UNITED STATES OF AMERICA
U.S.D.A. Forest Service

WISHON QUARRY STOCKPILE AREA EXPANSION
Crane Valley Dam Seismic Retrofit Project

Madera County, California

U.S.D.A. Forest Service
Sierra National Forest
Sierra National Forest
1600 Tollhouse Road
Clovis, CA 93611

September 2011
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1.0 BACKGROUND

The Pacific Gas & Electric Company (PG&E) operates the Crane Valley Dam (CVD) as part of the Crane Valley Hydroelectric Project authorized under Federal Energy Regulatory Commission (FERC) License #1354. The FERC issued a decision to authorize the seismic remediation of the CVD (Retrofit Project) (see Seismic Remediation of Crane Valley Dam Final Environmental Assessment (EA), dated February 19, 2010). The seismic retrofit was subject to the California State Environmental Quality Act because of the Department of Water Resource (DWR) Division of Safety of Dams (DSOD) role as a state dam-regulating agency. As lead state agency DWR prepared an Environmental Impact Report for the seismic retrofit (see Final Crane Valley Dam Seismic Retrofit Project Environmental Impact Report (EIR), dated September 2010).

The Retrofit Project is currently under construction and, based on the original environmental documentation, consists of upstream and downstream rock buttressing, core wall stabilization, and raising the crest (height) of the CVD. These modifications will meet design criteria for withstanding a Maximum Credible Earthquake and pass a Probable Maximum Flood. Graded rock for use in construction is being produced at the Wishon Quarry (Quarry) on National Forest System (NFS) land.

The development of the Quarry and support activities on NFS lands near the CVD was a component of the FERC and DWR’s preferred alternative. Alternatives considered included the importation of 300,000 cubic yards of rock fill material, the removal of the CVD, and no action. The development of the Quarry and support activities on NFS lands, outside the FERC project boundary, were considered in the EA and EIR as connected actions to the retrofit of the CVD.

The USDA Forest Service (Forest Service) adopted the FERC EA and DWR’s draft EIR and, on July 22, 2010, issued a Decision Notice and Finding of No Significant Impact for the Wishon Quarry Project and Special Use Authorization Associated with the Seismic Retrofit of the Crane Valley Dam. (See Appendix A). The decision was to authorize the development of the Quarry, allow PG&E to use up to 50 acre feet of National Forest riparian water rights, construct and use an employee parking lot, and implement off-site mitigation for loss of wetlands and mule deer habitat on NFS lands. The latter actions were U. S. Army Corp of Engineer and California Department of Fish and Game EA and EIR mitigations for loss of wetlands inside the FERC licensed area, and the loss of tree cover inside the Quarry, respectively.

The Quarry is located on public domain lands open and available for mineral development within Sierra National Forest. The Forest Service issued the following authorizations to PG&E for the development of the Quarry:

- Contract for Sale of Mineral Materials – Contract Number: MM-PGE-WQ-10, including the Quarry Operations and Reclamation Plan,
- Timber Sale Contract – Contract Number 060457.
- Road Use Permit – for the use of NFS Roads 7S86, 7S86X, and 7S86XA and new construction of Quarry haul road and stockpile management roads.
- Special Use Permit (SUP) – Authorization ID: BLD336. The Pacific Southwest Regional Office approved the use of the Forest Service riparian water right from the north fork of Willow Creek and authorized under Special Use Permit BLD336.
The design of the Quarry was based on geotechnical work reported in the *Final Design Report Seismic Retrofit of CVD, Madera County, California* (AMEC 2009). Based in part on that report PG&E anticipated the quarry would produce up to 300,000 cubic yards of competent rock material, with a contingency of 53,000 cubic yards of rock material supplied from an offsite source. During the environmental analysis PG&E estimated they needed 15 acres surrounding the Quarry to stockpile 291,000 cubic yards of soil (overburden), 60,000 cubic yards of waste material (20% of total rock processed), and 17,000 cubic yards +/- of usable material.

The Quarry was projected to produce 80% usable material for CVD construction; however, the quality of rock in the quarry is not as high as initially projected. Only 60% of the rock produced has been the grades necessary for dam construction. The percentage of waste rock is twice what was expected requiring an additional 120,000 cubic yards of storage. In addition, the volume of overburden encountered in the Quarry is 100,000 cubic yards greater than anticipated (Table 1).

### Table 1  Rock Material

<table>
<thead>
<tr>
<th></th>
<th>Pre-project Estimation</th>
<th>Current Estimation</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overburden</td>
<td>291,000 cy</td>
<td>391,000 cy</td>
<td>100,000 cy</td>
</tr>
<tr>
<td>Waste Rock</td>
<td>60,000 cy</td>
<td>180,000 cy</td>
<td>120,000 cy</td>
</tr>
<tr>
<td>Surge Stockpile</td>
<td>17,000 cy</td>
<td>17,000 cy</td>
<td>0</td>
</tr>
<tr>
<td>Total Stockpile</td>
<td>368,000 cy</td>
<td>588,000 cy</td>
<td>220,000 cy</td>
</tr>
</tbody>
</table>

Approximately 47,000 cubic yards of usable rock have been produced, and an estimated 25,000 cubic yards of rock will be produced by late August 2011. To produce the remaining 178,000 cubic yards of rock material needed for the Retrofit Project the Quarry would generate an additional 220,000 cubic yards of overburden and waste rock. This unanticipated volume of overburden and waste material exceeds the original project area storage capacity by approximately 15 acres.

Currently, two separate environmental analyses related to new project needs are being conducted. The Forest Service is conducting an environmental analysis that addresses actions on NFS lands outside the FERC license area (where the Forest Service has jurisdiction and decision-making authority). FERC is preparing a Supplemental Environmental Assessment (SEA) to address new actions proposed inside the FERC license area where it has jurisdiction. The SEA will supplement FERC’s February 2010 decision to authorize the Retrofit Project.

A new Forest Service decision is necessary because the proposed action is outside the previously analyzed and approved project footprint (Forest Service Handbook 1909.15, Chapter 10, Section 18).

### 1.1 FERC Supplemental Environmental Assessment

PG&E has proposed, and FERC is considering, two contingency measures not analyzed in the 2010 FERC EA or state EIR related to the Retrofit Project. These contingency measures will be analyzed in the FERC SEA. The contingency measures and additional stockpile area on
NFS lands will be incorporated as cumulative effects into both the FERC SEA and this EA. If authorized by FERC and DWR the contingency measures would allow construction progress to occur on the CVD Retrofit Project if certain conditions prevail. These two contingency measures are outside the scope of Forest Service jurisdiction to authorize, however, they are part of the construction related changes PG&E has proposed to complete the Retrofit Project. They are briefly presented here:

1.1.1 Contingency Water Diversion

A contingency water diversion would become necessary to control the lake level for construction activities at the CVD if the powerhouse water intake needs to be closed which may be necessary if water turbidity exceeds thresholds at the project’s downstream water quality compliance checkpoint. This contingency could be necessary through 2013. The contingency water diversion system would consist of a pump barge moored in the lake upstream of the spillway. The barge would be powered by a three-phase electric line brought in from existing power poles and an additional pad-mounted transformer. Water would be pumped from outside the Project’s turbidity curtain and discharged into the spillway through the pipeline that extends to the spillway gates. The pump configuration would be capable of discharging 175 cubic feet per second (cfs) over the spillway.

1.1.2 Increase in Imported Rock Material

PG&E would increase the volume of imported rock from 53,000 to 103,000 cubic yards. As approved in the 2010 FERC and DWR decisions, PG&E was authorized to import up to 53,000 cubic yards of rock material to supplement rock produced at the Quarry. Because the Quarry is producing a smaller amount of usable rock for the amount of material mined, up to 50,000 cubic yards of additional rock material may need to be imported. PG&E would import material on a contingency basis when production of rock from the Quarry lags behind construction demand.

2.0 PURPOSE AND NEED FOR ACTION

The overarching purpose and need of the proposed action is the same as the original Forest Service Quarry and Special Use project: “to cooperate with the FERC and DWR requirements to fortify the Dam against seismic activity that could result in an uncontrolled release of the reservoir, threatening lives and property downstream. The need is to minimize risk by restoring the Dam’s seismic stability as soon as practicable; to authorize activities on NFS lands through appropriate instruments; and to identify and implement mitigation measures to protect the human environment, and NFS lands and resources during construction, post-construction reclamation, and monitoring” (see the adopted FERC EA, February 2010, and the Forest Service’s Decision Notice and Finding of No Significant Impact, dated July 22, 2010, for the Wishon Quarry Project and Special Use Authorization Associated with the Seismic Retrofit of the Crane Valley Dam).
The purpose and need for this specific additional Forest Service action is to maintain the development of the Quarry in light of changing and unanticipated conditions. Additional stockpile area and deepening of the Quarry is needed to produce the amount of rock needed to support the seismic retrofit. Current designated stockpile areas are nearing capacity. The amount of soil overburden encountered and waste material generated in the Quarry is twice the quantities originally projected. Based on current construction progress the volume of overburden, material excavated from the CVD, usable rock material, and waste rock will exceed the capacity of existing stockpiles within the Quarry by the end of August 2011. Rock production at the quarry will not be able to continue until and unless additional stockpile area is identified and authorized.

Also, due to the lower quantity and quality of rock obtained per excavated foot in the Quarry, deepening of the quarry is needed.

3.0 PROPOSED ACTION AND ALTERNATIVES

This section will discuss the proposed action and an action alternative in detail as well as alternatives considered but eliminated from detailed study.

3.1 Alternative 1 - Proposed Action – Use of Stockpile Area B Only

The Forest Service needs to take several actions to meet the need to produce the amount of rock from the Quarry to complete the Retrofit Project. Forest Service authorizations issued to PG&E for the development of the Quarry, and support activities need to be amended or issued to reflect the proposed action. Those instruments include the Contract for the Sale of Mineral Material, Road Use Permit, and Special Use Permit BLD336 and would allow the following activities:

- Authorize PG&E to develop new stockpile area on NFS lands.
- Authorize vegetation removal for new stockpile areas.
- Revise Forest Service Road Use Permit to allow construction or reconstruction of access and new timber haul roads.
- Increase the depth of the Quarry up to 30 feet to obtain the quantity and quality of rock needed for construction at the CVD. Additional geotechnical modifications need to be made to the quarry to accommodate the increased depth of the quarry.
- Approve amended plans prepared to support the Quarry development to reflect the proposed action including the Operations and Reclamation Plan, Revegetation Plan, and erosion control measures including Best Management Practices (BMPs).
- Authorize an additional contingency of 12.3 acre-feet of water for haul road construction, dust abatement to process rock, prepare rock product to specification, and water grasses planted for erosion control.

The proposed action would create an additional stockpile area adjacent to the Quarry to store approximately 220,000 cubic yards of overburden and waste rock generated in the Quarry. Based on resource surveys, a constraint map was developed to select expansion areas that would not overlap with identified sensitive areas (Figure 4-1). Stockpile Area B, located west and
southwest of the rock production plant would be approximately 15 acres. Depth of the stockpile would be approximately 25 feet above grade (Figures 4-2 and 4-3). All stockpiled materials would be managed and returned to the Quarry during site reclamation as described in the approved *Wishon Quarry Operation and Reclamation Plan.*

### 3.1.1 Vegetation Removal

Vegetation and tree removal would occur on an additional 15 acres to accommodate Stockpile Area B, and require additional access and haul roads. Approximately 900 trees would be removed from Area B. Many of the trees are pre-commercial sized conifers. The majority of Area B would be located in tree plantations approximately 12 years old. The merchantable tree volume would be sold to PG&E under a new Timber Sale Contract.

Merchantable trees would be cut, stacked, and hauled offsite for lumber and other forest products as described in a Timber Sale Contract, using haul routes to local and area mills. Tree slash, pre-commercial sized trees and brush would be chipped and loaded into chip transport trucks. Transport of logs and chipped material would require approximately 14 round trips per day for a 13-day period. Possible delivery locations for the material include the Chowchilla Biomass Facility in Chowchilla, the Terra Bella Mill, and Auberry Forest Products in Auberry, California.

### 3.1.2 Access Roads and Haul Roads

The proposed action would not result in any modification to the two-lane haul road that intersects with County Road (CR) 222. Additional temporary haul and access roads would be created inside the Quarry mineral sale contract area to allow access to and from the new stockpile area. A two-lane access road (35 feet wide) would extend from the original project boundary into Area B. The construction of the new temporary road would be authorized under a revised Forest Service Road Use Permit. Construction and reconstruction of the access and haul roads would incorporate all appropriate erosion control measures and BMPs stipulated by the Forest Service (See Appendix A), and comply with the current and future State Water Quality Control Board Storm Water Pollution Prevention Plan (SWPPP). The approved practices to reduce construction noise currently in use on the site would be implemented in the stockpile expansion area.

### 3.1.3 Quarry Development and Operation

Modifications to quarry and stockpile development are proposed. To obtain the additional 178,000 cubic yards of competent material needed to complete construction at the CVD the quarry would be excavated to a greater depth, approximately 30 feet deeper than initially designed. Due to the increased quarry depth, quarry walls would be steeper than originally designed requiring the incorporation of engineered support techniques including soil nailing and rock bolting. As stated previously, an estimated 220,000 cubic yards of additional overburden and spoil materials would be generated during the remaining life of Quarry production and would need to be temporarily stored in stockpile areas until it can be reclaimed back into the quarry.

The *Wishon Quarry Operation and Reclamation Plan* and *Revegetation Plan* would be revised to include restoration of the new stockpile and access road areas. This restoration would
involve grading the new stockpile area to preserve the local drainage pattern, and revegetation of Area B as outlined in Appendix B1 of the Wishon Quarry Operation and Reclamation Plan.

Extraction of the additional rock material would extend the blasting operations by approximately 1 month. Based on the current construction schedule, completion of the Retrofit Project has been extended into the fall of 2012 because of rock production and weather related delays. The reclamation of the Wishon Quarry and stockpile areas would likely occur during the spring or early summer of 2013, dependant on weather conditions.

3.1.4 Erosion and Sediment Control Measures

The State Water Resources Control granted a temporary exemption to Risk Determination for all projects that filed a Notice of Intent (NOI) prior to July 1, 2010. This exemption grandfathered the CVD Retrofit and Quarry Project as a Risk Level 1 and the original Project SWPPP (EIR, Appendix I) was developed accordingly. At the request of the Central Valley Regional Water Quality Control Board (correspondence dated February 3, 2011); a Risk Level Determination was conducted for the Retrofit and Quarry Projects. This determination categorized the site as Combined Risk Level 2.

Risk Level 2 has additional requirements such as quantitative monitoring of discharges, additional new minimum inspections, and minimum BMP requirements including run-on controls, slope sheet flow length minimization, erosion control coverage in active areas, and daily sweeping of roadways. The Existing Project SWPPP was amended to comply with all Risk Level 2 requirements. All SWPPP Amendments have been certified by the Legally Responsible Person (LRP) and the Qualified SWPPP Developer (QSD) and uploaded onto the Storm Water Multiple Application and Report Tracking System (SMARTS).

An individual SWPPP design has been prepared for Area B to manage storm water runoff and minimize erosion of the stockpile area to meet the DWR requirements. These designs include drain systems and retention ponds. These SWPPP design measures would be incorporated into the original Project SWPPP as an amendment.

3.1.5 Water Withdrawal from Bass Lake

Currently, the Forest Service has authorized PG&E to use up to 50 acre-feet of water from Bass Lake for use in rock processing, dust abatement and to water grasses used for erosion control. This water is pumped from Bass Lake and transported to the Quarry rock processing plant through 1680 lineal feet of 8-inch water pipeline. The Forest Service has the authority to share its riparian water rights if water is not stored for future water use. The Pacific Southwest Regional Office approved the use of the Forest Service riparian water right from Willow Creek, and the Forest authorized the use under Special Use Permit BLD336. An additional contingency of 12.3 acre-feet of water would be authorized for needed haul road construction, dust abatement and other uses. The additional use of Forest riparian water rights would require an amendment to the permit BLD336 issued to PG&E for the water use and other support activities.

3.1.6 Relationship to other Approved Project Plans

Demobilization and cleanup activities associated with the expanded stockpile areas would proceed as described in the approved Wishon Quarry Operation and Reclamation Plan. Project signing, fencing, and public notification would be carried out as established in the approved
Wishon Quarry Operation and Reclamation Plan and implemented on the site. Traffic control would be carried out as established in the approved Traffic Control Plan and dust control would be implemented as described in the approved Dust Control Plan and as is currently being implemented on the site. These plans are attached as appendixes to the State EIR, September 2011, and available upon request from the Bass Lake Ranger District.

3.1.7 Design Criteria

The July 22, 2010 Decision Notice and Finding of No Significant Impact for the Wishon Quarry Project and Special Use Authorization Associated with the Seismic Retrofit of the Crane Valley Dam included a number of design criteria and mitigations to minimize potential negative effects from project implementation (See Appendix A). These management constraints would continue to be enforced on the additional areas proposed for use. Supplemental measures may be added if the current analysis warrants the need.

3.1.8 Implementation Schedule and Phasing of Work

The stockpile expansion site preparation would commence immediately upon receipt of authorization to proceed from the Forest Service. This is anticipated in fall of 2011. The general work schedule is shown on Table 2 and restrictions will remain as approved. Only construction equipment related to Area B are part of this alternative.

This work would be accomplished through the following general phases:

1. Vegetation removal.
2. Development of access roads and haul roads.
3. Storm Water Pollution Prevention Plan (SWPPP) pond development.
5. Quarry and stockpile restoration.

Table 2 presents a list of construction equipment proposed for use and a general schedule for each of the proposed action components. This table includes construction equipment for both Areas A and B. The proposed action only includes construction equipment listed for Area B while Alternative 2 (described below) includes both.
<table>
<thead>
<tr>
<th>Phase/Activity</th>
<th>Construction Equipment Proposed for Use</th>
<th>Normal Shift Duration (hours)*</th>
<th>Normal Shifts per Work Day</th>
<th>Proposed Construction Time Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site Prep</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area A - Vegetation clearing including trees, brush, and slash.</td>
<td>Cat 325D Heel Boom (Tracked), Cat 525C Log Skidder (Rubber Tire), Morbark 50/48 Whole Tree Chipper (Rubber Tire), FMC 210 Skidder (Tracked), Cat 272C Skidsteers (Rubber Tracked), Timbco 425 EXL Feller Bunchers (Tracked), John Deere 770BH Road Grader (Rubber Tire)</td>
<td>10</td>
<td>1</td>
<td>Q3 2011</td>
</tr>
<tr>
<td>Area A - Installation of best management practices (e.g., siltation fence, rock check dams, hay bales) and SWPP features (e.g., retention basin and drainage)</td>
<td>Bobcat (Rubber Tire or Rubber Track), Small Excavator (Rubber Track), Flatbed Utility Truck (Track)</td>
<td>10</td>
<td>1</td>
<td>Q3 2011</td>
</tr>
<tr>
<td>Area A - Building and widening of identified haul routes</td>
<td>Excavator 300 Class (Track), 980 H Loader (Rubber Tire), D-8 Dozer (Track), D-6 Dozer (Track), 735 ADT (Rubber Tire), 825H Soil Compactor, CS54 Vibratory Soil Compactor, 3,500 Gallon Water Truck (Rubber Tire)</td>
<td>10</td>
<td>1</td>
<td>Q3 2011</td>
</tr>
<tr>
<td>Area B - Vegetation clearing including trees, brush, and slash.</td>
<td>Cat 325D Heel Boom (Tracked), Cat 525C Log Skidder (Rubber Tire), Morbark 50/48 Whole Tree Chipper (Rubber Tire), FMC 210 Skidder (Tracked), Cat 272C Skidsteers (Rubber Tracked), Timbco 425 EXL Feller Bunchers (Tracked), John Deere 770BH Road Grader (Rubber Tire)</td>
<td>10</td>
<td>1</td>
<td>Q3/Q4 2011</td>
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<tr>
<td>Area B - Installation of best management practices (e.g., siltation fence, rock check dams, hay bales) and SWPP features (e.g., retention basin and drainage)</td>
<td>Bobcat (Rubber Tire or Rubber Track), Small Excavator (Rubber Track), Flatbed Utility Truck (Track)</td>
<td>10</td>
<td>1</td>
<td>Q3/Q4 2011</td>
</tr>
<tr>
<td>Area B - Building and widening of identified haul routes</td>
<td>Excavator 300 Class (Track), 980 H Loader (Rubber Tire), D-8 Dozer (Track), D-6 Dozer (Track), 735 ADT (Rubber Tire), 825H Soil Compactor, CS54 Vibratory Soil Compactor, 3,500 Gallon Water Truck (Rubber Tire)</td>
<td>10</td>
<td>1</td>
<td>Q3/Q4 2011</td>
</tr>
<tr>
<td>Phase/Activity</td>
<td>Construction Equipment Proposed for Use</td>
<td>Normal Shift Duration (hours)*</td>
<td>Normal Shifts per Work Day</td>
<td>Proposed Construction Time Period</td>
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<tr>
<td>---------------</td>
<td>-----------------------------------------</td>
<td>-------------------------------</td>
<td>---------------------------</td>
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</tr>
<tr>
<td>Quarry Production</td>
<td>KPI-JCI FT 200 Track Mounted Cone Crusher, KPI-JCI 6’ x 20’ Closed Circuit Screen, Rip Rap Plant, 80’ Stacker, Jump Belt, Excavator 300 Class (Track), 980 H Loader (Rubber Tire), D-8 Dozer (Track), 500 Gallon Water Truck (Rubber Tire), 25 Cubic Yard Trucks (Wishon Quarry), Transfer Trucks (Orosi Quarry)</td>
<td>15</td>
<td>1</td>
<td>Q4 2010 – Q2 2012</td>
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<tr>
<td>Demobilization</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quarry &amp; stockpile restoration</td>
<td>Excavator 300 Class (Track), 980 H Loader (Rubber Tire), D-8 Dozer (Track), D-6 Dozer (Track), 735 ADT (Rubber Tire), CB 534 D Roller (Steel Drum), 3,500 Gallon Water Truck (Rubber Tire)</td>
<td>10</td>
<td>2</td>
<td>Q2/Q3 2012</td>
</tr>
<tr>
<td>Temporary haul route restoration</td>
<td>Excavator 300 Class (Track), 980 H Loader (Rubber Tire), D-8 Dozer (Track), D-6 Dozer (Track), 735 ADT (Rubber Tire), SC54 Vibratory Soil Compactor, 3,500 Gallon Water Truck (Rubber Tire)</td>
<td>10</td>
<td>2</td>
<td>Q2/Q3 2012</td>
</tr>
<tr>
<td>Demobilize equipment</td>
<td>Excavator 300 Class (Track), 980 H Loader (Rubber Tire), D-8 Dozer (Track), D-6 Dozer (Track), 735-Ton ADT (Rubber Tire), SC54 Vibratory Soil Compactor, 3,500 Gallon Water Truck (Rubber Tire)</td>
<td>10</td>
<td>2</td>
<td>Q3 2012</td>
</tr>
</tbody>
</table>

Q1 = First Quarter (January–March)
Q2 = Second Quarter (April–June)
Q3 = Third Quarter (July–September)
Q4 = Fourth Quarter (October–December)
*Shifts will adjust to daylight hours whenever possible.

3.2 Alternative 2: Use of Stockpile Areas A and B

Under this alternative in addition to Area B, Area A would be developed to provide additional stock piling capacity, and/or used during reclamation of the Quarry after rock production ceases. Area A is an additional 3.2 acres located west of County Road 222. If used for stockpiling of overburden and waste rock, vegetation including approximately 190 trees would be removed and processed as described under the proposed action. Stockpiling of material would be approximately 30 feet above grade. A one-lane access road with turnout would extend into Area A (Figure 4-4). An individual SWPPP design has been prepared for Area A including a
retention basin. A 50-foot tree line barrier would be maintained between the project boundary and CR 222 as a visual screen and noise barrier. Area A would be reforested at the end of the project.

All other aspects of Alternative 1 are incorporated into Alternative 2. See Table 2 for construction related equipment for both Areas A and B.

3.3 Alternatives Considered but Eliminated from Detailed Study

3.3.1 Original Malum Ridge Quarry Stockpile Area

As part of the proposed action analysis, the original Malum Ridge Quarry was investigated as a potential stockpile location. Although the Malum Ridge Quarry is approximately one mile from the existing Quarry this alternative was considered but eliminated for the following reasons:

1. Haul trucks would need to make 12-mile round trips on public roads and through the community of North Fork to utilize it as a stockpile location. The haul routes would increase traffic crossings and use of County roads 222, 221, 200, 225 and 274, resulting in increased risk of traffic accidents, congestion in the community of North Fork, and road damage.

2. Preliminary estimates show that the original Malum Ridge Quarry would accommodate less than 30,000 cy of stockpile material, or 30% of the stockpile volume needed. If this area were used, an additional stockpile area would be needed to accommodate the remaining 180,000 cubic yards of overburden and waste rock generated at the Quarry.

3. Biological and cultural surveys were conducted at the original Malum Ridge Quarry site. Results of those surveys indicate sensitive resources would be damaged and or destroyed to accommodate stock piling of material at that location.

4. Existing power lines run through the Malum Ridge Quarry site and would limit the feasibility of use of the site as a stockpile area.

5. Overburden and waste rock placed at the original Malum Ridge Quarry would be unavailable to be used for reclamation of the new Quarry, unless it was re-transported back. This would require the transport of 30,000 cubic yards of material back to the Quarry using the route described above though in reverse, and the subsequent impacts to the community of North Fork, drivers and County road surfaces.

3.3.2 Import of Rock Material to Supplement Quarry Production

If additional stockpile areas cannot be developed, the existing quarry would not be able to provide the rock needed for the retrofit. Consequently, importation of up to 178,000 additional cubic yards of rock would be necessary. This volume would add approximately 14,000 truck trips to rural highways and County roads. That volume of material cannot be delivered without a significant delay in the project. This alternative was considered but eliminated for the following reasons:
1. Trucks could not deliver the volume of material needed quickly enough to maintain the current construction schedule, which is driven by the need to repair the dam quickly to reduce the ongoing seismic hazard.

2. Construction schedule delays will require the level of Bass Lake to remain 10 feet below maximum pool during the high use recreation season. The lake level reduction has been ordered by the FERC and state DSOD to reduce the hazards posed by the dam’s existing condition.

3. An additional 14,000 truck trips on rural highways and County roads would likely result in traffic delays and increase the risk of traffic accidents along designated haul routes.

4. Additional hauling of the above volume of rock material will cause load bearing damage and/or deformation of miles of asphalt road surfaces creating nuisance to the public travelling the designated haul route.

5. Planned reconstruction of County Road 200 will cause delays in the delivery of rock material to the CVD.
Appendix A

The July 2010 Decision Notice included the following mitigations and design features in the selected alternative (Decision Notice and FONSI pp. 7-12).

Mitigations:

1. Proximity issues between project design features and the Wishon Tract have been resolved by the relocation of the haul route, portions of the soil stockpile area, and employee parking area away from the Wishon Tract as specified in the Proposed Action.
   
a. Rock for construction on the Dam will be obtained from the Wishon Quarry. The rock haul road will be constructed from the Quarry to the Dam following the Minarets and Western railroad grade and CR 222. Construction and decommissioning of the haul road will be authorized under a Road Use Permit, as will the use and improvement of other Forest Development roads.
   
b. Soil and other overburden removed from the Quarry site will be stockpiled on adjacent NFS lands before being returned to the quarry for reclamation purposes. Over two acres of stockpile area has been relocated further from the Wishon Tract. The closest edge of the stockpile is approximately 250 feet away from the nearest cabin. No vegetation removal will occur between the cabins and the stockpile maintenance road located on the outside perimeter of the stockpile.
   
c. The employee parking area will be developed across from the Wishon Point Public Boat Launch facility west of CR 222 and north of 7S86. No project related parking will occur at the Old Wishon Quarry site located adjacent to Lot 1 of the Wishon Tract.

2. The preservation of vegetation between the Wishon Tract and stockpile area, and between the Tract and CR 222 will reduce visual and noise impacts associated with the quarry and haul road development. An 8.7 acre buffer of trees and shrubs will be retained between the edge of the stockpile and the closest recreation residence in the Wishon Tract, providing additional dust abatement, visual screening, and noise barrier between the Tract and quarry activities.

3. Seismic monitoring devices will be placed at residences closest in proximity to the Quarry to ensure that noise and vibration velocities are kept below predetermined thresholds. These and other noise and dust mitigations will be implemented in accordance with the Blasting Plan (EIR, Appendix E), which is attached to the Wishon Quarry Operation and Reclamation Plan (EIR, Appendix F).

4. PG&E shall provide blasting schedules to cabin owners by telephone call. Preferably, notification will be provided a minimum of one week in advance. Notification should include identifying the day or days of the week when blasting will occur, number of production blasts per day, and other pertinent information. In addition, cabin owners shall be contacted 48-hours in advance of blasting by telephone.
5. Prior to, and at the conclusion of the construction project, all structural improvements in the Wishon Tract will be inspected by a person qualified to determine structural integrity of buildings. PG&E and the Cabin owners shall mutually agree upon the inspector. Both parties shall participate in the initial and closing inspections. During the interim, following each quarry production blast, PG&E shall conduct a cursory inspection around each structure in the Tract. The inspection shall be performed to look for obvious changes to improvements that may have resulted from construction blast and/or vibrations. In the event improvements sustain construction related damage, PG&E shall contact the cabin owner(s) within one (1) hour of discovery. The Forest Service shall provide cabin owner contact information to PG&E. As the project progresses, frequency of inspections by PG&E may be adjusted as agreed upon by both parties.

6. PG&E shall provide cabin owners with copies of the PG&E damage claims process, including PG&E claim personnel contact names, phone numbers and email addresses. Cabin owners would follow the PG&E claims process in the event damages occur to their improvements that result from Retrofit-related construction activities including blasting.

7. A Forest Service standard gate will be installed on the Tract Road between CR 222 and the entry into the Old Wishon Quarry. The gate will provide additional security for the Tract, and will discourage public parking in the Tract because the west Dam parking area will be closed to the public during construction.

8. Prior to the implementation of the 2008 Recreation Residence Appraisals, the Regional Review Appraiser and/or Contract Appraiser shall make a site visit to the Tract to determine whether project activities have affected market value of the lots. If the Appraiser(s) determine market values have decreased because of construction activities or construction related changes in the vicinity of the Tract, the appraised value of the lots shall be adjusted downward. The site visit shall occur in October 2011. Permit holder/cabin owners shall be invited to be present during the Appraiser's site visit.

9. Operations shall conform to the Forest Service Quiet Hours (7 AM to 10 PM) associated with the Bass Lake Recreation Area. Operations will be conducted Monday through Friday, generally between 7 AM to 5 PM, or conform to daylight hours whichever is longer. The hours of operations may be seasonally adjusted with permission from the authorized officer. Extra work hours and/or work days may be authorized when unexpected weather delays or other emergency circumstances occur that will result in construction delays beyond what is planned in the contractor's contingency schedule.

10. Habitat mitigations identified by CDFG after the Final EA was released has been incorporated into the EIR. Mule deer habitat enhancement will occur at the wetland mitigation sites identified in the HMMP to fulfill CDFG requirements. Fisher surveys will be conducted by PG&E to determine presence in the project area (EIR, Section 4.6). Fisher mitigation may occur on NFS lands.
Sierra National Forest Land and Resource Management Plan standards and guides (S&G) are applicable:

1. Aesthetics.
   a. **Degrade Existing Visual Character or Visual Quality of the Site.** The project is located on NFS lands with a Visual Quality Objective (VQO) of Retention. A full range of forest management actions may occur in areas with a Retention VQO, as long as those activities don’t dominate the area. Project related visual impacts to Forest visitors shall be short term. Some permanent residents at Marina View will have partial views of the Quarry and stockpile site during and following project completion. Project activities have been moved away from the Wishon Tract as far away as practicable. Vegetation buffers will provide screening between project areas and the Tract. The Quarry, Stockpile areas and haul route will be reclaimed and revegetated as part of the project design. This action is consistent with Visual Quality S&G 26: *Manage activities affecting vegetative cover type or structure to be visually buffered after completion.*
   
b. **Create a new Source of Light or Glare.** If or when lighting is authorized in the parking area and/or Quarry site, lighting mitigations specified in the EIR will be applied. The FERC has authority over construction operations inside the FERC boundary.
   
c. **Conflict with SNF Visual Quality Objectives.** Forest S&G’s allow timber harvest on NFS lands where other resource goals are emphasized, and for emergency reasons. The project area is located on the southwest edge of the Bass Lake Recreation area, a focal point for developed recreation on the SNF. The FERC has identified the seismic remediation of the Dam as an emergency action to protect life and property downstream. This action is consistent with Timber S&G 93: *On lands where resource goals other than timber are emphasized, limited timber yield will be incidental to management of those resources. Sivicultural systems will be selected to meet site specific needs of those resources.*
   
d. The Quarry, stockpile area and haul road will be reclaimed as prescribed in the Vegetation Management Plan attached to the Quarry Operation and Reclamation Plan. This action is also consistent with Timber S&G 97: *When necessary because of catastrophic damage or national emergency, harvest timber by appropriate silvicultural system and reforest all capable lands classed as unsuitable.*

2. Air Quality
   a. **Temporary Exceedance of NOx Emission Threshold.** Although emissions of Nitrogen Oxides from equipment used on the project are expected to be 19.6 tons/year, exceeding San Joaquin Valley Air Pollution Control District (SJVAPCD) significance criteria of 10 tons/year the first two years of construction, levels are expected to drop to 3.3 tons/year during the final stages of project activities. Nitrogen Oxide levels would not exceed federal thresholds of 50 tons/year. „With implementation of the Dust Control Plan prepared in consultation with the SJVAPCD and the Forest Service, the necessary seismic remediation should cause no significant adverse impacts to the air quality of the area” (EA, pages 93-94).
   
The EIR states the “Project construction emissions …is not expected to result in a cumulative considerable net increase of criteria pollutant or precursor for which the SJVAPCD is in nonattainment” (EIR, pgs 6-18, 19). The Dust Control Plan will be implemented to minimize dust during project activities. This action is consistent with Air Quality S&G 217: *Mitigate fugitive dust impacts on air quality by including dust.*
abatement as a requirement for all construction activities that have potential to generate dust.

3. Noise
   a. **Construction and On-Site Trucking Noise.** The following mitigation will be applied to operations occurring on NFS lands for the duration of the Retrofit project: Operations shall conform to the Forest Service Quiet Hours (7 AM to 10 PM) associated with the Bass Lake Recreation Area. Operations will be conducted Monday through Friday, generally between 7 AM to 5 PM, or conform to daylight hours whichever is longer. The hours of operations may be seasonally adjusted with permission from the authorized officer. Extra work hours and/or work days may be authorized when unexpected weather delays or other emergency circumstances occur that will result in construction delays beyond what is planned in the contractor’s contingency schedule.

   b. **Construction and Trucking.** Bulldozers and heavy equipment will not operate within 110 feet of dwellings inside the Wishon Tract. The closest cabin is over 300 feet away from the portion of County Road 222 that will be used for rock haul, and approximately 250 feet away from the nearest edge of the stockpile. To keep vibrations and vehicle noise as minimal as possible, all equipment will have appropriate muffling systems. Rock haul and other construction vehicles will adhere to traffic speed limits established in the Traffic Control Plan (EIR –Appendix Z), or lower limits that may be established between the Quarry and Dam.

   c. **Cumulative Impacts.** Several projects listed on the Forest SOPA were cited in the EIR as having potential cumulative effects on Noise. The Valencia Mgmt. Mini Storage project was concluded several years ago, and the status should have been changed in the SOPA. The Nehouse, Placer Pre-commercial Thinning project is located near Mammoth Pool reservoir over 12 air miles from Bass Lake. The Bass Lake Water Company’s proposed new treatment plant will be constructed above County Road 432 on the former site of the Falls Resort, not on the shoreline of, or in, Bass Lake. Implementation of these projects are not within 5 miles of the Retrofit project area; therefore, it is unlikely they will add cumulative effects to the Dam project.

4. Population and Housing
   a. **Potential to Displace Wishon Tract Cabin Owners or Renters During Construction.** Cabin owners hold a Forest Service Recreation Residence Term Special Use Permit for their occupancy of NFS lands. The cabins are authorized for recreation use, and are not authorized for primary residences or rental properties. Cabin owners at the Wishon Tract are the closest in proximity to the Dam and the Quarry. Construction hours are described above. In addition, no construction activities will be conducted the weekend of the annual Bass Lake Fishing Derby, and on major Federal holidays including Thanksgiving, Christmas Eve and Day; and New Year’s, Memorial, Independence and Labor Days. These closures are intended to allow cabin owners opportunity to plan vacations at their cabins during holidays without construction activities occurring. Because the cabins are located within the required 1000-foot safety clearance zone, for their own safety, cabin occupants will be asked to leave their cabins and the safety zone during blasting. Cabin owners shall receive blasting schedules and phone call notifications days in advance to assist them with trip planning. Blasting will be conducted according to the Blasting Plan attached to the EIR as Appendix E.
5. Recreation
   a. **Temporarily Prohibit Use of CVD Crest Road for Recreational Purposes.** While located in the Bass Lake Recreation Area and used by the public for recreational purposes, the Dam crest road is not part of the designated trail system maintained by the Forest. Activities that occur there including fishing, walking, running, bicycle riding and other pursuits are conducted with ad hoc permission of the Licensee, as long as they don’’t interfere with hydropower operations. Forest Service trails, opportunities, and facilities in the Bass Lake area will remain open and available to the public for their enjoyment during the construction project. Signs about the Dam crest road closure will be posted according to the Sign Plan found in the EIR as Appendix AA.

   b. **Disrupt Neighborhood Traffic on Road 7S86XA (Wishon Tract Road).** Cabin owners will have continued access to their cabins, subject to the public traffic controls established in the Traffic Control Plan (EIR, Appendix Z). The Traffic control Plan is a Madera County requirement.

6. Cumulative Impacts
   a. **Biological Resources Fisheries and Wildlife.** Several projects listed on the Forest SOPA were cited in the EIR as having potential cumulative effects on Noise. The Valencia Mgmt. Mini Storage project was concluded several years ago, and the status should have been changed in the SOPA. The Nehouse, Placer Pre-commercial Thinning project is located near Mammoth Pool reservoir over 12 air miles from Bass Lake. The Bass Lake Water Company’s proposed new treatment plant will be constructed above County Road 432 on the former site of the Falls Resort, not on the shoreline of, or in, Bass Lake. Implementation of these projects will not contribute sediment into or affect aquatic biology in Bass Lake; therefore, it is unlikely they will add cumulative effects to the Dam project.

All Proposed Environmental Measures listed in Section 4.4 of the FERC EA, mitigation measures listed in Section 4 of the DWR’s EIR, and all construction plans attached as appendices to the EIR will be incorporated into the Forest Service Action.