

POTENTIAL RESOURCE ISSUE:

Maintenance of roads and trails used by Placer County Water Agency (PCWA) to access Project facilities including: (1) Project roads and trails used almost exclusively by PCWA to operate and maintain the Middle Fork American River Project (MFP); and (2) non-Project General Access roads used by PCWA to access Project roads, trails or facilities.

Maintenance of roads and trails used by the public to access: (1) Project recreation facilities and reservoirs; and (2) areas associated with Project-induced recreation.

PROJECT NEXUS:

PCWA is responsible for maintaining Project roads and trails.

PCWA uses non-Project General Access roads to access Project roads, trails and facilities.

The public uses non-Project General Access roads to access Project recreational facilities and areas associated with Project-induced recreation.

POTENTIAL LICENSE CONDITION:

- Transportation System Management Plan including management and maintenance of roads and trails

STUDY OBJECTIVES:

Phase One

- Identify and characterize Project roads and trails including condition (road assessment), season of use and access, and maintenance practices and responsibilities.
- Describe any existing agreements related to Project roads and trails including maintenance agreements, easements, special use permits, and right-of-ways.
- Identify the location, condition, use and maintenance of any helicopter landing sites used to operate and maintain the MFP.
- Describe the general characteristics of non-Project General Access roads, including length, width, road surface, season of use and access, and current party with primary maintenance responsibilities.
- Identify use of non-Project General Access roads and trails by:
 - PCWA to access Project roads, trails, and facilities;
 - The public to access Project recreation facilities and reservoirs and areas associated with Project-induced recreation ; and
 - Other types of users including private landowners, timber companies, and non-Project recreation visitors.
- Identify the locations along Project roads and non-Project General Access roads that may limit access to Project facilities from landslides or rockslides.
- Identify and describe new roads or trails necessary to construct or access potential Project betterments.

- Identify if access or the level or timing of use on Project roads and non-Project General Access roads or trails will change as a result of planned changes in future operations or maintenance of the MFP, or during construction of potential Project betterments.

Phase Two

- Review information developed in Phase One of this study with the Land Management Technical Working Group (TWG) to identify non-Project General Access roads that are primarily used by PCWA and Project-related recreation visitors.
- Conduct a road assessment on the non-Project General Access roads identified above.

EXTENT OF STUDY AREA:

The study area includes the existing Project roads and trails identified on Table LAND 1-1, and the roads and trails associated with potential Project betterments (including staging areas) as identified in Table LAND 1-2. Roads and trails that are situated within the boundaries of an existing Project recreation facility will be addressed as part of the facilities assessment described in REC 1 – Recreation Use and Facilities Assessment Technical Study Plan (TSP) as per objectives and approaches outlined in this study plan. In addition, Drivers Flat Road from Foresthill Road to Ruck-a-Chucky and the road connecting Ruck-a-Chucky and Canyon Creek, located within the Auburn State Recreation Area (ASRA), will be assessed as part of the REC 1 - Recreation Use and Facilities Assessment TSP.

The study area also includes the non-Project General Access roads shown on Map LAND 1-1 (5 sheets) and identified on Table LAND 1-3. Non-Project General Access roads include National Forest System roads or public roads that are used by the public and by PCWA to access Project facilities, developed Project recreation facilities, dispersed concentrated use areas, and areas associated with Project-induced recreation.

STUDY APPROACH:

Phase One

Project Roads and Trails

- Identify, list and map the Project roads and trails used by PCWA to access Project facilities, including developed Project recreation facilities. All maps will be produced using Geographic Information System (GIS) according to standard protocols and will include land ownership. Data layers will be provided to the USDA-FS.
- Identify, list and map Project roads and trails used by the public to access dispersed concentrated use areas.
- Conduct a road assessment to characterize the current condition of Project roads and trails, and their associated drainage features. The road assessment will be conducted in coordination with USDA-FS personnel using the most current USDA-FS protocols. The road and trail assessment will involve developing the following information:
 - Length and width of roads and trails
 - Type of surface treatment (e.g., paved, gravel, dirt) and condition
 - Location, size, and condition of culverts and other drainage features
 - Location of bridge crossings

- Location and condition of erosion control features
- Estimated useful remaining life span of surface treatments and erosion and drainage features
- Inventory and photograph the location and condition of safety, traffic control, and informational signs and access control features such as gates and other closure methods such as boulders.
- Identify any potential natural resource issues that occur along Project roads and trails, such as stream crossings and riparian areas.
- Identify and characterize potential traffic safety concerns such as blind spots, poor sight distance, inadequate signage, and hazard trees. Potential traffic safety concerns will be identified in the field with USDA-FS personnel.
- Identify and characterize current maintenance practices, schedules, and responsibilities for Project roads and trails including road and trail maintenance agreements between PCWA and the USDA-FS, and their associated termination dates.
- Identify and map the locations of existing legal easements and right-of-ways associated with Project roads and trails. This information will be developed as part of the LAND 4 – FERC Project Boundary and Authorizations TSP.
- Identify the location and condition of helicopter landing sites that are used to operate and maintain the MFP, including sites used for snow surveys and other data gathering activities. Characterize the frequency and seasonality of their use, and describe any associated Project-related maintenance activities.

Non-Project Roads and Trails

- Identify, list and map non-Project General Access roads and trails used by PCWA and the public to access Project roads, trails and facilities, including Project recreational facilities.
- Identify, list and map non-Project General Access roads and trails used by the public in association with Project-induced recreation. This information will be developed as part of the REC – 2 Recreation Visitor Surveys TSP.
- Characterize the general characteristics of non-Project General Access roads including length, width, road surface, season of use and access, and current party with primary maintenance responsibilities.
- Describe any current PCWA maintenance activities associated with non-Project general access roads, including snowplowing.
- Identify current non-Project roads and trails maintenance agreements between PCWA and the USDA-FS.
- Identify, map, and describe any Project-related signs located along non-Project general access roads and trails.
- Identify use of non-Project General Access roads and trails by:
 - PCWA to access Project roads, trails, and facilities;
 - The public to access Project recreation facilities and reservoirs and areas associated with Project-induced recreation; and

- Other type of users such as private landowners, timber companies, non-Project recreation visitors.

This information will be summarized using relevant information contained in existing traffic studies and vehicle counts; information developed as part of the REC – 1 Recreation Use and Facilities Assessment TSP and the REC – 2 Recreation Visitor Surveys TSP; and interviews with PCWA operation and maintenance personnel.

Locations that may be at Risk to Damage from Natural Events

- Identify, describe, and map the locations along Project roads and non-Project General Access roads that may limit access to Project facilities from landslides and rockslides.

General Access New Roads or Trails Associated with Project Betterments

- Identify, describe, and develop a GIS map showing the location of any new roads or trails or modification to existing roads or trails that would be necessary to construct or access potential Project betterments.

Potential Changes in Level or Timing of Vehicle Use

- Describe if access or the level or timing of use on Project or non-Project General Access roads or trails will change as a result of planned changes in future operations or maintenance of the MFP, or during construction of potential Project betterments.

Phase Two

- Review information developed in Phase One of this study with the Land Management TWG to identify non-Project General Access roads that are primarily used by PCWA and Project-related recreation visitors.
- Conduct a road assessment on the non-Project General Access roads identified by the Land Management TWG. The road assessment will be conducted in coordination with USDA-FS personnel using the most current USDA-FS protocols. The road assessment will involve developing the following information:
 - Length and width of roads and trails
 - Type of surface treatment (e.g., paved, gravel, dirt) and condition
 - Location, size, and condition of culverts and other drainage features
 - Location of bridge crossings
 - Location and condition of erosion control features
 - Estimated useful remaining life span of surface treatments and erosion and drainage features

LAND 1 – Transportation System Technical Study Plan

SCHEDULE:

Date	Activity
Phase One	
March through June 2008	Collect and summarize existing data as described in Phase One
July through September 2008	Conduct Phase One road assessment in collaboration with USDA-FS
October through December 2008	Summarize relevant data from REC – 1 Recreation Use and Facilities Assessment Technical Study Plan and the REC – 2 Recreation Visitor Surveys Technical Study Plan
January and February 2009	Complete data analysis and prepare draft report
March 2009	Distribute draft report to Land Management TWG
March and April 2009	Land Management TWG 60 day review and comment period
May and June 2009	Resolve comments and prepare final report
July 2009	Distribute final report to Land Management TWG and Plenary
Phase Two	
April and May 2009	Identify in Land Management TWG non-Project General Access roads that are primarily used by PCWA and Project-related recreation visitors
June through August 2009	Conduct Phase Two road assessment in collaboration with USDA-FS
September 2009	Complete data analysis and prepare draft report
October 2009	Distribute draft report to Land Management TWG
October and November 2009	Land Management TWG 60 day review and comment period
December 2009	Resolve comments and prepare final report
January 2010	Distribute final report to Land Management TWG and Plenary

REFERENCES:

None.

TABLES

Table LAND 1-1. Existing Project Roads and Access Points.

Existing Project Roads and Access Points
Duncan Creek Area
Duncan Creek Diversion Intake Road and Diversion Pool Access Point
Duncan Creek Diversion Dam Road
Duncan Creek Diversion Pool Road and Access Point
French Meadows Area
Duncan Creek - Middle Fork Tunnel Portal Road and Spillway Access Point
French Meadows - Hell Hole Tunnel Gatehouse Road
French Meadows Dam Outlet Works and Leakage Weirs Road
Middle Fork American River Gage and Weir below French Meadows Dam Road
French Meadows Dam Staging Area Road
Hell Hole Area
Hell Hole Dam and Powerhouse Road and Spillway Southern Access Point
Rubicon River Gage and Weir below Hell Hole Dam Road
Hell Hole Dam Leakage Weir Road
Hell Hole Dam Spillway Northern Access Point
French Meadows - Hell Hole Tunnel Portal Road
French Meadows Powerhouse Road
Hell Hole - Middle Fork Tunnel Gatehouse Road
Dormitory Facility Road
Hell Hole Dam Spillway Discharge Channel Road
Long Canyon Area
North Fork Long Canyon Diversion North Road
North Fork Long Canyon Diversion South Road
North Fork Long Canyon Diversion Drop Inlet Road
South Fork Long Canyon Diversion and Drop Inlet Road
North Fork Long Canyon Crossing Removable Section North Road and Parking Area
North Fork Long Canyon Crossing Removable Section South Road
Middle Fork Interbay Area
Middle Fork Powerhouse Butterfly Valve House Road
Middle Fork Powerhouse Penstock and Butterfly Valve House Road
Middle Fork Interbay Dam and Powerhouse Road and Interbay Access Points
Middle Fork Powerhouse Upper Switchyard Road
Ralston-Oxbow Area
Brushy Canyon Adit Road
Oxbow Powerhouse Road
Ralston Powerhouse Butterfly Valve House Road
Ralston - Oxbow Tunnel Intake Road
Ralston Afterbay Road and Boat Ramp
Ralston Afterbay Dam Road and Afterbay Access Point
Ralston Afterbay Sediment Removal Access Point

Table LAND 1-1. Existing Project Roads and Access Points (continued).

Existing Project Trails

Duncan Creek Area
Duncan Creek Diversion Dam North Trail
Duncan Creek Diversion Dam South Trail
Photovoltaic Poles and Powerline to Duncan Creek Gage above Diversion Dam Trail
Duncan Creek Gage and Weir above Diversion Trail
Duncan Creek Gage and Weir below Diversion Trail
French Meadows Area
Middle Fork American River Gage and Weir below French Meadows Dam Trail
Middle Fork Interbay Area
Middle Fork American River Gage above Middle Fork Powerhouse Trail
Passive Microwave Reflector Station above Middle Fork Interbay Trail
Ralston Afterbay Area
Passive Microwave Reflector Station above Ralston Afterbay Trail
Middle Fork American River Gage below Oxbow Powerhouse Trail

Table LAND 1-2. Roads Associated with the Potential Project Betterments.

Hell Hole Reservoir Seasonal Storage Increase

Hell Hole Dam

Hell Hole Dam Spillway Crest Gates Construction Road (temporary road)

French Meadows Powerhouse Capacity Upgrade

French Meadows Reservoir

French Meadows - Hell Hole Tunnel Intake Trash Rack Construction Road (temporary road)

French Meadows Powerhouse

French Meadows - Hell Hole Tunnel Surge Shaft or Pipeline Road (permanent Project road)

Forest Road 14N09A (Non-Project road - modification)

Table LAND 1-3. Non-Project General Access Roads (*note: FR = Forest Route*).

FR-96 (Mosquito Ridge Road) from Foresthill Road to Ahart Campground
FR-23 from intersection of Blacksmith Flat Road to intersection of FR-2 (forest road 14N08.1)
Blacksmith Flat Road from FR-96 to FR-23
FR-2 from intersection of forest road 14N1.6 to Hell Hole Boat Ramp Access Road
FR-22 (17N12) from intersection of FR-96 to intersection of FR-2
FR-68 from intersection of FR-96 to Gates Group Campground Road
FR-24 (forest road 14N09) to FR-2 (forest road 17N12.1)
FR-25 (forest road 14N22) from FR-23 to forest road 14N3.1
Forest road 14N3.1 from FR-25 to intersection of 14N56
Forest road 14N56 from 14N31 to Radio Communication Tower and Repeater near Hell Hole-Middle Fork Tunnel Surge Shaft and Tank
Forest road 14N30 from FR-23 to Brushy Canyon Adit Road
Forest road 96.52 from intersection of FR-96 to the intersection of Duncan Creek Diversion Intake Road
Forest road 14N1.6 from intersection of FR-2 to North Fork Long Canyon Crossing Removable Section South Road
Forest road 48 from intersection of FR-96 to FR-24 (forest road 14N09)
Forest road 23.2 from Blacksmith Flat Road to Ralston Afterbay Dam
Forest road 96.6 from FR-96 to Middle Fork American River Gage below Oxbow Powerhouse Trail

MAPS

POTENTIAL RESOURCE ISSUES:

Fire prevention and response.

PROJECT NEXUS:

Project operations and maintenance activities could increase fire risk.

POTENTIAL LICENSE CONDITION:

- Fire Prevention and Response Plan

STUDY OBJECTIVES:

- Characterize existing fire prevention and management plans and programs relevant to the MFP. Fires could damage or destroy Project facilities.
- Characterize fuel conditions in the immediate vicinity of the MFP, including condition of existing Project facilities and Project recreation facilities.
- Characterize PCWA's existing fire prevention measures associated with the MFP.
- Describe PCWA's existing fire response resources and procedures.

EXTENT OF STUDY AREA:

The study area will include areas immediately surrounding the Project facilities identified in Table LAND 2-1, the developed Project recreation facilities identified in Table LAND 2-2, and the potential Project betterments identified in Table LAND 2-3. In addition, the study area includes the dispersed concentrated use areas identified in Table LAND 2-4.

STUDY APPROACH:

Existing Fire Prevention and Management Plans

- Identify and describe applicable federal, and State, and local fire prevention and management regulations, fuels treatments plans, and cooperative agreements relevant to fire prevention on lands within the existing or proposed FERC Project boundary.
- Identify and describe federal, State, and local fire prevention and management plans and programs in the Watershed that are relevant to the MFP. Applicable plans and/or programs may include, but are not limited, to the following:
 - Community Wildfire Protection Plans (CWPPs)
 - Foresthill Fire Safe Program
 - Fire Plans prepared by the USDA-FS
 - The California State Fire Plan
 - Placer County Multi-hazard Mitigation Plan, which was prepared pursuant to the Disaster Mitigation Act of 2000 (DMA 2000)

Fuel and Facility Conditions

- Identify and map through field surveys, fuel conditions at Project facilities and developed Project recreation facilities, at dispersed concentrated use areas, and in areas associated with potential Project betterments. The form in which conditions are characterized (e.g. Forest Service fuel condition classes) shall be agreed to by the Land TWG.
- Describe the condition of each Project facility and developed Project recreation facility including construction materials and clearance distances.
- In consultation with the USDA-FS, identify and map existing defense zones (fuels treatment areas) around Project facilities (including Project roads and trails), developed Project recreation facilities, and areas associated with potential Project betterments.

PCWA's Existing and Proposed Fire Prevention Measures

- Describe current vegetation management practices and fuel reduction measures implemented at Project facilities and developed Project recreation facilities, including clearance distances around facilities and power poles.
- Identify existing fire hazard reduction measures at Project facilities and developed Project recreation facilities.
- Identify if existing fire prevention measures conform to water quality protection practices as enumerated in USDA Forest Service, Pacific Southwest Region, Water Quality Management for National Forest System Lands in California – Best Management Practices.
- Identify potential fire danger associated with developed Project recreation facilities and Project-related dispersed concentrated use areas (including access roads and trails), including those associated with dispersed camping, day use activities, and vehicle access.

PCWA's Fire Response Resources and Procedures

- Summarize PCWA's fire response resources and procedures including, but not limited to, the following:
 - Process and schedule for updating the Fire Plan(s)
 - Response and communication procedures in the event of a catastrophic fire in the Watershed
 - Procedures for responding or notifying agencies of fires at a Project facility, including the USDA-FS and the California Department of Forestry (CDF)
 - PCWA dedicated radio frequencies that could potentially be used by the County and fire response personnel for emergency communications
 - Designated shared radio frequencies that are or can be used during emergency situations
 - The locations and availability of fire suppression equipment and personnel

LAND 2 – Fire Prevention and Response Technical Study Plan

- Describe how outside agencies (for example, the USDA-FS, CDF, or Placer County Office of Emergency Services [OES]) inform PCWA of a fire in the vicinity of the MFP.
- Describe how PCWA notifies outside agencies (for example, USDA-FS, CDF, or Placer County OES) of a non-Project fire in the vicinity of the MFP.
- Describe how communications are carried out during a fire response, including the use of amateur emergency radio frequencies.
- Characterize and document (to the extent possible) any fire-related incidents that have occurred at any Project facility or Project recreation facility that required a response by: 1) the USDA-Forest Service; 2) the Placer County Sheriff's Department; 3) Placer County Search and Rescue; 4) the California Department of Forestry (CDF); or 5) a local fire department. This effort will be performed as part of the LAND 3 – Emergency Action and Public Safety TSP and will involve reviewing existing records and databases maintained by the Placer County Sheriff's Department, the USDA-FS, CDF and, local fire departments, and interviewing representatives of these agencies.

SCHEDULE:

Date	Activity
January through July 2008	Collect and summarize existing data; review emergency response data bases; interview emergency responders.
June and July 2008	Conduct field surveys; assess fuel and facility conditions.
August and September 2008	Complete data analysis and prepare draft report
October 2008	Distribute draft report to Land Management TWG
October through December 2008	Land Management TWG 90 day review and comment period
January and February 2009	Resolve comments and prepare final report
March 2009	Distribute final report to Land Management TWG and Plenary

REFERENCES:

None.

TABLES

Table LAND 2-1. Existing Project Facilities and Features.

Dams, Reservoirs, and Diversion Pools	
Large Dams	
French Meadows Dam and Outlet Works	
Hell Hole Dam and Outlet Works	
Medium Dams	
Middle Fork Interbay Dam	
Ralston Afterbay Dam	
Small Dams	
Duncan Creek Diversion Dam	
North Fork Long Canyon Diversion Dam	
South Fork Long Canyon Diversion Dam	
Large Reservoirs	
French Meadows Reservoir	
Hell Hole Reservoir	
Medium Reservoirs	
Middle Fork Interbay	
Ralston Afterbay	
Small Diversion Pools	
Duncan Creek Diversion Pool	
North Fork Long Canyon Diversion Pool	
South Fork Long Canyon Diversion Pool	
Water Conveyance Systems	
Tunnels	
Duncan Creek – Middle Fork Tunnel	
French Meadows – Hell Hole Tunnel	
Hell Hole – Middle Fork Tunnel	
Middle Fork – Ralston Tunnel	
Ralston – Oxbow Tunnel	
Diversion Pipes and Drop Inlets	
North Fork Long Canyon Diversion Pipe and Drop Inlet	
South Fork Long Canyon Diversion Pipe and Drop Inlet	
Surge Shafts and Adits	
Brushy Canyon Adit	
Hell Hole – Middle Fork Tunnel Surge Shaft and Tank	
Middle Fork – Ralston Tunnel Surge Shaft and Tank	
Removable Sections and Portals	
Duncan Creek – Middle Fork Tunnel Portal	
French Meadows – Hell Hole Tunnel Removable Section	
Hell Hole – Middle Fork Tunnel Removable Section	
Middle Fork – Ralston Tunnel Removable Section	
North Fork Long Canyon Crossing Removable Section	
Intakes and Gatehouses	
Duncan Creek – Middle Fork Tunnel Intake	
French Meadows – Hell Hole Tunnel Gatehouse	
French Meadows – Hell Hole Tunnel Intake	
Hell Hole – Middle Fork Tunnel Gatehouse	
Hell Hole – Middle Fork Tunnel Intake	
Middle Fork – Ralston Tunnel Intake and Gatehouse	
Ralston – Oxbow Tunnel Intake	

Table LAND 2-1. Existing Project Facilities and Features (continued).

Water Conveyance Systems (continued)
Penstocks and Valve Houses
French Meadows Powerhouse Penstock and Butterfly Valve House
Middle Fork Powerhouse Penstock and Butterfly Valve House
Ralston Powerhouse Penstock and Butterfly Valve House
Powerhouses, Switchyards, and Substations
French Meadows Powerhouse and Switchyard
Hell Hole Powerhouse
Middle Fork Powerhouse and Upper and Lower Switchyards
Ralston Powerhouse and Switchyard
Oxbow Powerhouse and Switchyard
Hell Hole Substation
Gaging Stations and Weirs
Stream Gages and Weirs
Duncan Creek Gage and Weir above Diversion Dam (USGS Gage and Weir No. 11427700)
Duncan Creek Gage and Weir below Diversion Dam (USGS Gage and Weir No. 11427750)
Middle Fork American River Gage and Weir below French Meadows Dam (USGS Gage and Weir No. 11427500)
Middle Fork American River Gage at Interbay Dam (USGS Gage No. 11427770)
Middle Fork American River Gage above Middle Fork Powerhouse (USGS Gage No. 11427760)
Middle Fork American River Gage below Oxbow Powerhouse (USGS Gage No. 11433300)
North Fork Long Canyon Gage and Weir at Diversion Dam (USGS Gage and Weir No. 11433085)
South Fork Long Canyon Gage and Weir at Diversion Dam (USGS Gage and Weir No. 11433065)
Rubicon River Gage and Weir below Hell Hole Dam (USGS Gage and Weir No. 11428800)
Diversion Gages
North Fork Long Canyon Gage at Diversion Dam (USGS Gage No. 11433080)
South Fork Long Canyon Gage at Diversion Dam (USGS Gage No. 11433060)
Reservoir Gages
French Meadows Reservoir Gage (USGS Gage No. 11427400)
French Meadows Reservoir Staff Gage
Hell Hole Reservoir Gage (USGS Gage No. 11428700)
Hell Hole Reservoir Staff Gage
Middle Fork Interbay Reservoir Gage
Ralston Afterbay Reservoir Gage
Powerhouse Gages
French Meadows Powerhouse Gage (USGS Gage No. 11427200)
Middle Fork Powerhouse Gage (USGS Gage No. 11428600)
Oxbow Powerhouse Gage (USGS Gage No. 11433212)
Ralston Powerhouse Gage (USGS Gage No. 11427765)
Leakage Weirs
French Meadows Dam Leakage Weirs Nos. 1–6
Hell Hole Dam Leakage Weir
Project Communication Lines and Powerlines
French Meadows Area
French Meadows Dam Generator Building to French Meadows Dam Outlet Works Powerline
French Meadows Dam Generator Building to French Meadows Dam Spillway Gates Powerline

Table LAND 2-1. Existing Project Facilities and Features (continued).

Project Communication Lines and Powerlines (continued)

Hell Hole Area

French Meadows Powerhouse to French Meadows Powerhouse Penstock and Butterfly Valve House Communication Line/Powerline

French Meadows Powerhouse and Switchyard to Hell Hole – Middle Fork Tunnel Gatehouse, Dormitory Facility, Operator’s Cottages, and Hell Hole Powerhouse Communication Line/Powerline

Dormitory and Cottages Water Supply Tank Powerline

Hell Hole Powerhouse to Rubicon River Gage and Weir below Hell Hole Dam Communication Line/Powerline

Middle Fork Interbay Area

Middle Fork Powerhouse to Middle Fork Powerhouse Butterfly Valve House Communication Line/Powerline

Middle Fork Powerhouse Butterfly Valve House to Radio Repeater near Hell Hole – Middle Fork Tunnel Surge Tank (underground) Communication Line/Powerline

Middle Fork Powerhouse to Middle Fork – Ralston Tunnel Intake and Gatehouse Communication Line/Powerline

Middle Fork Powerhouse to Middle Fork American River Gage above Middle Fork Powerhouse Communication Line/Powerline

Ralston – Oxbow Area

Ralston – Oxbow Tunnel Intake to Ralston Powerhouse Communication Line

Ralston Powerhouse to Ralston Powerhouse Butterfly Valve House Communication Line/Powerline

Ralston Afterbay Dam Generator Building to Ralston – Oxbow Tunnel Intake Communication Line/Powerline

Oxbow Powerhouse to Ralston Afterbay Dam Generator Building Communication Line/Powerline

Photovoltaic Poles and Powerlines

Photovoltaic Poles and Powerline to Duncan Creek Gage above Diversion Dam

Photovoltaic Pole and Powerline at Duncan Creek Gage below Diversion Dam

Photovoltaic Pole and Powerline at Middle Fork American River Gage below French Meadows Dam

Photovoltaic Pole and Powerline at Middle Fork American River Gage above Middle Fork Powerhouse

Photovoltaic Pole and Powerline at North Fork Long Canyon Gage at Diversion Dam

Photovoltaic Pole and Powerline at South Fork Long Canyon Gage at Diversion Dam

Photovoltaic Pole at Middle Fork American River Gage below Oxbow Powerhouse

Microwave Reflectors and Radio Towers

Passive Microwave Reflector Station above Middle Fork Interbay

Radio Communications Tower near French Meadows – Hell Hole Tunnel Gatehouse

Radio Communications Tower and Repeater near Hell Hole – Middle Fork Tunnel Surge Shaft and Tank

Passive Microwave Reflector Station above Ralston Afterbay

Disposal Sites

Duncan Diversion Dam Sediment Disposal Area

North Fork Long Canyon Crossing Sediment Disposal Area

Middle Fork Interbay Sediment Disposal Area

Ralston Ridge Sediment Disposal Area

Indian Bar Sediment Disposal Area

Ancillary Facilities

French Meadows Dam Generator Building

French Meadows Dam Staging Area

Dormitory Facility

Dormitory and Cottages Water Supply Tank

Table LAND 2-1. Existing Project Facilities and Features (continued).

Ancillary Facilities (continued)
Hell Hole Staging Areas
Operator Cottages and Shop
Ralston Afterbay Dam Generator Building
Storage Building at Middle Fork – Ralston Tunnel Surge Shaft and Tank
Wabena Meadows Snow Course
Miranda Cabin Snow Course
Diamond Crossing Snow Course
Talbot Camp Snow Course
Project Fences
Slope Fences
French Meadows Powerhouse Penstock Rock Fence
French Meadows Powerhouse Slope Fence
Long Canyon Crossing Slope Fence
Middle Fork Powerhouse Upper Switchyard Slope Fence
Middle Fork Interbay Dam Slope Fence
Oxbow Powerhouse Slope Fence
Ralston Powerhouse Penstock and Butterfly Valve House Slope Fences
Ralston Powerhouse Slope Fence
Public Safety Fences
Dormitory Facility Barrier Fence
Hell Hole Dam General Parking Area Barrier Fence
North Fork Long Canyon Crossing Removable Section Barrier Fence
Project Roads and Access Points
Duncan Creek Area
Duncan Creek Diversion Intake Road and Diversion Pool Access Point
Duncan Creek Diversion Dam Road
Duncan Creek Diversion Pool Road and Access Point
French Meadows Area
Duncan Creek – Middle Fork Tunnel Portal Road and Spillway Access Point
French Meadows – Hell Hole Tunnel Gatehouse Road
French Meadows Dam Outlet Works and Leakage Weirs Road
French Meadows Dam Staging Area Road
Middle Fork American River Gage and Weir below French Meadows Dam Road
Hell Hole Area
Hell Hole Dam and Powerhouse Road and Spillway Southern Access Point
Rubicon River Gage and Weir below Hell Hole Dam Road
Hell Hole Dam Leakage Weir Road
Hell Hole Dam Spillway Northern Access Point
French Meadows – Hell Hole Tunnel Portal Road
French Meadows Powerhouse Road
Hell Hole – Middle Fork Tunnel Gatehouse Road
Dormitory Facility Road
Hell Hole Dam Spillway Discharge Channel Road
Long Canyon Area
North Fork Long Canyon Diversion North Road
North Fork Long Canyon Diversion South Road
North Fork Long Canyon Diversion Drop Inlet Road

Table LAND 2-1. Existing Project Facilities and Features (continued).

Project Roads and Access Points (continued)
Long Canyon Area (continued)
South Fork Long Canyon Diversion and Drop Inlet Road
North Fork Long Canyon Crossing Removable Section North Road and Parking Area
North Fork Long Canyon Crossing Removable Section South Road
Middle Fork Interbay Area
Middle Fork Powerhouse Butterfly Valve House Road
Middle Fork Powerhouse Penstock and Butterfly Valve House Road
Middle Fork Interbay Dam and Powerhouse Road and Interbay Access Points
Middle Fork Powerhouse Upper Switchyard Road
Ralston–Oxbow Area
Brushy Canyon Adit Road
Oxbow Powerhouse Road
Ralston Powerhouse Butterfly Valve House Road
Ralston – Oxbow Tunnel Intake Road
Ralston Afterbay Road and Boat Ramp
Ralston Afterbay Dam Road and Afterbay Access Point
Ralston Afterbay Sediment Removal Access Point
Project Trails
Duncan Creek Area
Duncan Creek Diversion Dam North Trail
Duncan Creek Diversion Dam South Trail
Photovoltaic Poles and Powerline to Duncan Creek Gage above Diversion Dam Trail
Duncan Creek Gage and Weir above Diversion Trail
Duncan Creek Gage and Weir below Diversion Trail
French Meadows Area
Middle Fork American River Gage and Weir below French Meadows Dam Trail
Middle Fork Interbay Area
Middle Fork American River Gage above Middle Fork Powerhouse Trail
Passive Microwave Reflector Station above Middle Fork Interbay Trail
Ralston Afterbay Area
Passive Microwave Reflector Station above Ralston Afterbay Trail
Middle Fork American River Gage below Oxbow Powerhouse Trail

Table LAND 2-2. Project Recreation Facilities.

Project Recreation Facilities

French Meadows Area
Ahart Campground
Coyote Group Campground
Poppy Campground
French Meadows Campground
Gates Group Campground
Lewis Campground
French Meadows Picnic Area
McGuire Picnic Area
French Meadows Boat Ramp
McGuire Boat Ramp
Dolly Creek Water Supply
French Meadows Campground Water Supply
Hell Hole Area
Big Meadows Campground
Hell Hole Campground
Upper Hell Hole Campground
Hell Hole Vista
Hell Hole General Parking Area
Hell Hole Boat Ramp Parking Area
Hell Hole Boat Ramp
Big Meadows Campground Water Supply
Ralston Afterbay Area
Ralston Picnic Area
Ralston Picnic Area Cartop Boat Ramp
Indian Bar Rafting Access and General Parking
Long Canyon Area
Middle Meadows Group Campground
Middle Meadows Group Campground Water Supply

Table LAND 2-3. Potential Project Betterments.

Hell Hole Reservoir Seasonal Storage Increase

Hell Hole Dam
Modified Facilities
Hell Hole Dam Spillway Crest Gates
Hell Hole Dam Parapet Walls
New Facilities
Hell Hole Dam Spillway Crest Gates Control Building
Hell Hole Dam Spillway Crest Gates Control Building Powerline
Temporary Construction and Staging Areas
Hell Hole Dam Spillway Crest Gates Construction Road
Hell Hole Dam Spillway Crest Gates Construction Work Area
Hell Hole Dam Spillway Crest Gates and Control Building Construction Staging Area
Hell Hole Dam Parapet Wall Construction Staging and Work Area
Hell Hole Dam Spillway Crest Gates Control Building Construction Work Area
Hell Hole Dam Spillway Crest Gates Control Building Powerline Construction Work Area
Hell Hole Dam Spillway Crest Gates Control Building Powerline Construction Staging Area
Hell Hole-Middle Fork Tunnel Gatehouse
Modified Facilities
Hell Hole - Middle Fork Tunnel Gatehouse Parapet Wall
Temporary Construction and Staging Areas
Hell Hole-Middle Fork Tunnel Gatehouse Parapet Wall Construction Staging and Work Area
French Meadows Powerhouse
Modified Facilities
French Meadows Powerhouse Parapet Wall
Temporary Construction and Staging Areas
French Meadows Powerhouse Parapet Wall Construction Staging and Work Area
South Fork Long Canyon Diversion
Modified Facilities
South Fork Long Canyon Diversion Dam Crest Gates
New Facilities
South Fork Long Canyon Diversion Dam Crest Gates Generator Building
Temporary Construction and Staging Areas
South Fork Long Canyon Diversion Dam Crest Gates and Generator Building Construction Staging and Work Area

French Meadows Powerhouse Capacity Upgrade

French Meadows Reservoir
Modified Facilities
French Meadows - Hell Hole Tunnel Intake Trash Rack
Temporary Construction and Staging Areas
French Meadows - Hell Hole Tunnel Intake Trash Rack Construction Staging Area
French Meadows - Hell Hole Tunnel Intake Trash Rack Construction Work Area
French Meadows - Hell Hole Tunnel Intake Trash Rack Construction Road
French Meadows Powerhouse
Modified Facilities
French Meadows Powerhouse Switchyard
New Facilities
French Meadows Powerhouse

Table LAND 2-3. Potential Project Betterments (continued).

French Meadows Powerhouse Capacity Upgrade

French Meadows Powerhouse (continued)
French Meadows Powerhouse Penstock
French Meadows - Hell Hole Tunnel Surge Shaft/Tank
French Meadows - Hell Hole Tunnel Surge Pipeline
French Meadows - Hell Hole Tunnel Surge Shaft or Pipeline Road
Temporary Construction and Staging Areas
French Meadows Powerhouse/Switchyard Construction Work Area
French Meadows Powerhouse/Switchyard Construction Staging Area
French Meadows Powerhouse Penstock Construction Work Area
French Meadows Powerhouse Penstock Construction Staging Areas
French Meadows - Hell Hole Tunnel Surge Shaft/Tank or Pipeline Construction Staging Areas
French Meadows - Hell Hole Tunnel Surge Shaft/Tank Construction Work Area
French Meadows - Hell Hole Tunnel Surge Pipeline Construction Work Area
French Meadows - Hell Hole Tunnel Surge Shaft or Pipeline Road Construction Staging and Work Area
Non-Project Facilities Modified During Construction
Forest Road 14N09A
Forest Road 14N09A Construction Staging and Work Area
Middle Fork Powerhouse
Modified Facilities
Middle Fork Powerhouse Upper and Lower Switchyard

Ralston Powerhouse Capacity Upgrade

Ralston Powerhouse
Modified Facilities
Ralston Powerhouse
Temporary Construction and Staging Areas
Ralston Powerhouse Construction Staging Area

Table LAND 2-4. Dispersed Concentrated Use Areas.

Dispersed Concentrated Use Areas

French Meadows Reservoir Area
Area near French Meadows-Hell Hole Tunnel Gatehouse
Area immediately downstream of French Meadows Dam (both sides of river)
Area located immediately northwest of French Meadows Dam
Area near bridge over the Middle Fork American River, upstream French Meadows Reservoir
Duncan Creek Diversion Dam Area
Area on north side of Duncan Creek Diversion Dam
Area near Duncan Creek Gage and Weir, upstream of Duncan Creek Diversion Dam
Area near new bridge crossing Duncan Canyon on the road to the Grizzly, etc.
Hell Hole Reservoir Area
Area on west side of Hell Hole Reservoir, between dam and Hell Hole Boat Ramp
Grey Horse Area
Long Canyon Area
Area surrounding South Fork Long Canyon Diversion Dam
Areas along South Fork Long Canyon Creek, downstream of South Fork Long Canyon Diversion Dam
Middle Fork Interbay Area
Shoreline area surrounding Middle Fork Interbay
Ralston Afterbay Area
Ralston Afterbay Sediment Disposal Area
Shoreline area surrounding Ralston Afterbay
Area along Middle Fork American River, between Ralston Picnic Area and the new gage
Area at confluence of North Fork of the Middle Fork American River and Middle Fork American River
Indian Bar, Willow Bar, and Junction Bar Areas

POTENTIAL RESOURCE ISSUE:

Public safety.

PROJECT NEXUS:

The presence, operations or failure of a Project facility could affect public safety.

POTENTIAL LICENSE CONDITION:

- Emergency Action Plan, as required by FERC
- Public Safety Measures

STUDY OBJECTIVES:

- Describe PCWA's Emergency Action Plan (EAP), including emergency action procedures that are followed in the event of an actual or potential Project facility failure.
- Describe PCWA's planning efforts and response activities related to emergency situations not covered under the EAP.
- Describe how PCWA communicates and coordinates with the State, federal and local agencies during emergency events in the vicinity of the MFP.
- Describe PCWA's public and worker safety measures
- Describe PCWA's planning efforts and response activities related to incidents or emergencies involving the public, employees or contractors.
- Characterize the number, type and location of incidents and associated emergency response efforts that have occurred in the vicinity of the MFP

EXTENT OF STUDY AREA:

The study area will include the existing Project facilities identified in Table LAND 2-1, the developed Project recreation facilities identified in Table LAND 2-2, the potential Project betterments identified in Table LAND 2-3 and the dispersed concentrated use areas identified in Table LAND 2-4. In addition, the study area includes the bypass and peaking reaches identified in Table LAND 3-1.

STUDY APPROACH:

PCWA's Emergency Action Plan (EAP)

The Federal Energy Regulatory Commission (FERC or Commission) requires a licensee to develop and maintain an Emergency Action Plan (EAP). In general, the EAP covers incidents involving an actual or potential failure of a Project dam. As part of this study PCWA will:

- Define PCWA's role and responsibilities with respect to the FERC-required EAP.
- Describe how PCWA notifies and coordinates with the land management agencies and emergency response agencies in the event of an actual or potential Project facility failure that triggers the EAP.

- Identify known potential Project facility failures that would warrant implementation of the FERC-required EAP.
- Identify other situations that might trigger implementation of the FERC-required EAP, for example damage to a Project dam or associated support facility by a flood, a fire, or an earthquake.
- Describe the process by which the EAP is updated, including coordination efforts with the Placer County Office of Emergency Services (OES) and the land management agencies.
- Describe the integration of the National Incident Management System (NIMS) into the EAP or other Project-related emergency plans or procedures.
- Describe what types of regular inspections related to the EAP are required by FERC and how the results of these inspections are reported, including their frequency. Identify the resource agencies that will be provided a copy of the report.

Project Emergencies not Covered under the EAP

- Describe PCWA's planning efforts and how PCWA responds to Project-related emergency situations that are not covered under the EAP, for example a hazardous materials spill or a fire at a Project facility.
- Describe how PCWA notifies and coordinates with the land management agencies and emergency response agencies in the event of a Project related emergency not covered under the EAP.

Inter-agency Notification and Coordination in the Event of a Non-Project Emergency

- Describe how PCWA notifies or is notified by federal, State and local agencies in the event of a non-Project related emergency, for example, a catastrophic fire in the Project vicinity or an earthquake.

Public and Worker Safety

- Identify and describe the FERC's regulations and requirements concerning public and worker safety.
- Describe how PCWA communicates with its employees and contractors who may be present in the vicinity of the Project during a non-Project related emergency, for example a catastrophic fire.
- Describe how PCWA communicates with the public, for example people using Project recreation facilities, in the event of an emergency in the vicinity of the MFP.
- Identify and describe existing programs and measures implemented by PCWA that are aimed at protecting public health and safety, for example buoy lines, signage, and alarms. The inventory will include a description of the condition of existing safety features including the materials and methods used to mount signs.
- Identify and map the locations of existing designated helicopter landing sites in the vicinity of the MFP.
- Describe how non-emergency situations are addressed, for example warnings regarding fluctuating flows.

Emergency Services

- Describe PCWA's procedures for notifying emergency responders in the event of an accident or emergency in the vicinity of the MFP. Emergency responders include: 1) the Placer County Sherriff's Department; 2) Placer County Search and Rescue; 3) the USDA-Forest Service; 4) the California Department of Forestry and Fire Protection (CAL FIRE); and 5) local fire departments.
- Characterize and document (to the extent possible) the number, type and location of incidents that have occurred in the vicinity of the MFP. This effort will be conducted by reviewing existing records and databases maintained by the Placer County Sherriff's Department, the USDA-FS, CDF and, local fire departments, and by interviewing representatives of these agencies.

SCHEDULE:

Date	Activity
January through July 2008	Collect and summarize existing data and information; review emergency response data bases; conduct interviews with emergency responders.
June and July 2008	Inventory public safety measures and features
August and September 2008	Complete data analysis and prepare draft report
October 2008	Distribute draft report to Land Management TWG
October through December 2008	Land Management TWG 90 day review and comment period
January and February 2009	Resolve comments and prepare final report
March 2009	Distribute final report to Land Management TWG and Plenary

REFERENCES:

Placer County Water Agency (PCWA). 2004. Middle Fork American River Project: Emergency Action Plan.

TABLES

Table LAND 3-1. Bypass and Peaking Reaches Associated with the Middle Fork Project.

River or Stream	Bypass Reach¹
Middle Fork American River	French Meadows Dam to Middle Fork Interbay Middle Fork Interbay Dam to Ralston Afterbay
Duncan Creek	Duncan Creek Diversion Dam to the Middle Fork American River Confluence
Rubicon River	Hell Hole Dam to Ralston Afterbay
North Fork Long Canyon Creek	North Fork Long Canyon Diversion Dam to the Confluence of Long Canyon Creek
South Fork Long Canyon Creek	South Fork Long Canyon Diversion Dam to the Confluence of Long Canyon Creek
Long Canyon Creek	Confluence of North and South Forks of Long Canyon Creek to confluence of Rubicon River
	Peaking Reach²
Middle Fork American River	Oxbow Powerhouse to the North Fork American River Confluence
North Fork American River	Middle Fork American River Confluence to the Folsom Reservoir High Water Mark

¹Bypass reaches are those where water is rerouted from the stream or river at a diversion dam and reintroduced below a powerhouse.

²Peaking reach are those reaches where daily and within-day changes in river flow occur as a result of power releases that are scheduled to follow power demand.

POTENTIAL RESOURCE ISSUE:

FERC Project boundary and/or Authorization.

PROJECT NEXUS:

Project facilities, road, trails, developed Project recreation facilities, and lands necessary for operation and maintenance of the MFP need to be covered by the FERC license (i.e. within the FERC Project boundary) or an authorization.

POTENTIAL LICENSE CONDITIONS:

- FERC Project boundary modification
- Additional or revised authorizations

STUDY OBJECTIVES:

- Identify lands that are necessary for operation and maintenance of the MFP in relation to the existing FERC Project boundary, legal easements, right-of-ways (ROWs), or current authorizations.
- Identify lands that are necessary for operation and maintenance of potential Project betterments in relation to the existing FERC Project boundary, legal easements and/or ROWs, or current authorizations.

EXTENT OF STUDY AREA:

The study area includes the areas encompassing the existing Project facilities, roads, trails, developed Project recreation facilities, and additional areas necessary for operation and maintenance of the MFP, as identified in Tables LAND 2-1 and LAND 2-2. The study area will also include areas associated with potential Project betterments, including inundation areas, the areas enveloping the new facility footprint, and areas and/or roads needed for construction, staging and disposal, as identified in Table LAND 2-3.

STUDY APPROACH:

Existing Project Facilities

- Identify and map the locations of all existing Project facilities, roads, trails, developed Project recreation facilities, and additional lands necessary for operation and maintenance of the MFP in relation to the FERC Project boundary and current land ownership.
- Identify Project-related facilities that are currently situated outside the FERC Project boundary, for example, the bridge crossing Duncan Creek that provides access to the Duncan Creek Diversion.
- Identify and map existing legal easements and ROWs associated with access for, and operation and maintenance of the MFP.

- Compile and summarize current authorizations (including termination dates) and other Project-related agreements with the USDA-FS, other public entities, and private landholders, regarding operation and maintenance of the MFP.

Potential Project Betterments

- Identify and map proposed facilities (including roads and trails) and new inundation areas associated with potential Project betterments in relation to the current FERC Project boundary, current land ownership, existing legal easement and ROWs, and current authorizations.
- Identify and map the location of potential Project betterment construction, staging and disposal areas in relation to the current FERC Project boundary, existing land ownership, and current authorizations.

SCHEDULE:

Date	Activity
January through June 2008	Collect and summarize existing data
July and August 2008	Complete data analysis and prepare draft report
September 2008	Distribute draft report to Land Management TWG
September and October 2008	Land Management TWG 60 day review and comment period
November 2008 through January 2009	Resolve comments and prepare final report
February 2009	Distribute final report to Land Management TWG and Plenary

REFERENCES:

None.