

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of Water Quality Certification for the
SACRAMENTO MUNICIPAL UTILITY DISTRICT

NEW SLAB CREEK POWERHOUSE AND BOATING FLOW RELEASE VALVE PROJECT

**FEDERAL ENERGY REGULATORY COMMISSION
PROJECT NO. 2101 – UPPER AMERICAN RIVER HYDROELECTRIC PROJECT**

SOURCES: Rubicon River, Silver Creek, South Fork American River

COUNTY: El Dorado

WATER QUALITY CERTIFICATION FOR FEDERAL PERMIT OR LICENSE

BY THE EXECUTIVE DIRECTOR:

I. Project Description and Background

The Sacramento Municipal Utility District (SMUD or Licensee) proposes to construct and operate the New Slab Creek Powerhouse and Boating Flow Release Valve Project (Project). The Project is located just below Slab Creek Dam on the South Fork American River, in El Dorado County, approximately 50 miles east of Sacramento, and three miles north of the town of Camino (Figure 1).

The Project involves the addition of a new powerhouse and boating flow release valve to comply with the minimum instream and recreation flow requirements specified in the Upper American River Hydroelectric Project (UARP) water quality certification issued by the State Water Resources Control Board (State Water Board) on October 4, 2013. The Federal Energy Regulatory Commission (FERC) license for the UARP (FERC Project No. 2101) was issued on July 23, 2014 (2014 UARP license) and includes the water quality certification conditions as requirements of the new license. In addition to meeting the specified recreation and instream flow requirements, the Project also intends to increase SMUD's overall renewable energy production. With a proposed capacity of 2.7 megawatts (MW), the new powerhouse would add to the existing 0.45 MW generated at the powerhouse located at the base of Slab Creek Dam. The new powerhouse will, on average, generate approximately 10.5 gigawatt-hours of hydroelectric power per year.

Additionally, the Project includes three environmental measures: reconfiguration of Iowa Canyon Creek; habitat improvements in the South Fork American River; and gravel augmentation in the South Fork American River. The lower portion of Iowa Canyon Creek will be returned to a more natural grade to promote surface flow and connectivity to assist unimpeded movement of aquatic species between Iowa Canyon Creek and the South Fork American River. Habitat improvements will also help ensure minimum streamflow releases

express as surface flow and provide riffle habitat. Gravel augmentation in the 0.25-mile reach directly below Slab Creek Dam will enhance trout spawning habitat.

The Project will allow SMUD to comply with conditions of the UARP water quality certification and 2014 UARP license by providing SMUD with the ability to implement the variable minimum release and whitewater boating flow schedule for the South Fork American River below Slab Creek Dam. The terms and conditions of the 2014 UARP license require SMUD to make annual and seasonally-varying minimum streamflow releases¹ at Slab Creek Dam that range from 63 to 415 cubic feet per second (cfs) (with the intent to protect aquatic resources in the ¼-mile segment downstream of the dam), and whitewater boating flows of up to 1,500 cfs². Implementation of the Project will allow SMUD to improve flow release accuracy and for water releases to be performed in a manner that will be safer for boaters. See the Existing Slab Creek Dam and Valve discussion below for more background on the existing release valve.

The existing Slab Creek Powerhouse will continue to operate. The Project will supplement the existing power-generating capacity of the UARP Slab Creek power-generating facilities by adding a new, larger powerhouse that is able to generate additional power using the water released to meet the new, higher minimum flow requirements.

The Project footprint includes the following: location where the new powerhouse and boating flow release valve would be constructed; ¼-mile stretch between the base of Slab Creek Dam and the new powerhouse; lowermost 200 feet of Iowa Canyon Creek; 200-foot wide access road located between the new powerhouse and the White Rock Tunnel Gate House; the new parking area on Slab Creek Road; and the proposed boating put-in on the South Fork American River. See Figure 2.

Existing Slab Creek Dam and Valve

The existing Slab Creek Dam is equipped with a valve, penstock, and powerhouse. The valve can release up to approximately 270 cfs (at full pool) and was designed to drain the reservoir in an emergency. The existing powerhouse, a 450-kilowatt turbine, was installed in 1983 to generate power from the minimum streamflow releases of 10 to 36 cfs required by the FERC in 1981. Under the 2014 UARP license, higher and more variable minimum flows of up to 1,500 cfs will be released from Slab Creek Reservoir. However, the size of the release valve at the base of Slab Creek Dam, which feeds into the existing powerhouse, limits the volume of water to approximately 270 cfs. Due to the existing limitation of the Slab Creek Dam valve, SMUD is only able to provide the higher flows required in the 2014 UARP license by spilling water over Slab Creek Dam.

II. UARP Background Related to the Project

The 2014 UARP license incorporates the 2013 water quality certification issued by the State Water Board as well as the 2007 United States Forest Service (USFS) Final Application for Amendment of License Terms and Conditions associated with the *Relicensing Settlement*

¹ Condition 1.K of the 2014 UARP license requires a range of minimum streamflows between 63 and 263 cfs in Years 1 through 3 following license issuance. Following Project completion (Year 4 through the term of the license and any extensions), the minimum streamflows requirements range from 63 to 415 cfs.

² The UARP license includes a range of boating flow requirements based on water year type. Per Condition 4.A of the 2014 UARP license, in below normal, above normal, and wet water year types SMUD is required to provide boating flows between 850 and 1,500 cfs.

Agreement for the Upper American River Project and Chili Bar Hydroelectric Project (Settlement Agreement), which was filed with FERC in January 2007.

The UARP is a 688 MW hydroelectric project that consists of seven hydroelectric power generation developments that use a series of reservoirs, tunnels, and powerhouses in the Rubicon River, Silver Creek, and South Fork American River watersheds. These hydroelectric developments stretch from Loon Lake near Lake Tahoe to the Slab Creek/White Rock development (Figure 1). The smallest of the powerhouses is Slab Creek Powerhouse³. The existing Slab Creek Powerhouse lies at the base of Slab Creek Dam on the South Fork American River. Slab Creek Dam impounds Slab Creek Reservoir which has a capacity of 16,600 acre-feet and an area of 280 acres at its normal maximum water surface elevation of 1,850 feet above sea level. The White Rock Intake is submerged within the Slab Creek Reservoir and is connected to the 4.9-mile-long, 20- to 24-foot diameter White Rock Tunnel that carries water to the White Rock Penstock and White Rock Powerhouse. White Rock Tunnel has three adits. As part of the Project, Adit No. 3 will discharge to two facilities: (1) the new powerhouse; and (2) the boating release valve (Figure 2).

III. Regulatory Authority

Water Quality Certification and Related Authorities

The federal Clean Water Act (33 U.S.C. §§ 1251-1387) was enacted “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters” (33 U.S.C. § 1251(a)). Section 101 of the Clean Water Act (33 U.S.C. § 1251 (g)) requires federal agencies to “co-operate with the state and local agencies to develop comprehensive solutions to prevent, reduce and eliminate pollution in concert with programs for managing water resources.”

Section 401 of the Clean Water Act (33 U.S.C. §1341) requires every applicant for a federal license or permit which may result in a discharge into navigable waters to provide the licensing or permitting federal agency with certification that the project will be in compliance with specified provisions of the Clean Water Act, including water quality standards and implementation plans promulgated pursuant to section 303 of the Clean Water Act (33 U.S.C. § 1313). Section 401 of the Clean Water Act directs the agency responsible for certification to prescribe effluent limitations and other limitations necessary to ensure compliance with Section 401 of the Clean Water Act and with any other appropriate requirements of state law. Section 401 of the Clean Water Act further provides that state water quality certification conditions shall become conditions of any federal license or permit for the project. The State Water Board’s Executive Director is authorized to issue a decision on a water quality certification application. (Cal. Code Regs. tit. 23, §3838, sub. (a).)

The application for water quality certification of the Project was received on February 2, 2015. On March 2, 2015, the State Water Board provided notice of receipt of a complete application for the Project to the applicable parties pursuant to California Code of Regulations, title 23, section 3835 subdivision (c). The State Water Board provided public notice of the application⁴ by posting information describing the Project on the State Water Board’s website on May 15, 2015. No comments were received. On January 20, 2016 the State Water Board received a letter from SMUD withdrawing and resubmitting the application for water quality certification for the Project. Subsequently, on February 18, 2016 the State Water Board responded to SMUD confirming receipt of the withdrawal and resubmittal. On April 13, 2016,

³ The new Slab Creek Powerhouse will supplement the existing Slab Creek Powerhouse.

⁴ Pursuant to California Code of Regulations, title 23, section 3858.

SMUD again submitted a letter to the State Water Board withdrawing and resubmitting the application for water quality certification. The State Water Board provided a draft copy of the water quality certification to Central Valley Regional Water Quality Control Board (Central Valley Regional Water Board) on May 6, 2016. No comments were received.

SMUD applied to the United States Army Corps of Engineers (USACE) for a permit under section 404 of the Clean Water Act. The USACE issued public notice on April 4, 2014 that a permit under section 404 of the Clean Water Act is required for the Project. The USACE identification number for the Project is SPK-2012-00042. The 404 permit from the USACE was issued on September 23, 2015.

SMUD has applied for a streambed alteration agreement from the California Department of Fish and Wildlife (CDFW). The streambed alteration agreement has not been issued as of the time of this water quality certification.

Water Code section 13383 provides the State Water Board with authority to “establish monitoring, inspection, entry, reporting and recordkeeping requirements... and [require] other information as may reasonably be required” for activities subject to water quality certification under section 401 of the Clean Water Act that involve the diversion of water for beneficial use. The State Water Board delegated this authority to the Deputy Director for Water Rights (Deputy Director), as provided for in State Water Board Resolution No. 2012-0061. In the *Redelegation of Authorities Pursuant to Resolution No. 2012-0061* memo issued by the Deputy Director on September 30, 2013, this authority is redelegated to the Assistant Deputy Directors of the Division of Water Rights.

Water Quality Control Plans and Related Authorities

The Central Valley Regional Water Board adopted, and the State Water Board and the United States Environmental Protection Agency approved, the *Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin* (Basin Plan). This Basin Plan designates the beneficial uses of waters within each watershed basin, and water quality objectives designed to protect those uses pursuant to section 303 of the Clean Water Act (33 U.S.C. § 1313.). The beneficial uses together with the water quality objectives that are contained in the water quality control plans and state and federal anti-degradation requirements constitute California’s water quality standards.

The Basin Plan identifies the following existing beneficial uses for the South Fork American River: municipal and domestic supply, hydropower generation, water contact recreation, canoeing and rafting, non-contact water recreation, cold freshwater habitat, and wildlife habitat. Warm freshwater habitat is also identified as a potential use.

In addition, the State Water Board has listed the South Fork American River (below Slab Creek Reservoir to Folsom Lake) on the Clean Water Act section 303(d) list as impaired for mercury. The Project has the potential to mobilize and transport contaminated sediment, which, if not appropriately mitigated, could increase mercury concentrations in water and transport mercury downstream.

Construction General Permit

The State Water Board has adopted a Construction General Permit⁵, which is required for activities that disturb one or more acres of soil. Construction activities subject to the Construction General Permit include clearing, grading, and disturbances to the ground such as stockpiling or excavation, but do not include regular maintenance activities performed to restore the original line, grade, or capacity of a facility.

California Environmental Quality Act

SMUD is the lead agency for the purpose of California Environmental Quality Act (CEQA) compliance, while the State Water Board is a responsible agency. SMUD issued a draft Initial Study (IS)/ Mitigated Negative Declaration (MND) and Mitigation Monitoring and Reporting Plan (MMRP) for the Project on July 10, 2015. SMUD approved the final MND and MMRP for the Project on October 1, 2015 and filed a Notice of Determination with the State Clearinghouse on October 2, 2015.

Potential impacts from the Project that fall within the State Water Board's purview include the following:

- Increased turbidity from Project activities; and
- Potential effects to sensitive or special-status aquatic species due to Project construction and activities.

These potential impacts are considered less than significant with the implementation of environmental measures incorporated into the Project by SMUD and conditions of the water quality certification. The environmental measures proposed as part of the Project and identified in the MND that pertain to the protection of resources within the State Water Board's purview have been incorporated into Conditions 2-4 and 11-13 of this water quality certification to meet the requirements of Public Resources Code section 21081.6, subdivision (a)(1). Monitoring and reporting requirements addressing these measures are found in water quality certification Conditions 7-9 in accordance with California Code of Regulations, title 14, section 15097.

The State Water Board considered the MND and MMRP in connection with the issuance of this water quality certification. The State Water Board finds that there is no substantial evidence in the record that the Project will have a significant effect on the environment. The State Water Board will file a Notice of Determination within five days of issuance of this water quality certification.

All documents and other information that constitute the public record for this Project shall be maintained by the State Water Board's Division of Water Rights and shall be available for public review at the following address: State Water Resources Control Board, Division of Water Rights, 1001 I Street, Sacramento, California 95814.

IV. Rationale

The following sections describe the rationale used by State Water Board staff to develop Project-specific water quality certification conditions for the Project (Conditions 1 through 16). Additional conditions (Conditions 17 through 36) commonly applicable to hydropower projects

⁵ Water Quality Order 2009-0009-DWQ and National Pollutant Discharge Elimination System No. CAS000002, as amended by Order No. 2010-0014-DWQ and Order No. 2012-0006-DWQ.

are necessary to ensure the protection of water quality standards over the term of the license and any extensions. This includes certain mandatory conditions that are required for all water quality certifications per California Code of Regulations, title 23, section 3860.

The conditions in this water quality certification are needed to protect the beneficial uses described in the Basin Plan. When preparing the conditions in this water quality certification, State Water Board staff reviewed and considered: (a) SMUD's final FERC license amendment application; (b) USFS final 4(e) conditions; (c) SMUD's application for water quality certification; (d) the 2007 Settlement Agreement; and (e) SMUD's IS/MND prepared pursuant to CEQA. State Water Board staff also considered the Basin Plan, existing water quality conditions, Project-related controllable factors, and other information in the record.

Minimum Stream Flows (Condition 1)

In order to protect water quality and the beneficial uses of the 0.25-mile stream reach below Slab Creek Dam, SMUD will implement the minimum instream flows designated in Table 1. Stream flows specific to each water year type have been established with consideration for the needs of the local ecosystem, designated beneficial uses, and the amount of water available in different water year types.

Plan Development and Updates (Conditions 2-6)

Any conditions that require development of a plan or revision of an existing plan will require review, modification (if necessary), and approval by the Deputy Director. Compliance with the terms and conditions of this water quality certification will require SMUD to develop, implement, monitor, integrate, and adaptively manage numerous resource management and monitoring plans, stream flow requirements, environmental assessments, habitat restoration plans, and other measures and management actions necessary to achieve compliance with applicable water quality standards contained in the Basin Plan. Conditions 2 through 6 of this water quality certification require SMUD to develop or revise and implement plans to ensure Project compliance with water quality standards.

As this Project will disturb the streambed of the South Fork American River and has the potential to discharge pollutants into waters of the state, it is necessary for the State Water Board to condition the Project to ensure protection of the state's waters. Plans that outline the proposed Project and associated best management practices (BMPs) that SMUD intends to implement will provide the State Water Board with information necessary to approve, or require modification of, the BMPs and associated plans to ensure protection of the state's waters. Specifically, Condition 2, implementation of the Iowa Canyon Creek Reconfiguration Plan, will return the lowermost 200 feet of Iowa Canyon Creek to a more natural grade and streambed width to allow surface flow and biological connectivity to the South Fork American River during summer and fall low flow periods. Condition 3, implementation of a habitat improvement plan for the South Fork American River below Slab Creek Dam, will ensure that minimum stream flow releases from Slab Creek Dam provide surface flow, thereby providing stream connectivity and riffle habitat for aquatic species in the 0.25-mile reach. Condition 4, implementation of a gravel augmentation plan within the Project area, will enhance trout spawning habitat and increase the amount of spawning gravel in the 0.25-mile reach below Slab Creek Dam. Condition 5, which requires a plan for the proposed whitewater boating put-in and parking area, will provide recreational boaters with a designated location to access the South Fork American River below Slab Creek Dam. Condition 6 will ensure all applicable plans developed under the existing 2014 UARP license include specific details addressing the Project.

Sensitive Species Protection (Condition 7)

Condition 7 will ensure that appropriate strategies are implemented to protect state or federally listed sensitive species and avoid degradation to ecosystems within the Project area should it be determined, prior to construction or during ongoing Project activities, that sensitive aquatic or riparian species are present within the vicinity of the Project area.

Water Quality (Conditions 8-12)

Conditions 8 through 12 include requirements to protect water quality and monitor water quality in order to demonstrate Project activities are not negatively impacting water quality. Condition 8 requires sampling to monitor water quality during in-water work or in instances when Project activities result in potential discharges to water. Condition 9 requires compliance with the Basin Plan turbidity objective. Implementation of these conditions will also help ensure that turbidity resulting from Project activities does not adversely impact water quality in the Project area. Condition 10 is designed to prevent any Project-related debris or substances which could be hazardous to aquatic life from entering surface waters. Prevention of the release of hazardous materials into the environment and waterways is crucial to the protection of the state- and federally-listed species, other aquatic species, and water quality. Conditions 11 and 12 require specific measures to reduce the opportunity for Project construction activities to result in impacts to water quality.

Design Consultation (Condition 13)

Consultation with the Consultation Group⁶ regarding the design of the energy-dissipating structure (Condition 13) is included to minimize potential negative impacts associated with the energy-dissipating structure and help ensure safety for recreational boating.

Settlement Agreement and 2014 UARP Water Quality Certification (Conditions 14-15)

SMUD's application for water quality certification includes the Settlement Agreement, which establishes certain obligations for the protection, mitigation, and enhancement of environmental resources affected by the UARP under the 2014 UARP license. The Settlement Agreement includes provisions regarding the Slab Creek Dam and Reservoir as well as the reach of the South Fork American River below Slab Creek Dam. The Settlement Agreement was made and entered into by many of the stakeholders who took part in the relicensing process, including but not limited to SMUD, Pacific Gas and Electric Company, American Whitewater, the United States Fish and Wildlife Service (USFWS), USFS, and CDFW. Although the State Water Board is not a signatory or party to the Settlement Agreement, this water quality certification and the 2013 UARP water quality certification incorporate certain provisions of the Settlement Agreement in full or in part. Through incorporation of these provisions in the water quality certification, they are incorporated into the FERC license. In some instances, State Water Board staff has modified or amended the incorporated Settlement Agreement provisions to ensure compliance with applicable water quality standards and to provide for more efficient and effective implementation. Additionally, measures described in the Project's application for water quality certification and the 2014 UARP license have been adopted by reference per Conditions 14 and 15 in order to ensure compliance with water standards.

⁶ The Consultation Group is defined in the Settlement Agreement as including all parties to the Settlement Agreement with the addition of the State Water Board, the Central Valley Regional Water Quality Control Board, and El Dorado County.

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Applicable Permits (Condition 16)

SMUD will comply with federal, state, and local laws, ordinances, regulations, and statutes, including but not limited to the Construction General Permit. The Construction General Permit requires SMUD to prepare and file a Stormwater Pollution Prevention Plan (SWPPP) for Project construction (Condition 16).

V. Discussion and Findings

In order to ensure that the Project is constructed and operated to meet water quality standards as anticipated, and to ensure that the Project will continue to meet state water quality standards and other appropriate requirements of state law over its lifetime, this water quality certification imposes conditions regarding monitoring, enforcement, and potential future revisions. The State Water Board has found that, with the conditions and limitations imposed under this water quality certification, the proposed Project will be protective of the state water quality standards and other appropriate requirements of state law. State Water Board staff has reviewed and considered the environmental documents and any proposed changes incorporated into the Project are required as a condition of approval to avoid significant effects to the environment.

ACCORDINGLY, BASED ON ITS INDEPENDENT REVIEW OF THE RECORD, THE STATE WATER RESOURCES CONTROL BOARD CERTIFIES THAT THE NEW SLAB CREEK POWERHOUSE AND BOATING FLOW RELEASE VALVE PROJECT will comply with sections 301, 302, 303, 306, and 307 of the Clean Water Act, and with applicable provisions of state law, if the Sacramento Municipal Utility District complies with the following terms and conditions during the Project activities certified herein.

CONDITION 1. The Licensee shall, beginning as early as reasonably practicable and no later than three months after completion of Project construction, maintain minimum streamflows as specified in this condition in the 0.25-mile reach of the South Fork American River directly below Slab Creek Dam to the location of the new powerhouse. All specified streamflows are in cfs. The Licensee shall implement the required stream flows in the 0.25-mile reach throughout the term of the license and any extensions. The flow schedules described below specify minimum streamflows by month and water year type. The water year types are defined in Condition 1 of the 2014 UARP certification. Consistent with Condition 1 of the 2014 UARP certification, the Licensee shall provide notice to the FERC, USFS, USFWS, CDFW, and the Deputy Director of the final water year type determination within 30 days of the Department of Water Resources Bulletin 120 May forecast.

The Licensee shall report any deviation from the required minimum flows to the State Water Board and furnish electronic streamflow records upon request. The minimum streamflows specified in the schedules may be temporarily modified if required by equipment malfunction or operating emergencies reasonably beyond the control of the Licensee. If the streamflow is so modified, the Licensee shall provide notice to the FERC, USFS, USFWS, CDFW, and the Deputy Director as soon as possible, but no later than 10 days after such incident. The minimum streamflows specified may also be temporarily modified for short periods in non-emergency situations five days after notice to the FERC, and upon approval by the Deputy Director.

Month	Minimum Streamflow by Water Year Type (cfs)				
	Critically Dry	Dry	Below Normal	Above Normal	Wet
October	15	15	20	20	20
November	15	15	15	15	15
December	15	15	15	15	15
January	15	15	15	15	15
February	15	15	15	15	15
March	15	20	20	30	36
April	15	20	36	36	36
May	15	20	36	36	36
June	15	20	30	30	30
July	15	20	20	20	20
August	15	20	20	20	20
September	15	20	20	20	20

CONDITION 2. The Licensee shall implement the South Fork American River Iowa Canyon Creek Reconfiguration Plan dated January 20, 2016. Any modifications to the plan must be approved by the Deputy Director prior to implementing the modified plan. Additionally, as described in the Iowa Canyon Creek Reconfiguration Plan, the Licensee shall develop and implement a revegetation plan for the 200-foot reconfiguration reach. The Licensee shall

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provide the Deputy Director with at least 90 days to review and approve the revegetation plan prior to submittal to the FERC, if applicable. The Deputy Director may require modifications as part of the approval. The Licensee shall not implement any activities associated with the revegetation plan that may impact water quality or beneficial uses until the revegetation plan is approved by the Deputy Director. Subsequent modifications to the revegetation plan must be approved by the Deputy Director prior to implementing the modified plan. The Licensee shall file the Deputy Director's approval, together with any required plan modifications, with the FERC.

CONDITION 3. The Licensee shall implement the South Fork American River Habitat Improvement Plan dated January 20, 2016. Any modifications to the plan must be approved by the Deputy Director prior to implementing the modified plan. The approved plan shall be implemented throughout the term of the license and any extensions.

CONDITION 4. The Licensee shall implement the South Fork American River Gravel Augmentation Plan dated April 26, 2016. Any modifications to the plan must be approved by the Deputy Director prior to implementing the modified plan. The approved plan shall be implemented throughout the term of the license and any extensions.

CONDITION 5. The Licensee shall develop and implement a Whitewater Boating Parking Area and Put-In Plan (Boating Plan) in consultation with the State Water Board and the USFS. The Boating Plan shall include: (a) information on potential discharges to surface water and streambed alteration activities, along with proposed BMPs to avoid or minimize erosion, turbidity, and other potential water quality impairments associated with implementation of the Boating Plan; (b) anticipated construction schedule; and (c) a list of permits and other approvals the Licensee will obtain before initiating construction activities.

The Licensee shall submit the Boating Plan to the Deputy Director for review and approval. The Deputy Director may require modifications as part of the approval. The Licensee shall not implement any activities associated with the Boating Plan that may impact water quality or beneficial uses until after receipt of Deputy Director approval and any other necessary regulatory approvals. Subsequent modifications to the Boating Plan must be approved by the Deputy Director prior to implementing the modified plan. The Licensee shall file the Deputy Director's approval, together with any required plan modifications, with the FERC.

CONDITION 6. The Licensee shall revise pertinent UARP plans required per the 2014 UARP license to include the Project and any associated activities and plans. The plans that potentially require revision include, but are not limited to: Spill Prevention and Control Plan; Water Quality Monitoring Plan; Vegetation Management Plan; Transportation System Management Plan; and Water Temperature Monitoring Plan. The Licensee shall provide a list of all applicable plans to the State Water Board within six months of the license amendment for this Project; the list shall include the projected date for submittal of each of the revised plans to the Deputy Director for review and approval. The revised plans shall be reviewed and approved by the Deputy Director prior to implementation of the modified plans. Approved revised plans shall be filed with the FERC, if necessary, and implemented throughout the term of the license and any extensions.

CONDITION 7. If a state or federally listed sensitive riparian or aquatic species is observed prior to or during Project construction, work shall cease immediately, and the USFS, CDFW, USFWS, and the State Water Board shall be notified. The Licensee, in consultation with the USFS, CDFW, USFWS, and the State Water Board, shall conduct a potential impact

assessment and develop and implement appropriate avoidance and protection measures prior to recommencement of work. Following Project construction, if a state or federally-listed sensitive riparian or aquatic species is observed during on-going Project operation or maintenance work, the agencies listed above shall be notified within 10 days, and consulted with to determine appropriate action, as needed.

CONDITION 8. The Licensee shall perform water quality sampling: when performing any in-water work; in the event that Project activities result in any materials reaching surface waters; or when any Project-related activities result in the creation of a visible plume in surface waters. Sampling shall be conducted immediately upstream out of the influence of the Project (background) and no more than 300 feet downstream of the active work area.

Table 2. Water Quality Sampling			
Parameter	Unit	Type of Sample	Frequency of Sample
Turbidity	nephelometric turbidity units	Grab	Every four hours during in-water work
Settleable Material	milliliter per liter	Grab	Every four hours during in-water work
Visible construction-related pollutants	Observations	Visual inspections	Continuous throughout construction period

Sampling results shall be submitted to the State Water Board within two weeks of initiation of sampling and every two weeks thereafter. The sampling frequency may be modified for certain Project activities with written permission from the Deputy Director. If monitoring shows that a parameter identified in Table 2 has exceeded the water quality objective stated in the Basin Plan (Condition 9), construction shall cease immediately and the violation shall be reported immediately to the Deputy Director and Central Valley Regional Water Board Executive Officer. Construction may not re-commence without the permission of the Deputy Director.

CONDITION 9. Project activities, including but not limited, to construction activities; restoration activities; operation of the boating flow release valve; and operation of the powerhouse, shall not cause an increase in erosion or turbidity greater than those identified in the Basin Plan within the vicinity of and downstream of the Project area. Waters shall be free of changes in turbidity that cause nuisance or adversely affect the water for beneficial uses. Except for in-water working periods discussed below, increases in turbidity shall not exceed background levels (natural turbidity measured in nephelometric turbidity units [NTUs] prior to the start of Project activities) by more than the thresholds identified below and as outlined in the Basin Plan. The table below, taken from the Basin Plan, shows the allowable increases in turbidity due to Project operation compared to natural turbidity.

Table 3. Maximum Increase over Natural Turbidity per the Basin Plan

Natural Turbidity	Maximum Increase
Less than one NTU	Total Turbidity shall not exceed 2 NTU above natural turbidity
Between 1 and 5 NTU	Total Turbidity shall not exceed 1 NTU above natural turbidity
Between 5 and 50 NTU	20 percent above natural turbidity
Between 50 and 100 NTU	10 NTU above natural turbidity
Greater than 100 NTU	10 percent above natural turbidity

These limits may be eased during in-water working periods to allow a turbidity increase of 15 NTU over background turbidity as measured in surface waters within 300 feet downstream of the working area. For in-water working periods, turbidity shall not exceed 15 NTU over background turbidity for more than four consecutive hours or 24 hours total for the Project.

CONDITION 10. On-site containment for storage of chemicals classified as hazardous shall include secondary containment and appropriate management as specified in California Code of Regulations, title 27, section 20320.

CONDITION 11. Construction of the penstock shall occur within Adit #3 and the new powerline shall be constructed in upland areas located away from the South Fork American River and Iowa Canyon Creek, as described in the IS/MND issued by the Licensee for the Project.

CONDITION 12. A temporary cofferdam shall be installed along the southern shoreline of the South Fork American River. The temporary cofferdam will be comprised of rubber water-filled bladders to isolate the construction area associated with the new powerhouse and boating flow release valve. The temporary cofferdam will be constructed to allow the South Fork American River to flow around the Project area while avoiding erosion of newly constructed embankments. The temporary cofferdam shall be installed during the summer low flow period and shall be removed prior to winter storms. Installation and removal of the temporary cofferdam must meet Basin Plan water quality objectives, including the turbidity water quality objectives (Condition 9). The temporary cofferdam shall be removed in a manner that prevents elevated turbidity due to re-inundation of the construction site and temporary cofferdam location.

CONDITION 13. The Licensee shall consult with the Consultation Group to ensure the final design of the energy-dissipating structure complies with water quality standards. The Licensee shall submit the final design of the energy-dissipating structure to the Consultation Group for review and comment. The Licensee shall provide the Consultation Group with a minimum of 30 days to comment and make recommendations before filing the final design with FERC. The Licensee shall provide FERC with any comments provided by the Consultation Group during the consultation process, and a description of how the comments are addressed in the final design. If the Licensee does not adopt a recommendation made by a member of the Consultation Group during the comment period, the Licensee's filing of the final design with FERC shall include specific reasons for not adopting the recommendation in the final design. The final design shall include features to ensure the device functions in compliance with water quality standards and to prevent the creation of dangerous hydraulic conditions in the South Fork American River. The design shall clearly identify the assumptions for the expected water velocities and hydraulic conditions in the

vicinity of the boating flow release valve. The design shall include warning signs, and other guidance to the public as needed. The design shall adhere to FERC's *Guidelines for Public Safety at Hydropower Projects*⁷ or amendments thereto.

CONDITION 14. Notwithstanding the conditions of this water quality certification, all measures, including but not limited to BMPs, described in the application for water quality certification are hereby incorporated by reference and are conditions of approval of this water quality certification. The Licensee shall comply with all measures described in the application for water quality certification and its supplements.

CONDITION 15. Notwithstanding the conditions of this water quality certification, all applicable conditions of the 2014 UARP water quality certification are hereby incorporated by reference and are conditions of this water quality certification. Violations of this water quality certification shall be reported to the State Water Board within 48 hours. Potential impacts to fisheries (e.g., a fish kill or fish observed in obvious distress) resulting from any deviations from prescribed flow or Project activities shall be reported immediately to the State Water Board and CDFW. Following the initial report to the State Water Board and CDFW, the Deputy Director may direct the Licensee to provide a report that documents: all observed impacts resulting from the violation or event; an assessment of the cause of the violation or event; and a plan describing how the Licensee intends to avoid such a violation or event in the future. The State Water Board may pursue enforcement related to any violation of this water quality certification.

CONDITION 16. The Licensee shall obtain all of the necessary state and federal permits and any other regulatory approvals prior to construction, including, but not limited to: Construction General Permit; National Pollutant Discharge Elimination System permit from the Central Valley Regional Water Board for dewatering activities; USACE 404 permit; and CDFW streambed alteration agreement. No construction shall commence until all necessary federal, state, and local approvals are obtained.

CONDITION 17. A copy of this water quality certification shall be provided to all contractors and subcontractors conducting Project work, and copies shall remain in their possession at the Project site. The Licensee shall be responsible for work conducted by its contractors or subcontractors.

CONDITION 18. When FERC approval is required for a plan, if Deputy Director approval is not received 14 calendar days prior to an applicable FERC deadline, the Licensee may file the plan with the FERC; however, Deputy Director approval is required prior to plan implementation. The Licensee must amend its filing with the FERC if modifications are made as part of the Deputy Director's subsequent approval.

CONDITION 19. The Deputy Director shall be notified one week prior to the commencement of Project-related ground-disturbing activities. Upon request, a construction schedule shall be provided to State Water Board staff. The Licensee must provide State Water Board and Central Valley Regional Water Board staff access to the Project site upon request.

CONDITION 20. In the event of any violation or threatened violation of the conditions of this water quality certification, the violation or threatened violation is subject to any remedies,

⁷ *Guidelines for Public Safety at Hydropower Projects*. Division of Dam Safety and Inspections. Federal Energy Regulatory Commission. March, 1992.

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penalties, process or sanctions as provided for under applicable state or federal law. For the purposes of section 401(d) of the Clean Water Act, the applicability of any state law authorizing remedies, penalties, processes or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this water quality certification.

CONDITION 21. In response to a suspected violation of any condition of this water quality certification, the State Water Board may require the holder of any federal permit or license subject to this water quality certification to furnish, under penalty of perjury, any technical or monitoring reports the State Water Board deems appropriate, provided that the burden, including costs, of the reports shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports. The State Water Board may add to or modify the conditions of this water quality certification as appropriate to ensure compliance.

CONDITION 22. Any requirement in this water quality certification that refers to an agency whose authorities and responsibilities are transferred to or subsumed by another state or federal agency, will apply equally to the successor agency.

CONDITION 23. The Licensee must submit any changes to the Project, including Project operation, which would have a material effect on the findings, conclusions, water quality, beneficial uses, or conditions of this water quality certification, to the State Water Board for prior review and written approval prior to implementation. If the State Water Board is not notified of a significant change to the Project, it will be considered a violation of this water quality certification.

CONDITION 24. The State Water Board will provide notice and an opportunity to be heard in exercising its authority to add to or modify any of the conditions of this water quality certification.

CONDITION 25. This water quality certification is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to Water Code section 13330 and California Code of Regulations, title 23, division 3, chapter 28, article 6 (commencing with section 3867).

CONDITION 26. Water quality certification is not intended and shall not be construed to apply to any activity involving a hydroelectric facility and requiring a FERC license or an amendment to a FERC license unless the pertinent water quality certification application was filed pursuant to California Code of Regulations, title 23, section 3855, subdivision (b) and that application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

CONDITION 27. Water quality certification is conditioned upon total payment of any fee required under California Code of Regulations, title 23, division 3, chapter 28 and owed by the Licensee.

CONDITION 28. This water quality certification is contingent on compliance with all applicable requirements of the Basin Plan. The Licensee shall notify the Deputy Director within 24 hours of any unauthorized discharge to surface waters.

CONDITION 29. If at any time an unauthorized discharge to surface waters (including rivers or streams) occurs or monitoring indicates that the Project has or could soon be in violation

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with water quality objectives, the associated Project activities shall cease immediately and the Deputy Director shall be notified. Associated activities will not resume without approval from the Deputy Director.

CONDITION 30. Notwithstanding any more specific conditions in this water quality certification, the Project shall be operated in a manner consistent with all water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or section 303 of the Clean Water Act. The Licensee must take all reasonable measures to protect the beneficial uses of waters of the South Fork American River and its tributaries.

CONDITION 31. This water quality certification does not authorize any act which results in the taking of a threatened, endangered or candidate species or any act, which is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (ESA) (Fish and G. Code, §§ 2050-2097) or the federal ESA (16 U.S.C. §§ 1531-1544). If a "take" will result from any act authorized under this water quality certification or water rights held by the Licensee, the Licensee must obtain authorization for the take prior to any construction or operation of the portion of the Project that may result in a take. The Licensee is responsible for meeting all requirements of the applicable ESAs for the Project authorized under this water quality certification.

CONDITION 32. The State Water Board reserves authority to modify this water quality certification if monitoring and reporting results indicate that continued operation of the Project could violate water quality objectives or impair the beneficial uses of the South Fork American River or its tributaries.

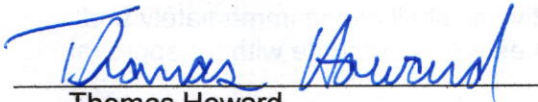
CONDITION 33. If Project operation requires modifications to any of the terms or conditions of this water quality certification, the Licensee shall request an amendment of the water quality certification from the State Water Board.

CONDITION 34. Future changes in climate projected to occur during the license term may significantly alter the baseline assumptions used to develop the conditions in this water quality certification. The State Water Board reserves authority to modify or add conditions in this water quality certification to require additional monitoring and/or other measures, as needed, to verify that Project operations meet water quality objectives and protect beneficial uses assigned to the Project-affected stream reaches.

CONDITION 35. The State Water Board may add to or modify the conditions of this water quality certification as appropriate to coordinate the operations of this Project and other hydrologically connected water development projects, where coordination of operations is reasonably necessary to achieve water quality standards or to protect beneficial uses of water.

CONDITION 36. Nothing in this water quality certification shall be construed as State Water Board approval of the validity of any water rights, including pre-1914 claims. The State Water Board has separate authority under the Water Code to investigate and take enforcement action if necessary to prevent any unauthorized or threatened unauthorized diversions of water.

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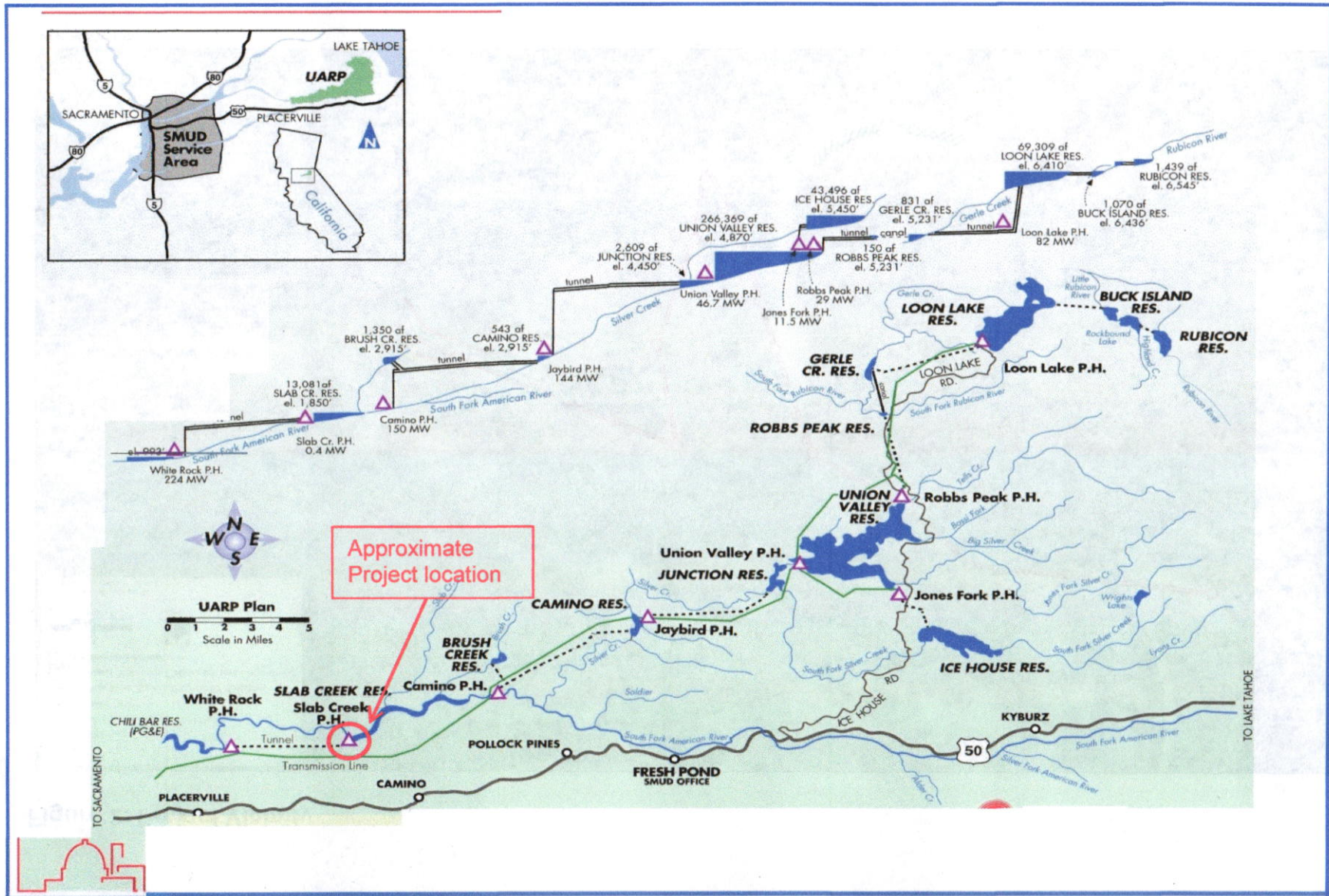

Thomas Howard
Executive Director

7/11/16
Date

Attachments: Figure 1: Project Location
Figure 2: Project Vicinity

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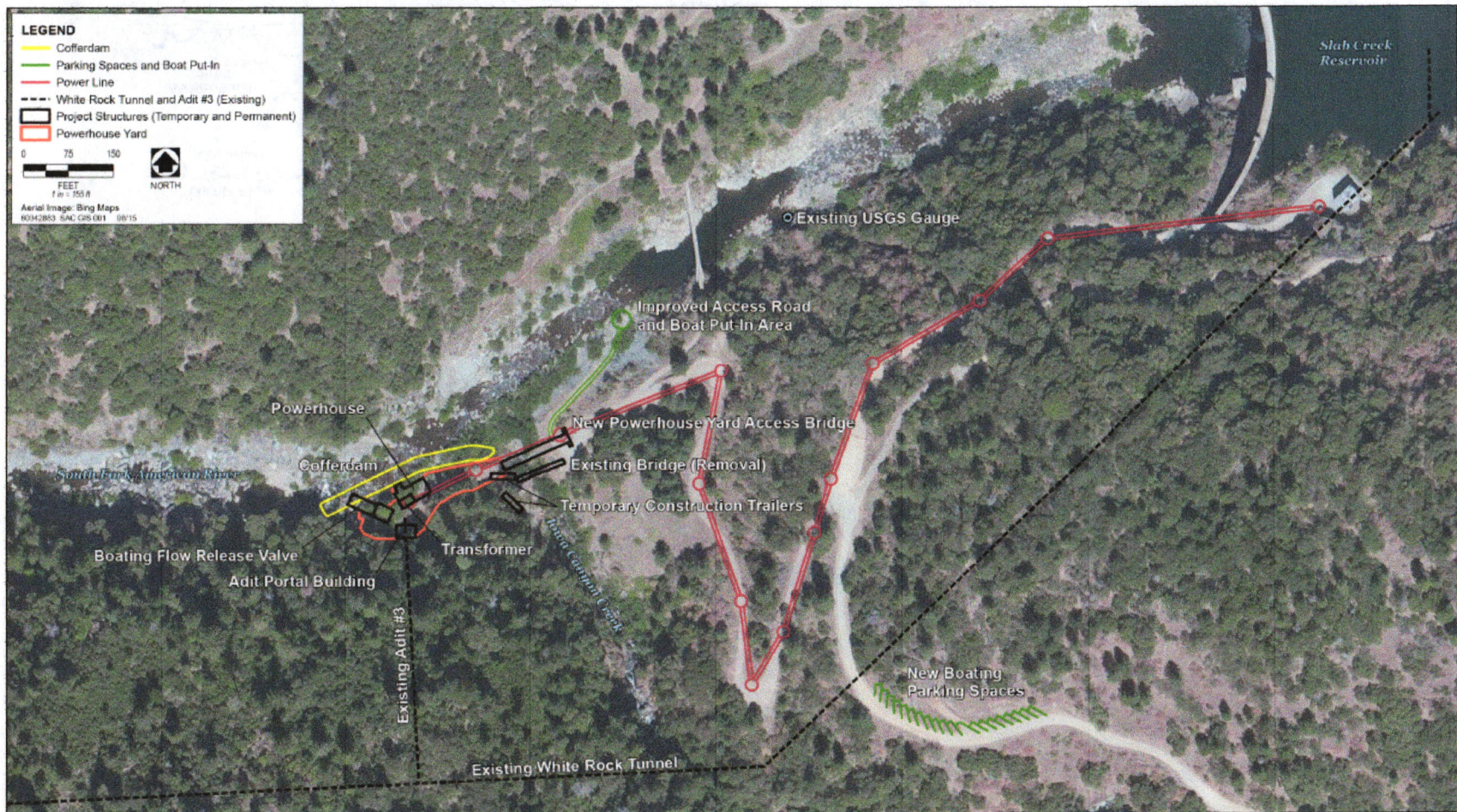
Figure 1: Project Location



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Figure 2: Project Vicinity



Source: AECOM 2015