will be developed on a case-by-case basis to protect resources that may be affected. Specific measures will depend on the site and physical conditions encountered. These measures are expected to include erosion and traffic control, cultural resource protection, and biological resource protection. Measures that may be required to protect other environmental resources (e.g., air and water) will be developed in consultation with the SNF on an as-needed basis. Other applicable federal agencies (e.g., U.S. Fish and Wildlife Service) and state agencies (e.g., California Department of Fish and Game and SHPO) will be consulted when appropriate. SCE shall obtain all

applicable permits and environmental compliance required to implement maintenance or rehabilitation measures.

9.0 LITERATURE CITED

Southern California Edison. 2004. 2003 Final Technical Study Report Package for the Big Creek Hydroelectric System Alternative Licensing Process (ALP). *In* SCE's Amended Preliminary Draft Environmental Assessment (APDEA) for the Big Creek ALP (Mammoth Pool Project (FERC Project No. 2085), Big Creek Nos. 1 and 2 (FERC Project No. 2175), Big Creek Nos. 2A, 8 and Eastwood (FERC Project No. 67), and Big Creek No. 3 (FERC Project No. 120)). February 2007 (Volume 4, SD-D, Books 11-17 and 23).

TABLE

Table 1. Project Roads and SCE Operation and Maintenance Activities.

FERC Project No.	SCE MAP No.	USFS ROAD No.	USFS Name	Termini	Maintenance Level	Surface	Length (miles)	Legal	Quad Name	SCE Name	SCE Operation & Maintenance Activities							
											Roads Repair/Clearing				Signage	Fencing	Gates	
											Grading	Gravel/Paving	Snow Removal / Sanding	Culverts/Ditches/Water Bars				
Mammoth Pool Project (FERC No. 2085)																		
Roads																		
2085	6	06S025G	MAMMOTH POOL G SP	6S25 - BOT. OF DAM	3	AC	0.6	T7S-R24E-14	417-4C	Mammoth Pool Fishwater Generator access road from 6S25, Mammoth Pool Road, to base of Mammoth Pool Dam	I	I		R		X*	X	
2085	80	08S003B	BC2-3 TRANS SOUTH	8S03 - BC2-3 TRANS	2	NATIVE	0.6	T8S-R24E-26	397-1C	Access road from 8S03 to Mammoth Pool penstock	R	I		R			X	
2085	79	08S003C	BC2-3 TRANS NORTH	8S03 - BC2-3 TRANS	2	NATIVE	1.0	T8S-R24E-26	397-1C	Access road to Mammoth Pool Transmission Line from 8S03	R	I		R			X	
2085	144	08S003CA	BC2-3 TRANS NORTH A	8S03B - NORTH	2	NATIVE	0.2	T8S-R24E-26	397-1C	8S03CA, spur road to Mammoth Pool Transmission Line	R	I		R				
2085	145	08S003CB	BC2-3 TRANS NORTH B	8S03B - NW	2	NATIVE	0.3	T8S-R24E-26	397-1C	Access road to Mammoth Pool Transmission Line from 8S03C	R	I		R				
2085	146	08S003CC	BC2-3 TRANS NORTH C	8S03CB - NW	2	NATIVE	0.2	T8S-R24E-26	397-1C	Access road to Mammoth Pool Transmission Line from 8S03C	R	I		R				
2085	78	08S003D	MAMMOTH SURGE	08S003-SOUTH	2	NATIVE	0.5	T8S-R24E-15	397-1C	Access road from 8S03 to Mammoth Pool Powerhouse surge chamber	R	I		R				
2085	213	08S044	HOOKE COVE	4S81 - Southeast	2	NATIVE	5.8	T8S-R23E-25	397-2C	8S44, Mammoth Pool Transmission Line access road	R	I		R	X*		X	
2085	37	08S044Y	DEEP COVE	8S03 - 8S44	2	NATIVE	3.3	T8S-R24E-22	397-1C	8S44Y, Mammoth Pool Transmission Line access road from gate near 8S03 to 9S42	R	I		R	X*		X	
2085	138	08S044YA	DEEP COVE	8S03 - 8S44	2	NATIVE	0.5	T8S-R24E-27	397-1C	8S44YA, Mammoth Pool Transmission Line access road	R	I		R	X*		X	
2085	136	08S044YB	DEEP COVE		2	NATIVE	0.5	T8S-R24E-27	397-1C	8S44YB, Mammoth Pool Transmission Line access road	R	I		R	X*		X	
2085	18	09S042	TRANSMISSION NO.1	8S44 - MAD 225	2	NATIVE	4.2	T9S-R24E-05	397-2C	9S42, Mammoth Pool Powerhouse Transmission Line access road from gate near County Road 225, Italian Bar Road, to 8S44	R	I		R	X*		X	
2085	135	09S042A	TRANS NO.1 SPUR A	9S42 - END	2	NATIVE	0.2	T9S-R24E-05	397-2C	Access road to Mammoth Pool Transmission Line from 9S42	R	I		R	X*		X	
2085	102	07S047B	ROCK CREEK TUNNEL MUCK	7S47 - Tunnel Muck	2	NATIVE	0.1			9S47A Access road to Rock Creek Tunnel Muck Pile	R	I		R				
2085/67	33	08S003(02)	MAMMOTH POWER HSE	S. J. River - 08S05	3	AC	1.4	T8S-R24E-26	397-1C	8S03 (from Powerhouse No. 8 to Mammoth Pool Powerhouse)	I	I	A	R	X*	X*	X	
2085	30	06S025(03)	MAMMOTH POOL	7S20-END	3	NAT>AGG	1.3	T7S-R24E-10	417-4C	6S25, Mammoth Pool Road, from 7S20, Shake Flat Creek access, to end at east abutment	I	I		I				
2085	164	06S025DA	MAMMOTH POOL C SPUR	6S25-BOAT LAUNCH	3	NATIVE	0.2	T7S-R24E-4	417-4C	6S25DA, spur to Windy Point Picnic Area from 6S25D	R	I		R				
Mammoth Pool Project (FERC No. 2085)																		
Trail																		
2085	75	26E16	Trail to San Joaquin River Gage above Shakeflat Creek	7S20-SJR gage	NA	NATIVE	0.6	T9S-R24E-05	397-2C	Trail to San Joaquin River Gage above Shakeflat Creek	I			I				

Table 1. Project Roads and SCE Operation and Maintenance Activities.

FERC Project No.	SCE MAP No.	USFS ROAD No.	USFS Name	Termini	Maintenance Level	Surface	Length (miles)	Legal	Quad Name	SCE Name	SCE Operation & Maintenance Activities							
											Roads Repair/Clearing				Signage	Fencing	Gates	
											Grading	Gravel/Paving	Snow Removal / Sanding	Culverts/Ditches/Water Bars				
Big Creek No. 1 & 2 Project (FERC No. 2175)																		
Roads																		
2175	21	08S005(02)	CANYON	8S05E - PH8	2	AC	3.0	T8S-R24E-25	397-1C	8S05, Canyon Road (from Huntington Lake Road to Powerhouse No. 2 and 8S05E)	I	I	A	R	X*	X*	X	
2175	81	08S005C	POWERHOUSE 2	8S05-EAST	2	AC	0.7	T8S-R24E-25	397-1C	Powerhouse No.2 access road from Canyon Road	I	I	A	R	X*			
2175	160	08S005CA	POWERHOUSE 2TRANS	8S05C-NORTH	2	AC	0.3	T8S-R24E-25	397-1C	Access to Big Creek No. 2 switchyard	I	I	A	R	X*			
2175	16	08S005E	LINE	8S05-WEST	2	NATIVE	0.3	T8S-R24E-25	397-1C	Old housing road 1 adjacent to Powerhouse No. 2 from 8S05, Canyon Road	I			I				
2175	159	08S005EA	SOUTH LINE	8S05E-MP 0.2	2	NATIVE	0.2	T8S-R24E-26	397-1C	Old housing road 3 adjacent to Powerhouse No. 2 from 8S05E	I			I				
2175	158	08S005EC	PEN LINE	8S05E-WEST	2	NATIVE	0.3	T8S-R24E-25	397-1C	Old housing road 2 adjacent to Powerhouse No. 2 from 8S05E	I			I				
2175/67	69	08S008A	AGUA	8S08-SOUTH	2	NATIVE	0.5	T8S-R24E-36	397-1C	Access road south from Railroad Grade to West Portal	R	I		R				
2175/67	41	08S013(02)	CAMP SIX	GATE 53-54 - 8S05	2	NATIVE	0.7	T8S-R24E-36	397-1C	8S13 from gate to 8S05, the Canyon Road	I	I	A	R	X*			
2175	168	08S013K	CAMP SIX K	8S013 - NORTH	2	NATIVE	0.2	T8S-R24E-35	397-1C	8S13K Access road to Powerhouse No. 2 penstock	I	I	I	R	X*			
2175	22	08S066(01)	HUNTINGTON DAMS	M3380 - FS BDY	2	NATIVE	0.5	T8S-R25E-22	396-2C	8S66, from west end of Dam 2 to 8S66A	I	I	A	R				
2175	23	08S066(02)	HUNTINGTON DAMS	PVT - 8S066A	2	NATIVE	1.0	T8S-R25E-22	396-2C	8S66 from gate to west end of Dam 2	I	I	A	R				
2175	207	08S066A	STREAM GAGE	8S066 - GAGING STATION	2	NATIVE	0.6	T8S-R25E-23	396-2C	8S66A, access road to gaging station on Big Creek below Huntington Lake	I	I	A	R				
2175	42	08S066B	DAM SPUR	8S66-NORTHEAST	2	NATIVE	0.7	T8S-R25E-22	396-2C	8S66B from Dam 2 to end	I	I	I	R	X*			
2175	171	08S066BA	DAM SPUR A	8S066B-8S066BC	2	NATIVE	0.1	T8S-R25E-14	396-2C	Short road between 8S66B and 8S66BC	I	I	I	R	X*			
2175	99	08S066BC	DAM SPUR C	8S066B-EAST	2	NATIVE	0.3	T8S-R25E-14	396-2C	East end of Dam 1 to Dam 1 drainage gates	I	I	A	R				
2175	107	08S066C(02)	Dam Spur C	FS BDY - PVT	2	NATIVE	0.5	T8S R25E S22	396-2C	8S66C on public lands from 8S301 to 8S66 east	I	I	I	R				
2175	107	08S066C(03)	Dam Spur C	PVT - FS BDY	2	NATIVE	0.5	T8S R25E S22	396-2C	8S66C on public lands from 8S301 to 8S66 east	I	I	I	R				
2175	107	08S066C(04)	Dam Spur C	FS BDY - 8S066	2	NATIVE	0.5	T8S R25E S22	396-2C	8S66C on SCE private lands from gate to 8S302	I	I	I	R				
2175	184	08S066X	HUNTINGTON LEVEE	8S066-8S066	2	NATIVE	0.4	T8S-R25E-22	396-2C	Road over Dam 2	I	I	A	R				
2175	186	08S082	BIG CREEK HD QTRS	M2710-SOUTHWEST	3	AC	0.4	T8S-R25E-28	396-2C	8S082 access to Hydro offices at Big Creek	I	I	A*	R	X*			
2175	1	08S082A	BCH SPUR A	8S082-8S082	3	AC	0.3	T8S-R25E-28	396-2C	8S082A access to Hydro offices at Big Creek	I	I	A*	R	X*			
2175	249	08S082AA	BCH SPUR AA	08S082A - LOOP	3	AC	0.2	T8S-R25E-28	396-2C	Access road to Warehouse	I	I	A*	R	X*			
2175	185	08S082B(01)	BCH SPUR B	8S082-GATE	3	AC	0.2	T8S-R25E-28	396-2C	8S082B access to Hydro offices at Big Creek	I	I	A*	R	X*			
2175	206	08S082B(02)	BCH SPUR B	GATE-PO.HOUSE #1	3	AC	0.2	T8S-R25E-28	396-2C	8S082B access to Powerhouse No. 1	I	I	A*	R	X*			
2175	248	08S082BA	BCH SPUR BA	8S02B - 8S82	3	AC	0.2	T8S-R25E-28	396-2C	Upper access road to Wastewater treatment plant from 8S82B	I	I	A*	R	X*			

Table 1. Project Roads and SCE Operation and Maintenance Activities.

FERC Project No.	SCE MAP No.	USFS ROAD No.	USFS Name	Termini	Maintenance Level	Surface	Length (miles)	Legal	Quad Name	SCE Name	SCE Operation & Maintenance Activities							
											Roads Repair/Clearing				Signage	Fencing	Gates	
											Grading	Gravel/Paving	Snow Removal / Sanding	Culverts/Ditches/Water Bars				
Big Creek No. 1 & 2 Project (FERC No. 2175) (continued)																		
Roads (continued)																		
2175	247	08S082BB	BCH SPUR BB	8S02B - SOUTH	3	AC	0.2	T8S-R25E-28	396-2C	Lower access road to Wastewater treatment plant from 8S82B			A*	R	X*			
2175	245	08S082BC	BCH SPUR BC	8S82B - 8S82	3	AC	0.3	T8S-R25E-28	396-2C	Access road to Fish Farm upper gate			A*	R	X*			
2175	188	08S082C	BCH SPUR C	8S082-8S082A	3	AC	0.1	T8S-R25E-28	396-2C	8S082C access to Hydro offices at Big Creek			A*	R	X*			
2175	187	08S082D	BCH SPUR D	8S082-8S082A	3	AC	0.1	T8S-R25E-28	396-2C	8S082D access to Hydro offices at Big Creek			A*	R	X*			
2175	250	08S082E	BCH SPUR E	M2710 - M2710	3	AC	0.5	T8S-R25E-28	396-2C	Upper access road to SCE company housing			A*	R	X*			
2175	252	08S082EA	BCH SPUR EA	8S82E - M2710	3	AC	0.2	T8S-R25E-28	396-2C	Lower access road to SCE company housing			A*	R	X*			
2175	251	08S082F	BCH SPUR F	8S82E - NE	3	AC	0.2	T8S-R25E-28	396-2C	Access road to Domestic water treatment plant from FRE 2710			A*	R	X*			
2175	246	08S082J	BCH SPUR J	M2710 - SE	3	AC	0.2	T8S-R25E-28	396-2C	Upper access road to Powerhouse No. 1 from FRE 2710			A*	R	X*			
2175	189	08S082X	SCE RESIDENCES	M2710-SOUTHWEST	3	AC	0.4	T8S-R25E-28	396-2C	8S082X access to Hydro offices at Big Creek			A*	R	X*			
2175	48	08S083(02)	SIPHON	8S66 - 8S83A	2	NATIVE	0.9	T8S-R25E-22	396-2C	8S83 from 8S66 to 8S83A				R				
2175	200	08S083A	SIPHON SPUR A	8S83 - 8S66	2	NATIVE	0.2	T8S-R25E-22	396-2C	8S83A, connector road between 8S66T and 8S83								
2175	28	08S301	SUNSET POINT	M3380 - DIST. LINE	2	NATIVE	0.6	T8S-R25E-22	396-2C	8S301 from gate with 8S66T to penstock surge pipes				R			X	
2175	47	08S302	BC PENSTOCK GATE HSE	M3380 - GATEHOUSE	2	NATIVE	1.0	T8S-R25E-22	396-2C	8S302, access to Big Creek No. 1 42-inch gatehouse				R	X*			
2175	262	09S017	EASTWOOD LINE	SR168 - SOUTH	2	NATIVE	0.2	T9S-R25E17	397-2C	9S17 access road to Eastwood Transmission line from Hwy 168				R	X*			
Big Creek No. 1 & 2 Project (FERC No. 2175) (continued)																		
Trail																		
2175	261	NA	Trail to Scott Lake Domestic Diversion	M2710 - diversion	NA	NATIVE	0.4	T8S-R25E-28	396-2C	Trail to Scott Lake Domestic Diversion								
Big Creek No. 3 Project (FERC No. 120)																		
Roads																		
120	21	08S005(03)	CANYON	PH8 - M2090	2	AC	7.3	T8S-R24E-26	397-1C	8S05, Canyon Road (from junction with 8S03 to junction with Italian Bar Road)			A	R	X*	X*	X	
120	72	08S005A	PENSTOCK 3 NORTH	8S05-NORTH	2	NATIVE	0.3	T9S-R24E-17	397-2C	Access road to Powerhouse No. 3 penstocks and gate house downhill from 8S05, Canyon Road				R				
120	217	08S005B	PENSTOCK 3 SOUTH	8S05-SOUTH	2	NATIVE	0.2	T9S-R24E-17	397-1C	8S05B Access road to Powerhouse No. 3 penstock from 8S05 Canyon Road	R			R				
120	119	08S005G	LOWER PENSTOCK	8S05-PENSTOCK	2	NATIVE	0.2	T9S-R24E-17	397-2C	8S05G Access road to Powerhouse No. 3 surge chamber uphill from 8S05 Canyon Road				R				
120	24	08S005T	CANYON TAILING	8S005 - WEST	2	NATIVE	0.1	T9S-R24E-8	397-1C	8S05T Access to tailings	R			R				
120	29	08S005TA	CANYON TAILING A	8S008 - WEST	2	NATIVE	0.1	T9S-R24E-17	397-1C	8S05TA Access to tailings	R			R				
120	216	09S020	BAR	M2090-EAST	2	BIT	0.4	T9S-R24E-18	397-2C	9S20 Access to Carpenter shop					X*	X*	X	
120	85	09S020A	BAR A	9S20 - SOUTH	2	NATIVE	0.1	T9S-R24E-18	397-2C	9S20A Access road to transmission line tower				R	X*	X*	X	

Table 1. Project Roads and SCE Operation and Maintenance Activities.

FERC Project No.	SCE MAP No.	USFS ROAD No.	USFS Name	Termini	Maintenance Level	Surface	Length (miles)	Legal	Quad Name	SCE Name	SCE Operation & Maintenance Activities								
											Roads Repair/Clearing				Signage	Fencing	Gates		
											Grading	Gravel/Paving	Snow Removal / Sanding	Culverts/Ditches/Water Bars					
Big Creek No. 3 Project (FERC No. 120) (continued)																			
Roads (continued)																			
120	62	09S020B	BAR B	9S20 - NE	2	NATIVE	0.1	T9S-R24E-18	397-2C	9S20B Access road to transmission line tower	I	I		R	X*	X*	X		
120	64	09S020C	BAR C	9S20 - 9S20	2	BIT	0.1	T9S-R24E-18	397-2C	9S20C Connector road between 9S20 loop	R	I		R					
120	13	09S020D	BAR SPUR D	9S20-M2090	2	NATIVE	0.1	T9S-R24E-18	397-2C	9S20D Access to Carpenter Shop	R	I		R					
120	257	09S020DA	BAR SPUR DA	M2090 - 9S20D	2	NATIVE	0.2	T9S-R24E-18	397-2C	9S20DA Access to Garage and shops	R	I		R					
120	52	09S020E	BAR SPUR E	9S20 - yard	2	NATIVE	0.1	T9S-R24E-18	397-2C	9S20E Access to material yard	R	I		R					
120	87	09S020F	SCHOOLHOUSE F	9S89 - SOUTH	2	NATIVE	0.1	T9S-R24E-18	397-2C	9S88F Connector road between 9S20 loop	I	I		R					
120	127	09S088	CHAWANAKEE RES	M2090-SOUTH	2	BST	0.3	T9S-R24E-18	397-2C	9S88 from Italian Bar Road to old company housing	I	I		R	X*	X*	X		
120	5	09S088A	SCHOOL	9S88-9S88	2	NATIVE	0.1	T9S-R24E-18	397-2C	9S88A Access to old company housing	R	I		R					
120	256	09S088X	SCHOOLHOUSE TANK	9S88-SOUTH	2	BIT	0.3	T9S-R24E-18	397-2C	9S88X Access road to Powerhouse No. 3 water tank and shop	I	I		R	X*	X*	X		
120	215	09S088XA	SCHOOLHOUSE TANK A	9S88X - WEST	2	NATIVE	0.4	T9S-R24E-18	397-2C	9S88XA Access road to old company housing from 9S88X	R			R	X*	X*			
120	61	09S089	SCHOOLHOUSE	M2090-NORTH	2	NATIVE	0.5	T9S-R24E-18	397-2C	9S89 Access road to Powerhouse No. 3 administrative bldg. from Italian Bar Road	I	I		R	X*	X*	X		
120	59	09S089BA	BAR BA	09S089B-SUB	2	NATIVE	0.2	T9S R24E S18	397-2C	9S89BA Access road to Powerhouse No. 3 and switchyard	I	I		R					
Big Creek No. 2A, 8, & Eastwood Project (FERC No. 67)																			
Roads																			
67	68	05S080Z	MONO TUNNEL	5S80-NORTH	2	NATIVE	0.4	T61/2S-R27E-35	415-3C	Mono Creek Diversion access road	I			I					
67	4	07S001B(02)	FLORENCE PICNIC	GATE-SOUTH	2	A/C	0.5	T7S-R27E-36	415-3C	7S01B Access road to Florence Work Camp	I	I	R	R	X*		X		
67	219	07S001BA	WORK CAMP LOOP	7S01B-SOUTHEAST	2	NATIVE	0.3	T8S-R27E-01	415-3C	7S01BA Florence Work Camp road from 7S01B	I	I	R	R	X*		X		
67	71	07S370D	JACKASS MEADOW SPUR D	07S370-SOUTH TO DAM	2	NATIVE	0.2	T7S-R27E-36	415-3C	7S370D Access road to Florence Dam and water storage tank from 7S370	R	I		R			X		
67	237	07S370F	JACKASS MEADOW SPUR F	07S370-DAM	2	NATIVE	0.2	T7S-R27E-36	415-3C	7S370F Access road to Florence Dam from 7S370	I			I					
67	54	08S002(01)	CAMP 72	SR168-PVT	2	NATIVE	1.7	T9S-R25E-09	396-2C	8S02 from Highway 168 to 8S02B									
67	54	08S002(02)	CAMP 72	PVT-ADIT	2	NATIVE	2.0	T9S-R25E-09	396-2C	8S02 from Highway 168 to 8S02B	I*			I*			X		
67	197	08S002B	CAMP 72 SPUR B	08S002-GRAVEL PIT (ADIT)	2	NATIVE	0.1	T8S-R25E-34	396-2C	8S02B Access to Huntington-Pitman-Shaver tunnel adit	I								
2085/67	33	08S003(02)	MAMMOTH POWER HSE	S. J. River - 08S05	3	A/C	1.4	T8S-R24E-26	397-1C	8S03 (from 8S05, Canyon Road, to 8S03A, Powerhouse No. 8 access road)	I	I	A	R	X*	X*			
67	166	08S003A	POWERHOUSE 8	8S03-WEST	2	A/C	0.4	T8S-R24E-26	397-1C	Access road to Powerhouse No. 8 from 8S03	I	I	A	R	X*	X*			
67	21	08S005(01)	CANYON	M2710 - 8S05E	2	A/C	10.0	T8S-R25E-32	397-1C	8S05, Canyon Road (from Powerhouse No. 2 and 8S05E to Powerhouse No. 8)	I	I	A	R	X*	X*	X		
67	77	08S005F	PENSTOCK 8	8S05-WEST	2	NATIVE	0.8	T8S-R24E-26	397-1C	8S05F Access road to Powerhouse No. 8 penstock from 8S05	I	I		R					
67	157	08S005FB	UPPER PEN 8	8S05F-NORTH	2	NATIVE	0.4	T8S-R24E-26	397-1C	8S05FB Access road to Powerhouse No. 8 penstock from 8S05	I	I		R					
67	167	08S005L	CANYON SPUR L	8S005 - EAST	2	NATIVE	0.1	T8S-R24E-26	397-1C	Road to communication line near Powerhouse No. 8	I	I		I					

Table 1. Project Roads and SCE Operation and Maintenance Activities.

FERC Project No.	SCE MAP No.	USFS ROAD No.	USFS Name	Termini	Maintenance Level	Surface	Length (miles)	Legal	Quad Name	SCE Name	SCE Operation & Maintenance Activities								
											Roads Repair/Clearing				Signage	Fencing	Gates		
											Grading	Gravel/Paving	Snow Removal / Sanding	Culverts/Ditches/Water Bars					
Big Creek No. 2A, 8, & Eastwood Project (FERC No. 67) (continued)																			
Roads (continued)																			
2175/67	69	08S008A	AGUA	8S08-SOUTH	2	NATIVE	0.5	T8S-R24E-36	397-1C	Access road south from Railroad Grade to West Portal	R	I		R			X		
2175/67	41	08S013(02)	CAMP SIX	GATE 53-54 - 8S05	2	NATIVE	0.7	T8S-R24E-36	397-1C	8S13 from the gate to 8S05, Canyon Road	I	I	A	R	X*		X		
67	258	08S047(02)	BALSAM	GATE - TRANSMISSION LINE	2	NATIVE	2.2	T9S-R25E-06	397-1C	8S47 Access road to Eastwood Powerstation Transmission Line tower - from gate to end	R			R					
67	48	08S083(01)	SIPHON	08S083A - PENSTOCK	2	NATIVE	0.9	T8S-R25E-22	396-2C	8S83 from 8S83A to Huntington Shaver Siphon	I	I		R					
67	56	08S094	PITMAN DIVERSION	SR168-WEST	2	NATIVE	0.4	T8S-R25E-35	396-2C	Pitman Creek Diversion access road	I*	I*	A*	R*			X		
67	174	08S303	RANCHERIA OVERFLOW CG	5S080-CAMPGROUND	2	NATIVE	0.1	T8S-R26E-05	396-3C	8S303 Access road to Eastwood Overflow Campground	I	I		R					
67	156	09S003(01)	DAWN	PVT-SR168	2	NATIVE	0.1	T9S-R24E-S12	397-1C	9S03 from 8S08 to FRE 2710 (non-project segment on SCE private lands)	R	I		R					
67	55	09S024	TUNNEL OUTLET	SR168-SOUTHEAST	2	NATIVE	0.6	T9S-R25E-S10	396-2C	9S24 from Hwy 168 to North Fork Stevenson Creek gate No. 2 (Tunnel No. 7 Outlet)	I	I	A	R			X		
67	89	09S032	ELY MOUNTAIN	SR168 - TRANS LINE	2	NATIVE	1.5	T9S-R25E-09	396-2C	9S32 from gate near Highway 168 to EPH Transmission Line	I	I	A	R			X		
67	50	09S032A	BALSAM MEADOW	9S32-BALSAM F.BAY	3	NATIVE	1.0	T9S-R25E-09	396-2C	9S32A, spur from 9S32 to east side of Balsam Forebay	I	I	R	R					
67	153	09S032AB	BALSAM SPUR AB	9S32A-WEST	3	NATIVE	0.2	T9S-R25E-09	396-2C	9S32AB, spur from 9S32A to Balsam Forebay	I	I	R	R					
67	170	09S032C	FOREBAY SPUR CB	9S32-NORTH	3	NATIVE	0.5	T9S-R25E-09	397-1C	Road below Balsam Forebay Dam	R			R					
67	208	09S032CA	FOREBAY SPUR CA	9S32C - 9S32	2	NATIVE	0.3	T9S-R25E-09	396-2C	9S32CA Access road to Eastwood Powerstation Transmission Line tower	R			R					
67	232	09S032CB	FOREBAY SPUR CB	9S32CA - EAST	2	NATIVE	0.1	T9S-R25E-09	396-2C	9S32CB	R			R					
67	242	09S032CC	FOREBAY SPUR CC	9S32 - SOUTH	2	NATIVE	0.7	T9S-R25E-09	396-2C	9S32CC	R			R					
67	231	09S032CD	FOREBAY SPUR CD	9S32C - NORTH	2	NATIVE	0.6	T9S-R25E-09	396-2C	9S32CD	R			R					
67	230	09S032CE	FOREBAY SPUR CE	9S32C - SOUTH	2	NATIVE	0.2	T9S-R25E-25	396-2C	9S32CE	R			R					
67	241	09S032CF	FOREBAY SPUR CF	9S32C - NW	2	NATIVE	0.1	T9S-R25E-25	396-2C	9S32CF	R			R					
67	51	09S058(01)	PERIMETER	HWY 168 - GATE	3	NATIVE	0.1	T9S-R24E-13	397-1C	9S58 from Shaver Marina to SCE gate (non-project segment)	I	I	A*	R	X*	X*	X		
67	84	09S058(02)	PERIMETER	GATE(N)-GATE(STEV. CK)	3	NATIVE		T9S-R24E-13	397-1C	9S58 from gate to North Fork Stevenson Gage	I	I	A*	R	X*	X*	X		
67	114	09S058K	BALSAM PORTAL ACCESS	09S058-END	2	NATIVE	0.1	T9S-R25E-S20	397-1C	Access road to Eastwood Power Tunnel entrance	I	I	A*	R	X*	X*	X		
67	243	09S311(01)	HAMILTON	SR168 - FS BDY	2	NATIVE	0.6	T9S-R25E17	397-2C	9S311 Access to Eastwood Powerstation Transmission Line tower	R	I		R			X		
67	243	09S311(02)	HAMILTON	FS BDY - SOUTH	2	NATIVE	0.2	T9S-R25E17	397-2C	9S311 Access to Eastwood Powerstation Transmission Line tower	R	I		R					
67	244	09S311A	HAMILTON SPUR A	9S311 - EAST	2	NATIVE	0.1	T9S-R25E17	397-2C	9S311A Access to Eastwood Powerstation Transmission Line tower	R			R					
67	19	09S312	BALSAM PH SW. YD	HWY 168 - END	2	NATIVE	0.2	T9S-R25E-21	397-1C	9S312 access to Eastwood Substation from Highway 168	I	I	A	R			X		

Table 1. Project Roads and SCE Operation and Maintenance Activities.

FERC Project No.	SCE MAP No.	USFS ROAD No.	USFS Name	Termini	Maintenance Level	Surface	Length (miles)	Legal	Quad Name	SCE Name	SCE Operation & Maintenance Activities							
											Roads Repair/Clearing				Signage	Fencing	Gates	
											Grading	Gravel/Paving	Snow Removal / Sanding	Culverts/Ditches/Water Bars				
Big Creek No. 2A, 8, & Eastwood Project (FERC No. 67) (continued)																		
Roads (continued)																		
67	2	N/A	CAMP EDISON	HWY 168-CAMP EDISON	NA	AC	3.5	T9S-R24E-13	397-1C	Camp Edison Roads	I	I	A	R				
67	83	N/A	SHAVER DAM NORTH	HWY 168-DAM	NA	NATIVE	0.2	T9S-R24E-13	397-1C	Access road to Shaver Dam north	I		A*	R	X*	X*	X	
67	49	N/A	SHAVER DAM SOUTH	HWY 168-DAM	NA	NATIVE	0.2	T9S-R24E-13	397-1C	Access road to Shaver Dam south	I		A*	R	X*	X*	X	
67	109	N/A	EAGLE POINT DAY-USE	9S58 -EAGLE PT DAY-USE	NA	NATIVE	1.1	T9S-R24E-13	397-1C	Access road to Eagle Point Boat Only Day Use Area from 9S58	I			I				
67	110	N/A	EASTWOOD TAILRACE	9S58-EASTWOOD TAILRACE	NA	NATIVE	0.1	T9S-R24E-13	397-1C	Access road to Eastwood Tailrace	I			I				
67	115	N/A	EASTWOOD POWERSTATION TUNNEL	9S58-EASTWOOD POWERSTATION TUNNEL	NA	AC	0.9	T9S-R24E-13	397-1C	Access Tunnel to Eastwood Power Station	I	I	A*	R	X*	X*	X	
Big Creek No. 2A, 8, & Eastwood Project (FERC No. 67) (continued)																		
Trails																		
67	265	NA	Trails to North-South Slide Creek Diversions	7S65 - diversion	NA	NATIVE	0.1			Trails to North-South Slide Creek Diversions								
67	108	NA	Trail to Pitman Creek Gage near Tamarack Mountain (below shaft)	7S65 - diversion	NA	NATIVE	0.1			Trail to Pitman Creek Gage near Tamarack Mountain (below shaft)	R			R				
67	74	NA	Trail to Big Creek Gage below Dam 5	8S05 - gage	NA	NATIVE	0.1			Trail to Big Creek Gage below Dam 5	R			R				
67	91	NA	Trail to Bolsillo Creek Gage above Intake	5S80H - gage	NA	NATIVE	0.1			Trail to Bolsillo Creek Gage above Intake	R			R				
67	12	NA	Trail to Camp 62 Creek Gage and Diversion Dam	5S80 - gage and diversion	NA	NATIVE	0.2			Trail to Camp 62 Creek Gage and Diversion Dam	R			R				
67	259	NA	Trail to South Fork San Joaquin River Gage downstream of Jackass Meadow	7S65 - gage	NA	NATIVE	0.1			Trail to South Fork San Joaquin River Gage downstream of Jackass Meadow	I			I				
67	260	NA	Trail to Chinquapin Creek Gage and Diversion Dam	7S01 - gage and diversion	NA	NATIVE	0.7			Trail to Chinquapin Creek Gage and Diversion Dam	R			R				
67	92	28E01	Trial to Bear Creek Gage upstream of Bear Forebay	6S83 - gage	NA	NATIVE	0.3			Trial to Bear Creek Gage upstream of Bear Forebay	R			R				
67	14	NA	Trail to Tombstone Creek Diversion	Access road - diversion	NA	NATIVE				Trail to Tombstone Creek Diversion								

Table 1. Project Roads and SCE Operation and Maintenance Activities.

FERC Project No.	SCE MAP No.	USFS ROAD No.	USFS Name	Termini	Maintenance Level	Surface	Length (miles)	Legal	Quad Name	SCE Name	SCE Operation & Maintenance Activities							
											Roads Repair/Clearing				Signage	Fencing	Gates	
											Grading	Gravel/Paving	Snow Removal / Sanding	Culverts/Ditches/Water Bars				
Big Creek No. 2A, 8, & Eastwood Project (FERC No. 67) (continued)																		
Trails (continued)																		
67	88	NA	Trail from Jackass Meadow Campground to Florence Dam outlet and Gage	7S370 - outlet and gage	NA	NATIVE	0.1			Trail from Jackass Meadow Campground to Florence Dam outlet and Gage	I			I				
67	86	NA	Trail to Crater Creek Diversion Ditch (off of the Dutch Lake Trail)	7S01B - 27E05	NA	NATIVE	0.9			Trail to Crater Creek Diversion Ditch (off of the Dutch Lake Trail)	I			I				
67	17	NA	Two trails to Stevenson Creek Gage below Shave Lake Dam	Hwy 168 - gage	NA	NATIVE	0.1			Two trails to Stevenson Creek Gage below Shave Lake Dam	R			R				

X - Done
 A - Annual (activity typically occurs each year)
 R - Regular (activity will occur one or more times in a 5-year period)
 I - Infrequent (activity typically occurs during a 20-year period, but less than once every 5 years)
 * This activity occurs at less than 50% at this type of facility in the Big Creek Study Area
 (1) This road is also included in the FERC boundary of the Big Creek Nos. 1 and 2 Project (FERC Project No. 2175).

FIGURES

Placeholder for
Figures 1a-1c. Project Related Roads and Trails
(Including Detailed Sheets 1-5)

Non-Internet Public Information

These Figures have been removed in accordance with the Commission regulations at 18 CFR Section 388.112.

These Figures are considered Non-Internet Public information and should not be posted on the Internet. This information is provided in Book 24 of the Application for New License and is identified as "Non-Internet Public" information. This information may be accessed from the FERC's Public Reference Room, but is not expected to be posted on the Commission's electronic library, except as an indexed item.

ATTACHMENT A

Sierra National Forest
Road Maintenance P-Specifications

Road Maintenance P-Specifications

for

Road Use Permits

To be used with Road Use Permit Form 7700-41

No.	Specification Title
P-800	Definitions
P-801	Slide and Slump Repair
P-802	Ditch Cleaning
P-803	Surface Blading
P-804	Surfacing Repair
P-805	Drainage Structures
P-806	Dust Abatement
P-807	Roadway Vegetation
P-808	Miscellaneous Structures
P-809	Waterbars
P-810	Barriers
P-811	Surface Treatment
P-812	Hazard Trees
P-813	Snow Removal

SPECIFICATION P-800 DEFINITIONS

Wherever the following terms or pronouns are used in Permit provisions and Specifications P-801 through P-813, the intent and meaning shall be interpreted as follows:

AGREEMENT Maintenance projects require a mutually acceptable method to resolve the problems which arise when incompatible situations arise between drawings and specifications and actual conditions on the ground to allow orderly and satisfactory progress of the maintenance.

These specifications have been developed in anticipation of those problem areas and have provided that such changes will be by agreement.

It is intended that drawings and specifications will govern unless "on-the-ground" conditions warrant otherwise, when specifications call for "agreement", "agreed", or "approval" such agreement or approval shall be promptly confirmed in writing.

ANNUAL ROAD MAINTENANCE PLAN A plan prepared by various users of one or several roads. The plan is an agreement on maintenance responsibilities to be performed for the coming year.

BASE COURSE Material used to reinforce subgrade or, as shown on drawings, placed on subgrade to distribute wheel loads.

BERM Curb or dike constructed to prevent roadway run-off water from discharging onto embankment slope.

BORROW Select material taken from designated borrow sites.

CROWN (inslope and outslope) The cross slope of the traveled way to aid in drainage and traffic maneuverability.

CULVERTS A conduit or passageway under a road, trail or other obstruction. A culvert differs from a bridge in that it is usually entirely below the elevation of the traveled way.

DRAINAGE DIP A dip in the traveled way which intercepts surface runoff and diverts the water off the traveled way. A drainage dip does not block the movement of traffic.

DRAINAGE STRUCTURES Manufactured structures which control the runoff of water from the roadway including culverts, overside drains, aprons, flumes, downdrains, downpipes, and the like.

DUST ABATEMENT PLAN A list of roads and the method for abating dust on each road.

LEAD-OFF DITCHES A ditch used to transmit water from a drainage structure or drainage dip outlet to the natural drainage area.

MATERIAL Any substances specified for use in the performance of the work.

PREHAUL MAINTENANCE Road maintenance work which the Permittee must accomplish to maintain the roads to a satisfactory condition commensurate with Permittee's use, provided Permittee's operations do not damage improvements under or National Forest resources, and hauling can be done safely.

Prehaul maintenance shall be completed before use and shall be in compliance with the road maintenance P-Specifications.

ROADBED The portion of a road between the intersection of subgrade and sideslopes, excluding that portion of the ditch below subgrade.

ROADSIDE A general term denoting the area adjoining the outer edge of the roadway.

ROADWAY The portion of a road within the limits of excavation and embankment.

SHOULDER That portion of roadway contiguous with traveled way for accommodation of stopped vehicles, for emergency use, and lateral support of base and surface course, if any.

SLIDE A concentrated deposit of materials from above or on backslope extending onto the traveled way or shoulders, whether caused by mass land movements or accumulated raveling.

SLOUGH Material eroded from the backslope which partially or completely blocks the ditch, but does not encroach on the traveled way so as to block passage of traffic.

SLUMP A localized portion of the roadbed which has slipped or otherwise become lower than that of the adjacent roadbed and constitutes a hazard to traffic.

SUBGRADE Top surface of roadbed upon which base course or surface course is constructed. For roads without base course or surface course, that portion of roadbed prepared as the finished wearing surface.

SURFACE COURSE The material placed on base course or subgrade primarily to resist abrasion and the effects of climate. Surface course may be referred to as surfacing.

TRAVELED WAY That portion of roadway, excluding shoulders, used for the movement of vehicles.

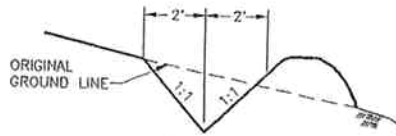
TURNOUTS That portion of the traveled way constructed as additional width on single lane roads to allow for safe passing of vehicles.

WATER SOURCE A place designated by the Forest Service on the Permit Map for acquiring water for road maintenance purposes.

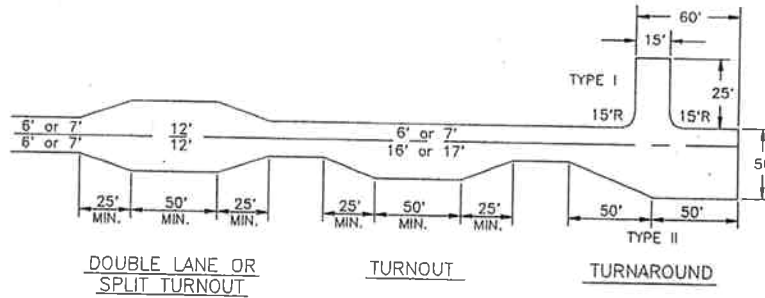
WATERBAR A dip in the roadbed which intercepts surface runoff and diverts the water off the roadway. A waterbar is not designed to be traversable by logging trucks.

GENERAL NOTES

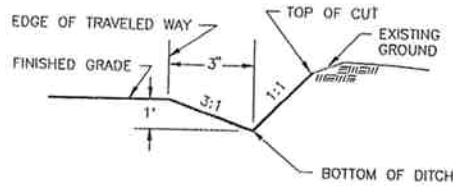
1. ROADBED WIDTHS INCLUDE CURVE WIDENING, DOUBLE LANE, TURNOUT AND BERM WIDENING. DOES NOT INCLUDE EXTRA WIDTH FOR ROADWAY DITCH.
2. CONSTRUCTION TOLERANCE FOR ALL ROADS SHALL BE CLASS "E".
3. ALL SLOPES 1 1/2:1 AND FLATTER AND ALL AREAS DISTURBED BY OPERATIONS NOT WITHIN THE SCOPE OF THE CONTRACT SHALL BE SEEDED, FERTILIZED AND MULCHED; ALL 1:1 SLOPES SHALL BE SEEDED AND FERTILIZED IN ACCORDANCE WITH SECTION 625.
4. THE ALIGNMENT AND GRADE SHOWN ARE SUBJECT TO CHANGE. QUANTITIES ARE APPROXIMATE ONLY AND SUBJECT TO INCREASE OR DECREASE.
5. EMBANKMENT SHALL BE PLACED AS SPECIFIED IN SPECIFICATION 203 METHOD 2, LAYER PLACEMENT.
6. ELDERBERRY PLANTS WITHIN THE CLEARING LIMITS SHALL NOT BE DISTURBED EXCEPT WHERE THEY POSE A CLEAR SAFETY HAZARD (SUCH AS THE INSIDE OF CURVES). ELDERBERRY PLANTS TO BE SAVED WILL BE FLAGGED BY THE ENGINEER.



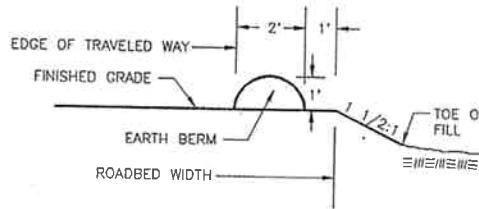
TYPICAL LEADOFF DITCH AND FURROW DITCH



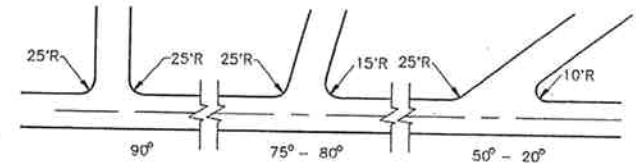
TYPICAL DOUBLE LANE, TURNOUT, AND TURNAROUND



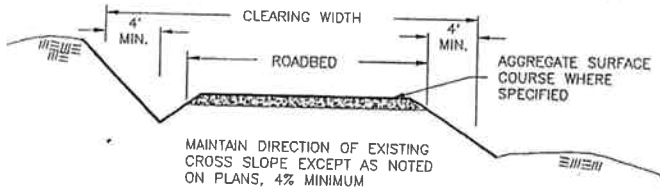
ROADWAY DITCH DETAIL



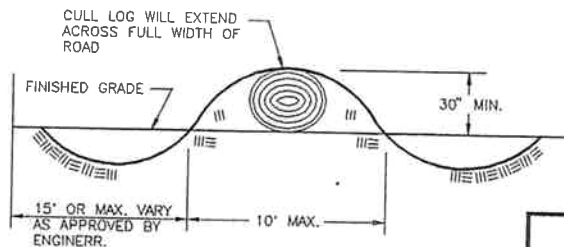
EARTH BERM DETAIL



TYPICAL INTERSECTION



TYPICAL RECONSTRUCTION SECTION



EARTH LOG BARRIER

TYPICAL SECTIONS

STATE	FOREST	PROJECT	NAME	SHEET NUMBER	TOTAL SHEETS
CALIF.	SIERRA				

SPECIFICATION P-801 SLIDE AND SLUMP REPAIR

DESCRIPTION

1.1 Slide removal is the removal from roadway and disposal of any material, such as soil, rock, and entrained vegetation that cannot be routinely handled by a motor grader during ditch cleaning (P-802) and surface blading (P-803).

Slump repair is the filling of depressions or washouts in roadway which cannot be routinely filled by a motor grader during surface blading (P-803).

Slide removal and slump repair includes excavation, loading, hauling, placing, and compacting of waste or replacement material and the development of disposal or borrow areas.

REQUIREMENTS

3.1 Slide material, including soil, rock and vegetative matter which encroaches into the roadway, shall be removed. The slope which generated the slide material shall be reshaped during the removal of the slide material with the excavation and loading equipment. Slide material deposited on the fill slope and below the traveled way will not be removed unless needed for slope stability or to protect adjacent resources.

Surface and base courses shall not be excavated during slide removal operations.

Slide material which cannot be used for other beneficial purposes shall be disposed of at disposal sites shown on the Permit Area Map. Material placed in disposal sites will not require compaction unless compaction is required in the specifications.

3.2 When filling slumps or washouts; material shall be moved from agreed locations or borrow sites shown on the Permit Area Map, placed in layers, and compacted by operating the hauling and spreading equipment uniformly over the full width of each layer.

Existing aggregate surfacing shall be salvaged when practical and relaid after depressions have been filled.

Damaged aggregate base, aggregate surfacing, and bituminous pavement shall be repaired under Specification P-804, Surfacing Repair.

The repaired areas of the slump shall conform to the cross section which existed prior to the slump and shall blend with the adjacent undisturbed traveled way.

SPECIFICATION P-802 DITCH CLEANING

DESCRIPTION

1.1 Ditch cleaning is removing and disposing of all slough material from roadside ditches to provide a free-draining waterway.

REQUIREMENTS

3.1 Ditch cleaning shall be repeated during the year as often as necessary to facilitate proper drainage.

3.2 All slough material or other debris which might obstruct water flow in the roadside ditch shall be removed. Material removed from the ditch, if suitable, may be blended into existing native road surface or shoulder or placed in designated berms in conjunction with surface blading (P-803).

Material removed from ditches that is not by agreement blended into existing roads or placed in berms shall be loaded and hauled to the approved disposal site.

3.3 Roadway backslope or berm shall not be undercut.

SPECIFICATION P-803 SURFACE BLADING

DESCRIPTION

1.1 Surface blading is keeping a native or aggregate roadbed in a condition to facilitate traffic and provide proper drainage. It includes maintaining the crown (inslope or outslope) of traveled way, turnouts, and shoulder; repairing berms; blending approach road intersections; and cleaning of bridge decks, drainage dips and lead-off ditches.

REQUIREMENTS

3.1 Surface blading shall be performed before, during and after Permittee's use as necessary to facilitate traffic and proper drainage.

3.2 The surface blading shall preserve the existing cross section. Surface irregularities shall be eliminated and the surface left in a free draining state and to a smoothness needed to facilitate traffic. Surface material which has been displaced from the shoulders or turnouts shall be returned to the traveled way. The blading operation shall be conducted to prevent the loss of surface material and to provide for a thorough mixing of the material being worked.

3.3 Water, taken from water sources designated on the Road Use Map, shall be applied during blading if sufficient moisture is not present to cut, mix, or compact the surface material.

3.4 On native surfaced roads, material generated from backslope sloughing and ditch cleaning may be blended with the surface material being worked. On aggregate surfaced roads this material shall not be blended with surface or base course material unless agreed otherwise.

3.5 Roadway backslopes or berms shall not be undercut, nor shall new berms be established unless agreed otherwise. Berms shall be repaired by placing material as needed to restore the berm to reasonably blend with existing line, grade, and cross section.

3.6 Drainage dips and lead-off ditches shall be cleaned and maintained to reasonably blend with existing line, grade, and cross section.

3.7 Intersecting roads shall be bladed for a distance of 50 feet to assure proper blending of the two riding surfaces.

3.8 Rocks or other material remaining on the traveled way after the final pass that are larger than 4 inches in diameter or are larger than the maximum size of imported surfacing shall be removed from the traveled way. The oversized material may be disposed of by sidecasting unless another method is agreed to. Sidecasting into streams, lakes or water courses will not be permitted.

3.9 Material resulting from work under this specification shall not remain on, or in, structures such as culverts, overside drains, cattleguards, ditches and drainage dips.

3.10 Material resulting from work under this specification plus any accumulated debris shall be removed from bridge decks, and the deck drains shall be maintained open

SPECIFICATION P-804 SURFACING REPAIR

DESCRIPTION

1.1 Surfacing repair is repairing potholes or small, soft areas in the traveled way. It includes area preparation, furnishing and placing all necessary materials, and other work necessary to repair the surface.

MATERIAL

2.1 Material used in the repair of soft areas on aggregate or native surfaced roads may be acquired from approved commercial sources, designated Forest Service borrow areas or borrow sources agreed to. The quality and quantity of the imported material used in the repair will be limited to that needed to provide a stable traveled way for hauling and to minimize damage to the road and adjacent resources.

2.2 Material used in the repair of bituminous pavements may be acquired from local commercial sources. If a mixing table is required, the location shall be approved by the Forest Service. The bituminous mixture to be used by the Permittee shall be approved by the Forest Service.

REQUIREMENTS

3.1 Work under this specification shall be performed in a timely manner to reduce further deterioration of the traveled way.

3.2 The areas to receive bituminous pavement repairs will be marked on the road surface by the Forest Service just prior to the Permittee performing the work.

3.3 Aggregate and Native Surfaces Soft spots on aggregate or native surfaces shall be repaired by placing the imported surface course on top of the soft spot. Layers of imported material shall be placed until a firm surface is produced.

3.4 Potholes (deep patch) Surface course and base course materials shall be excavated to a depth necessary to reach firm, suitable material. The minimum depth of excavation shall be two inches and the maximum depth of excavation shall be to the top of the subgrade.

The edges of the prepared hold shall be extended to form a vertical face in unfractured asphalt surfacing. The prepared hole shall generally be circular or rectangular in shape, dry, and cleaned of all loose material. The faces of the prepared hole shall be coated with a slow-setting emulsified asphalt.

Prepared potholes shall be patched or protected by barricades immediately.

The bituminous mixture shall be placed in layers not exceeding a compacted depth of two inches. Each layer shall be compacted thoroughly with hand or mechanical tampers or rollers. Compaction shall not be done with equipment wheels.

Upon completion, the compacted patch in the pothole shall be flush, with a tolerance or approximately one-fourth inch to one-half inch above the level of the adjacent pavement.

3.5 Skin Patches Prior to skin patching, potholes shall be patched, and the surface shall be cleaned of loose and deleterious material. Apply a tack coat with a slow-setting emulsified asphalt at the rate of 0.1 gallons per square yard.

Bituminous mixture shall be distributed uniformly with feathered edges in layers not to exceed two inches compacted depth. When multiple layers are ordered, joints shall be offset at least six inches between layers.

Each layer shall be compacted by two passes with a 7-10 ton steel roller or comparable vibratory roller.

3.6 Asphalt Berm Damaged segments of berm shall be removed and the exposed ends beveled at approximately forty-five degrees. The berm foundation shall be cleaned and patched as necessary. The foundation and joining surfaces shall be coated with a slow-setting emulsified asphalt. Asphalt mix shall be placed and compacted to conform with the shape and alignment of the undamaged segment.

3.7 All materials removed from potholes, patches, and berms shall be disposed of at disposal sites approved by the Forest Service.

SPECIFICATION P-805 DRAINAGE STRUCTURES

DESCRIPTION

1.1 This work consists of maintaining drainage structures and related items such as inlet and outlet channels, existing riprap, trash racks and drop inlets.

MATERIALS

2.1 All materials used in the maintenance of drainage structures shall conform by type and specification to the material in the structure being maintained.

REQUIREMENTS

3.1 Drainage structures and related items shall be cleared of all foreign material which has been deposited above the bottom of the structure and all vegetative growth which interferes with the flow pattern. Material removed that cannot be incorporated into maintenance work shall be hauled to an approved disposal site.

3.2 Perform maintenance to insure the proper functioning of the head walls, aprons, inlet assemblies, overside drains, riprap, trash racks, and other facilities related to the drainage structure.

SPECIFICATION P-806 DUST ABATEMENT

DESCRIPTION

1.1 This work shall consist of preparing traveled way, and furnishing and applying materials to abate dust.

MATERIALS

2.1 The roads requiring dust abatement, type of dust abatement material to be used, the rates of application, and frequency of applications will be specified by the Forest Service.

2.2 Water sources are shown on the Road Use Map.

2.3 Dust abatement materials shall meet the requirements of the following subsections of Forest Service Standard Specifications for Construction of Roads and Bridges or attached special project specifications.

Bituminous Materials

Liquid Asphalts.....	702.02
Bituminous Dust Palliatives....	702.04
Application Temperatures.....	702.05
Blotter Material.....	703.14
Lignin Sulfonate.....	712.09
Application Temperature.....	712.09
Water, for diluting.....	712.01
Magnesium Chloride.....	712.11
Application Temperature.....	712.11 (b)

2.4 Certification and sampling of bituminous materials lignin sulfonate and magnesium chloride shall be in accordance with Subsection 105.04 and 712.09, and 712.11 (c) respectively of Forest Service Standard Specifications for Construction of Roads and Bridges.

REQUIREMENTS

3.1 General

Dust abatement materials shall be applied to the road surface as necessary to control road surface loss, provide for road user safety, and minimize damage to adjacent resources.

3.2 Compaction

When compaction is required, the traveled way shall be compacted by an 8 to 10 ton pneumatic, steel-wheeled or equivalent vibrating roller making 2 passes over the full traveled way and shoulder width.

3.3 Preparation for Dust Abatement Materials Other Than Water

Bituminous residue shall be scarified and pulverized to produce loosened material not exceeding 4 inches in greatest dimension.

Traveled way shall be bladed in accordance with P-803 (Surface Blading).

Prior to applying DO-6BA, DO-6PA, or DO-8 the top 2 inches of Traveled Way shall contain not less than 80 percent nor more than 120 percent of optimum moisture as determined by AASHTO T-99, Method C. Prior to applying other bituminous material Traveled Way shall have a moisture content between 1 and 3 percent. If surface dusting prevents the bituminous material from penetrating, a light application of water shall be applied just prior to applying the bituminous material.

Lignin Sulfonate and magnesium chloride shall be applied when the top 1 inch of Traveled Way contains not less than 3 percent moisture nor more than 120 percent of optimum moisture as determined by AASHTO T-99, Method C.

Moisture content will be determined in accordance with AASHTO T-217 or T-239.

One or more of the following methods shall be used as specified:

Method 1 Compact traveled way and apply the dust abatement material.

Method 2 Develop a layer of loose material approximately one inch in depth for the full width of traveled way. Apply the dust abatement material to this loose material and compact after penetration. If traffic makes maintenance of the loose material difficult, one inch of the material may be bladed into a windrow along the shoulder. The specified moisture content shall be maintained in the windrow and the top one inch of traveled way. The windrow shall be bladed to a uniform depth across traveled way just prior to applying the dust abatement material. When the dust abatement material has penetrated, traveled way shall be compacted.

Method 3 Blade one inch of material from traveled way into a windrow along the shoulder. Maintain the specified moisture content in the windrow and the top inch of traveled way. Apply half the dust abatement material. When the dust abatement material has penetrated, the windrow shall be bladed to a uniform depth across dust abatement traveled way, and the remaining dust abatement material shall be applied. Traveled way shall be compacted.

Method 4 Develop a layer of loose material approximately 2 inches in depth for the full width of traveled way. Apply half the dust abatement material to the loose material. Blade the top 2 inches into a windrow along the shoulder. Apply the remaining dust abatement material to traveled way and the berm. Spread the berm evenly across traveled way and compact.

3.4 Preparation for Dust Abatement with Water

Traveled way shall be prepared in accordance with Specification P-803 (Surface Blading).

3.5 Application Tolerance

Dust abatement materials other than water shall be applied within 0.05 gallons per square yard of the rate specified.

3.6 Mixing Requirements

DO-6BA, DO-6PA, and DO-8 shall be thoroughly circulated in the distributor within one hour of application.

3.7 Weather Limitations

Dust abatement materials shall not be applied when it is raining.

Bituminous material shall be applied when the surface temperature of Traveled Way is 50 degrees Fahrenheit or higher.

Lignin sulfonate and magnesium chloride shall be applied when the atmospheric temperature is 40 degrees Fahrenheit or higher.

3.8 Blotter Material

Blotter material shall be spread in a sufficient quantity to prevent tire pickup.

SPECIFICATION P-807 ROADWAY VEGETATION

DESCRIPTION

1.1 This work includes removal of brush and trees from within the roadway limits.

REQUIREMENTS

3.1 Vegetative matter within the roadway which impedes vehicular travel or interferes with road maintenance operations such as surface blading, ditch and culvert cleaning, shall be removed. Downed timber meeting utilization standards shall be cut in appropriate lengths and decked along the roadside in locations where the traveled way or sight distances will not be impaired.

3.2 Vegetative matter removed from the roadway shall be disposed of by the method(s) specified in the permit.

3.3 Scattering; Clearing slash shall be scattered to reduce slash concentrations with slash generally left within 18" of the ground. Slash shall be scattered into openings away from and without unnecessary damage to residual trees. All scattered logs shall be limbed, placed away from trees and positioned so they will not roll.

3.4 Removal; Clearing slash shall be moved or hauled to a location designated by the Forest Service and piled for disposal by the Forest Service.

3.5 Chipping and Scattering; Chippable slash up to 4 inches in diameter shall be processed through a chipping machine. Chips shall be scattered to a loose depth not to exceed 6 inches.

3.6 Chipping and Removal; Chippable slash up to 4 inches in diameter shall be processed through a chipping machine. Chips shall be removed from National Forest lands.

3.7 Bucking; Clearing slash larger than 4 inches in large end diameter shall be bucked into lengths not to exceed 6 feet. Bucked lengths shall be left in place and positioned so they will not roll.

3.8 Piling; Clearing slash 4 inches and smaller in large end diameter shall be hand piled for Forest Service disposal. Piles shall be reasonably compact and free from soil, and shall have a 3 foot fireline cleared to mineral soil.

SPECIFICATION P-808 MISCELLANEOUS STRUCTURES

DESCRIPTION

1.1 Maintenance of miscellaneous structures includes cattleguards, gates, and other similar structures that have been previously installed to insure the safe and efficient operation of the road.

MATERIALS

2.1 Any materials needed in the maintenance of miscellaneous structures shall be similar in type and quality to the material in the structure being maintained.

REQUIREMENTS

3.1 Cattleguards

Loose rails shall be welded or bolted back in place.

Excess material carried into the cattleguard shall be removed when drainage is blocked or when it reaches 6 inches from the bottom of the cattleguard frame. Drainage into and from the cattleguard shall be kept open.

3.2 Gates

Gates shall be kept in good repair and made to swing easily. Hinges or latches shall be repaired if not operating properly.

Brush and debris shall be removed from within the swinging radius.

SPECIFICATION P-809 WATERBARS

DESCRIPTION

1.1 This work consists of removing and installing waterbars in the roadbed.

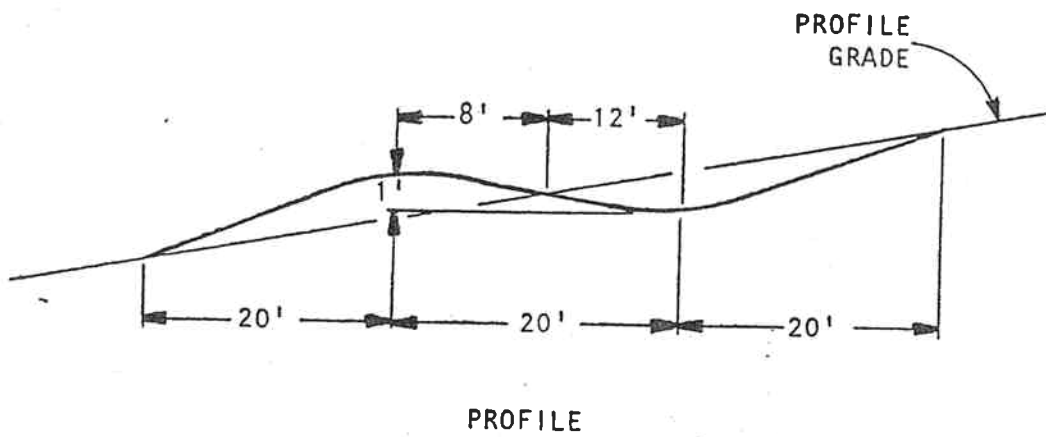
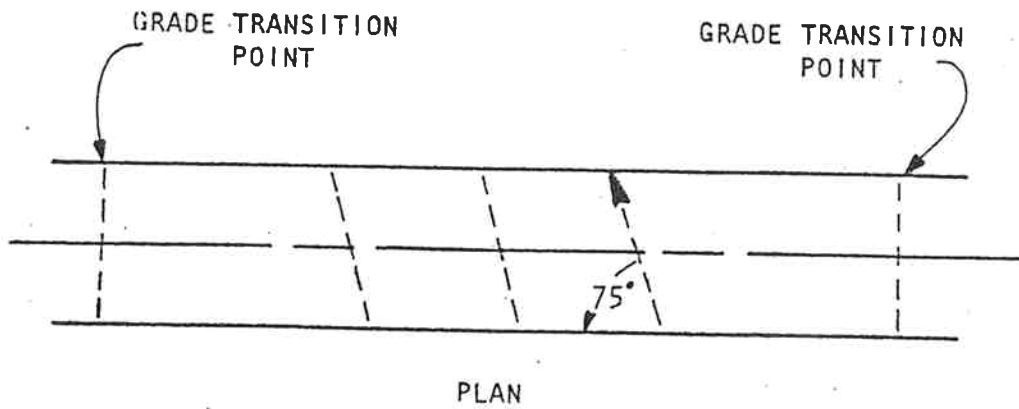
REQUIREMENTS

3.1 Waterbars shall be removed by blading the berm into the adjacent depression to form a smooth transition along the traveled way. The length and width of the fill material shall be compacted by the equipment performing the work.

3.2 Waterbars shall be required to be installed between seasons of use and then removed when haul is resumed. Waterbar installation may also be required when use of road has been completed.

3.3 Waterbars shall be installed on roads in accordance with the attached drawings at existing locations and at locations designated by the Forest Service.

3.4 All material excavated shall be used in the installation of the waterbar. Bermed material shall be compacted by operating heavy equipment over the length and width of the berm.



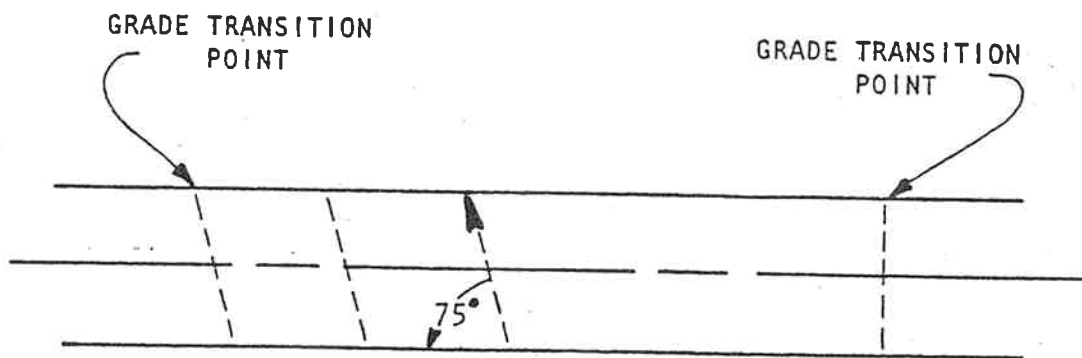
Applicable to: Road No.

NO SCALE

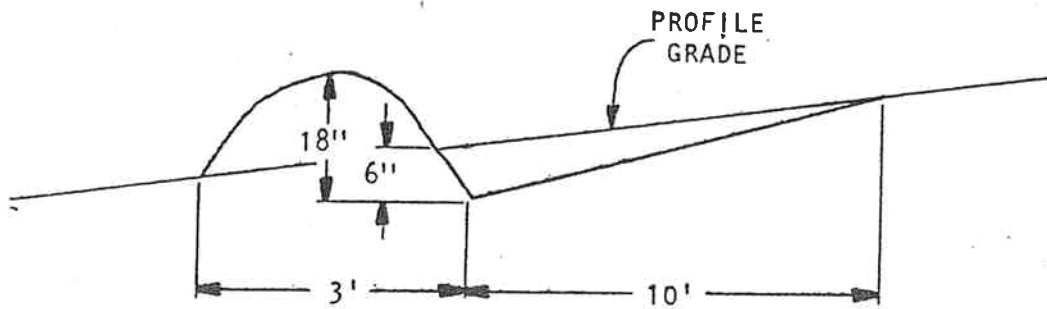
DRIVABLE WATERBAR

T - 809 - 1

(01-83)



PLAN



PROFILE

Applicable to: Road No.

NO SCALE

NON-DRIVABLE WATERBAR

T - 809 - 2

(01-83)

SPECIFICATION P-810 BARRIERS

DESCRIPTION

1.1 This work shall consist of furnishing, installing, or removing barriers. Gates are not included.

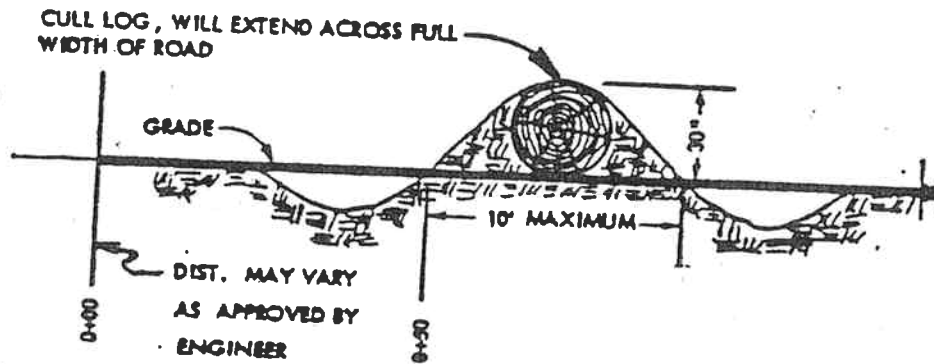
MATERIALS

2.1 Materials for barriers shall meet the requirements as shown on the attached drawings.

REQUIREMENTS

3.1 Barriers shall be installed in accordance with the attached drawings.

The location of barriers to be removed or installed is shown on the Permit Area Map. Installation or removal may occur as often as road use is terminated and resumed.



Applicable to: Road No.

BARRIER

T - 810 - 2

(01-83)

SHEET OF

SPECIFICATION P-811 SURFACE TREATMENT

DESCRIPTION

1.1 This work shall consist of applying a chip seal, sand seal, or fog seal to a traveled way. Chip seals may consist of single or double applications of bituminous material and cover aggregate.

MATERIALS

2.1 The roads requiring surface treatments, the type of seal coat to be applied, the rate of application, and type and grade of bituminous material, and the rate of application and grading of cover aggregate will be shown on the Permit.

2.2 Emulsions used for fog seals shall be diluted with an equal amount of water and shall be applied at the diluted application rate shown on the Permit.

2.3 Seal coat materials shall meet the requirements of the following subsections of Forest Service Standard Specifications for Construction of Roads and Bridges or attached special project specifications:

Bituminous Materials

Asphalt Cement.....702.01
Liquid Asphalts.....702.02
Emulsified Asphalt.....702.03.
Application Temperatures.....702.05

Cover Aggregate.....703.13
Blotter Material.....703.14
Water for Diluting.....712.01

2.4 The cover aggregate shall be surface damp at the time of application when using emulsified asphalt and dry when using an asphalt cement or liquid asphalt. Excess water on the aggregate surface will not be permitted.

REQUIREMENTS

3.1 Traffic shall be maintained in accordance to the Manual on Uniform Traffic Control Devices (MUTCD).

3.2 Weather Limitations

Fog seal and chip seal shall not be applied when the weather is foggy or rainy.

Seal coats requiring cover aggregate shall not be applied when the temperature of the surface being treated is below 70 degrees Fahrenheit in the shade.

Fog seal coats shall not be applied when the surface temperature is below 40 degrees Fahrenheit in the shade.

3.3 Equipment The following equipment or its equivalent shall be used:

A distributor truck equipped to spread the material uniformly at the designated rate, within the temperature range specified and within 0.04 gallons per square yard of the rate specified. The distributor shall be equipped with a thermometer and a hand hose with spray nozzle.

A rotary power broom and/or blower.

When cover aggregates are applied: A pneumatic tire roller, 8-ton minimum weight with all tires equally inflated to a pressure of at least 90 pounds per square inch. Rollers shall be equipped with devices for applying water to the tires.

Self-propelled aggregate spreader supported by at least four wheels equipped with pneumatic tires on two axles, situated so that at no time will the tires contact the uncovered bituminous materials. The aggregate spreader shall be equipped with positive controls so that the required amount of materials will be deposited uniformly over the full width.

Trucks with spreading attachments shall not be used.

3.4 Preparation of Surface Immediately before applying the bituminous material, the surface to be sealed shall be cleaned of all foreign and loose material.

3.5 Application of Bituminous Material Bituminous material shall be applied in a uniform, continuous spread. The distributor shall be moving forward at proper application speed at the time the spray bar is opened. Skipped areas or deficiencies shall be corrected prior to the application of cover aggregate.

The spread of bituminous material shall not be more than 6 inches wider than the width to be covered by the cover aggregate. Operations shall not proceed if the bituminous material is allowed to cool, set up, dry, or otherwise impair retention of cover aggregate.

Fog seal shall be allowed to penetrate and dry before traffic is permitted on the sealed portion.

The surfaces of structures and trees adjacent to the area being treated shall be protected to prevent their being splattered or marred.

3.6 Application of Cover Aggregate and Blotter Immediately following the application of the bituminous material, cover aggregate shall be spread at the specified rate. Joints between adjacent application of cover aggregate shall be approximately in the center of two-lane roads.

The aggregate spreader shall not be operated at speeds which cause the aggregate to roll over after striking the bituminous material. The cut-off of aggregate shall be complete, and any excess aggregate shall be removed from the surface prior to resuming operations. Immediately after the cover aggregate has been spread, any piles, ridges, and uneven distribution shall be corrected.

Cover aggregate may be applied by hand in areas inaccessible to spreading equipment.

Rolling shall begin immediately after spreading the cover aggregate and shall consist of a minimum of two complete coverages.

If a double chip seal is required the second treatment shall not be applied until at least 24 hours after completion of a first treatment, when an emulsion or asphalt cement is used. If a medium cure liquid asphalt is used, 48 hours shall be allowed between applications. Prior to the second treatment, any loose cover aggregate remaining on the surface after the first treatment shall be removed in such a manner that the cover aggregate set in the bituminous material will not be displaced.

After rolling, traffic shall be controlled to a maximum speed of 15 miles per hour for a period of 4 hours.

The day following the final application of cover aggregate, any concentrations of loose cover aggregate shall be redistributed without disturbing the embedded aggregate. Four days after the final application of cover aggregate, all excess cover aggregate shall be removed. During this period, any bituminous material that comes to the surface shall be covered with additional cover aggregate or approved blotter material.

3.7 Blotter material for fog seals shall be spread in sufficient quantity to prevent tire pickup.

SPECIFICATION P-812 HAZARD TREES

DESCRIPTION

1.1 This work includes removal of hazard trees from the roadside.

REQUIREMENTS

3.1 All trees hazardous to the Permittee's use of the Forest Development Road shall be felled before use of the road. All hazard trees to be felled shall be marked in advance by the Forest Service.

3.2 No material shall be removed as logs without the advanced approval of the Forest Service.

3.3 All felling shall be done in a manner as to protect the residual trees.

3.4 Roadside vegetative matter shall be disposed of by the method(s) specified in the permit.

3.5 Scattering; Slash shall be scattered to reduce slash concentrations with slash generally left within 18" of the ground. Slash shall be scattered into openings away from and without unnecessary damage to residual trees. All scattered logs shall be limbed, placed away from trees and positioned so they will not roll.

3.6 Removal; Clearing slash shall be moved or hauled to a location designated by the Forest Service and piled for disposal by the Forest Service.

3.7 Chipping and Scattering; Chippable slash up to 4 inches in diameter shall be processed through a chipping machine. Chips shall be scattered to a loose depth not to exceed 6 inches.

3.8 Chipping and Removal; Chippable slash up to 4 inches in diameter shall be processed through a chipping machine. Chips shall be removed from National Forest lands.

3.9 Bucking; Clearing slash larger than 4 inches in large end diameter shall be bucked into lengths not to exceed 6 feet. Bucked lengths shall be left in place and positioned so they will not roll.

3.10 Piling; Clearing slash 4 inches and smaller in large end diameter shall be hand piled for Forest Service disposal. Piles shall be reasonably compact and free from soil, and shall have a 3 foot fireline cleared to mineral soil.