



# El Dorado Irrigation District

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## NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT AND PUBLIC SCOPING MEETING FOR THE SILVER LAKE DAM REPLACEMENT PROJECT

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In accordance with the provisions of the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq., and the State CEQA Guidelines, California Code of Regulations, Title 15, Section 15000 et seq., the El Dorado Irrigation District (District) will be preparing a Draft Environmental Impact Report (EIR) for its proposed Silver Lake Dam Replacement Project (Proposed Project). The purpose of this Notice of Preparation (NOP) is to provide an opportunity for the public, interested parties, and public agencies to comment on the scope and proposed content of the Draft EIR. If you are a Responsible or Trustee Agency with jurisdiction by law over natural resources held in public trust, the District needs to know what environmental information germane to your statutory responsibilities should be included in the Draft EIR.

The District proposes to replace the Silver Lake Dam (Dam) located near Kirkwood, CA, to comply with applicable dam safety requirements of the California Division of Safety of Dams and the Federal Energy Regulatory Commission. The primary benefit of the Proposed Project is to provide safe and reliable operation of the Dam and Reservoir. The replacement Dam and appurtenances would be constructed at the location of the existing Dam and surrounding areas.

The District has determined that the Proposed Project may result in potentially significant environmental effects, and consequently, an EIR is required; therefore, an Initial Study will not be prepared. The Draft EIR will address the full range of potentially significant environmental effects and feasible alternatives to the Proposed Project that meet CEQA requirements.

**Document Review and Availability:** The public review period begins on November 15, 2024 and ends on December 20, 2024. A copy of the NOP and additional information is available for public review at 2890 Mosquito Road, Placerville, CA 95667, or online at [www.eid.org/ceqa](http://www.eid.org/ceqa).

**Public Scoping Meeting:** The District is conducting a public scoping meeting to inform interested parties about the Proposed Project and to provide agencies and the public with an opportunity to provide comments on the scope and content of the Draft EIR. These comments will assist the District with identifying the range of potential alternatives, mitigation measures, and any potentially significant effects associated with the Proposed Project. Meeting attendants will be given the opportunity to speak and ask questions regarding the Proposed Project.



The public scoping meeting will be conducted virtually and will be open to in-person attendance on **Wednesday, December 11, 2024 at 5:30 p.m.**

**Join in-person:**

District Headquarters  
2890 Mosquito Road  
Placerville, CA

**Join the meeting from your computer or mobile device:**

Click the following join link or copy and paste into your browser: <https://us06web.zoom.us/j/85975836675>

If the device being used is equipped with a microphone and speaker, participants may view the presentation live and listen to meeting audio. You may address the meeting during the comment period by clicking the "raise a hand" button. If the device being used is not equipped with a microphone, participants may view the presentation live and use the telephone instructions above to address the meeting during public comment period.

**Join the meeting by telephone only:**

This option will allow participants to listen to meeting audio and address the meeting during public comment period by pressing \*9 on the telephone keypad.

Dial 1 (669) 900-6833 and enter Meeting ID: **859 7583 6675** when prompted.

**Provide Comments on the Notice of Preparation:** Written and email comments must be received by **5:00 p.m. on December 20, 2024**. If you wish to comment on the contents of the Proposed Project's Draft EIR, please send your comments (including, if applicable, the name of a contact person in your agency) to:

El Dorado Irrigation District  
ATTN:  
Doug Venable, Environmental Review Analyst  
2890 Mosquito Road  
Placerville, CA 95667

E-mail: [SilverLakeDam@eid.org](mailto:SilverLakeDam@eid.org)

Comments provided by email should include the name and mailing address of the commenter in the body of the email and include **"NOP Silver Lake Dam Replacement Project"** in the subject line.

In accordance with the Americans with Disabilities Act (ADA) and California law, it is the policy of the El Dorado Irrigation District to offer its public programs, services and meetings in a manner that is readily accessible to everyone, including individuals with disabilities. If you are a person with a disability and require information or materials in an appropriate alternative format; or if you require any other accommodation for this meeting, please contact the EID ADA coordinator at (530) 642-4045 or e-mail at [ADACoordinator@EID.org](mailto:ADACoordinator@EID.org) at least 72 hours prior to the meeting. Advance notification within this guideline will enable the District to make reasonable accommodations to ensure accessibility.



# El Dorado Irrigation District

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## PROJECT DESCRIPTION AND PROBABLE ENVIRONMENTAL EFFECTS TO BE ADDRESSED IN THE DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE **SILVER LAKE DAM REPLACEMENT PROJECT**

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This Notice of Preparation (NOP) is intended to provide sufficient information to the public, interested parties, and public agencies to enable them to make a meaningful response regarding the scope of issues that should be addressed in the Silver Lake Dam Replacement Project (Project or Proposed Project) Draft Environmental Impact Report (EIR), consistent with California Environmental Quality Act (CEQA) Guidelines Section 15082(a)(1). This NOP contains a description of the Project, Project location, and identification of probable environmental effects to be addressed in the Draft EIR.

### **PROJECT OVERVIEW**

The El Dorado Irrigation District (EID or District) proposes to replace the Silver Lake Dam (Dam) to comply with applicable dam safety requirements of the California Division of Safety of Dams (DSOD) and the Federal Energy Regulatory Commission (FERC). The primary benefit of the Proposed Project is to provide safe and reliable operation of the Dam and Silver Lake Reservoir (Reservoir). The Dam is owned and operated by EID as part of the El Dorado Hydroelectric Project - FERC License No. 184 (Project 184) and provides both drinking water supplies and water for generation of clean hydroelectric power to the residents of El Dorado County while also supporting seasonal recreation opportunities in and around the Reservoir. The Proposed Project involves the removal of the existing Dam, spillway, and appurtenances and the construction of a replacement Dam, spillway, and appurtenances at the location of the existing Dam and surrounding areas. The District anticipates the duration of the Project's construction activities will be approximately 18 months with the majority of activities affecting water supply, power generation, and recreation activities to occur within the first construction season and final completion activities to carry into the second season.

### **PROJECT LOCATION**

Silver Lake is located in Amador County, approximately 19 miles south of Lake Tahoe, California, near the community of Kirkwood as shown in **Figure 1**. Silver Lake Reservoir is formed by the Dam at its northwest end and is located adjacent to State Route (SR) 88/Carson Pass Highway. Releases from the Dam are conveyed to the Silver Fork American River (Silver Fork), a tributary to the South Fork American River (SFAR).

## **PROJECT BACKGROUND**

Silver Lake Dam and Reservoir were originally constructed in 1876. The Dam and Reservoir are owned and operated by EID as part of the El Dorado Hydroelectric Project and licensed by FERC as Project 184. Project 184 includes Silver Lake, Lake Aloha, Echo Lake, and Caples Lake, a diversion dam on the SFAR, a 22-mile conveyance (e.g., canals, flumes, siphons, and tunnels), and a forebay, penstock, and powerhouse. The Dam is also regulated by the California DSOD as CA Dam ID 53-12. Silver Lake is the second largest reservoir of Project 184 and provides municipal, industrial, and agricultural water supplies as well as hydroelectric power generation while also supporting instream flows and recreation uses.

The Dam does not meet current dam safety standards, has exceeded its service life, and requires replacement. The Dam's long-term reliability and integrity are compromised by voids developing due to rotting interior logs encapsulated as fill as part of the original rock and soil-filled timber crib structure constructed in 1876. In addition, the upstream gunite face of the Dam is at the end of its useful life and lacks long-term reliability. Defects in the gunite face facilitate leakage through the Dam and may create more voids within the Dam caused by soil particle migration (i.e., piping). Lastly, the spillway does not have adequate capacity to pass the Probable Maximum Flood (PMF) as required under FERC regulations and is susceptible to damage from loading occurring during an earthquake.

## **PROJECT OBJECTIVES**

Silver Lake Reservoir is critically important to the District's water supply operations and reliability. The primary objectives of the Proposed Project are to comply with applicable dam safety requirements of the DSOD and FERC and ensure the safe and reliable operation of the Dam and Reservoir.



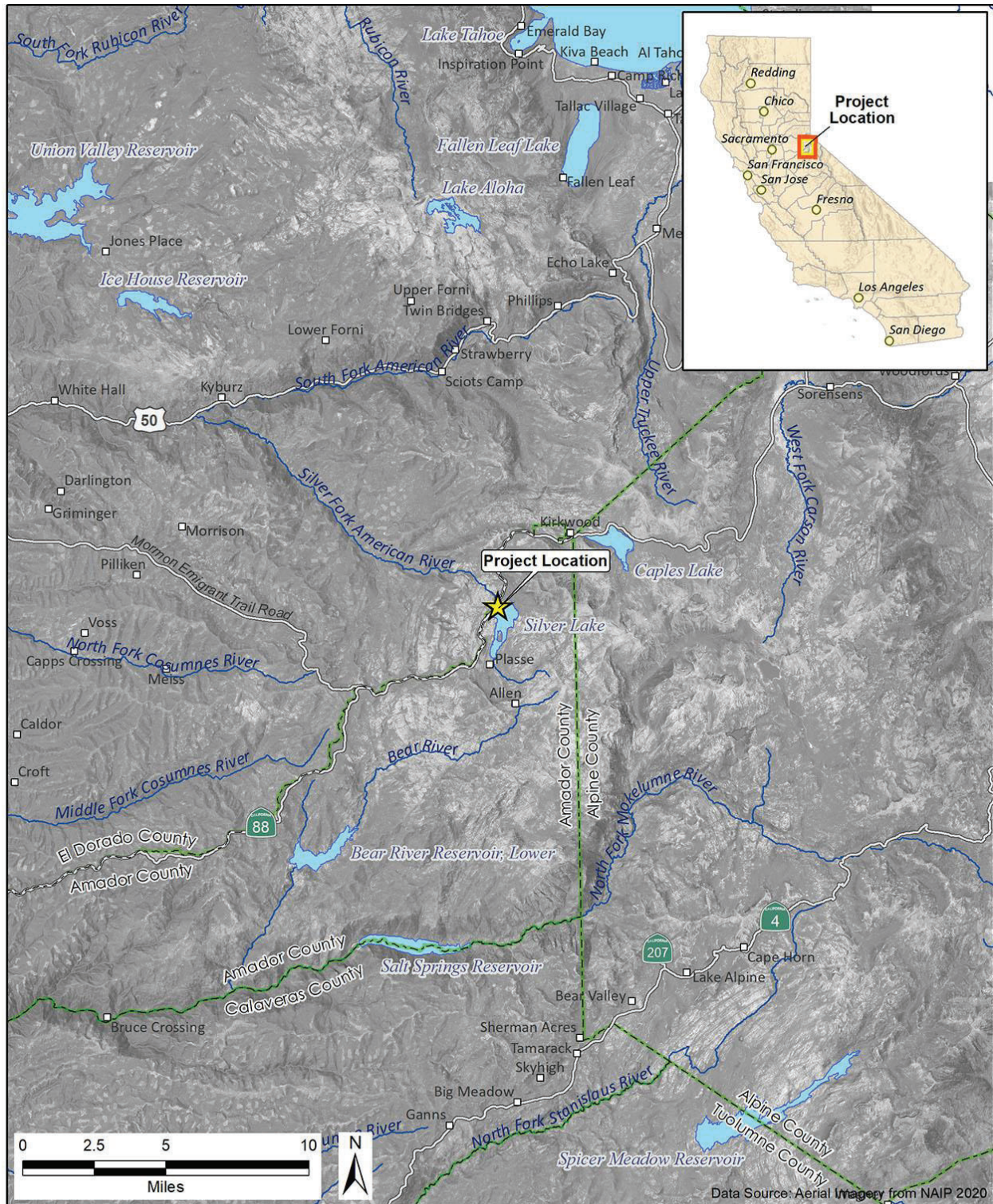


Figure Source: GEI Consultants, Inc. 2024.

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**Figure 1. Project Location**

## PROJECT COMPONENTS AND CHARACTERISTICS

The Project is comprised of the following components:

- Removal of the existing Dam, spillway, and appurtenances
- Construction of the replacement Dam, spillway, and appurtenances, including:
  - Combined replacement gravity dam and spillway structure, including labyrinth weir, stilling basin, wing dikes on the left and right abutments, cutoff wall, low-level outlets, spillway access and bridge, and grading and bank stabilization
- Raising a section of Kit Carson Road to avoid overtopping during PMF conditions
- Relocation and establishment of utilities to support dam operations and continued phone service in the area

Each of the Project components is described below in this section.

### PROJECT COMPONENTS

#### *Removal of the Existing Dam, Spillway, and Appurtenances*

Following establishment of water control through installation of a temporary cofferdam, the existing Dam, spillway, and appurtenances would first be demolished and removed.

Appurtenances removed include an abandoned fish ladder, the steel outlet tower in the Reservoir, crib walls, a concrete walkway, and an existing monitoring building adjacent to the Reservoir upstream of the existing Dam. Pavement on portions of Kit Carson Road and the access road to the right dam abutment would also be removed.

#### *Replacement Dam, Spillway, and Appurtenances*

The new structure would include a combined gravity dam and overflow spillway to replace the existing Dam and spillway, as shown in **Figure 2**. A 780-foot-long and 34-foot-high conventionally vibrated concrete gravity dam would be constructed at the location of the existing Dam. The Dam includes a 169.5-foot-wide overflow spillway structure including a 7-foot-tall labyrinth weir wall. The labyrinth weir has a crest equal to the existing normal maximum water surface elevation of the Reservoir resulting in no change to the maximum reservoir level following construction. Renderings of the combined replacement Dam and spillway structure are provided in **Figure 3**.

The combined replacement Dam and spillway structure would include the following appurtenances and characteristics:

- Wing dikes on each abutment of the combined Dam and spillway structure, to tie into high ground to provide necessary containment of Reservoir water and freeboard during extreme flood conditions.
- Flows passing over the labyrinth weir crest would drop over the sloped downstream face of the spillway and into a conventional concrete stilling basin. The stilling basin provides



a means to absorb or dissipate energy from the spillway discharge, before water enters the Silver Fork, and protects the spillway area from erosion and undermining.

Downstream of the spillway and the stilling basin, the Silver Fork stream channel would be excavated and graded in the existing granitic bedrock to create downstream gradient where necessary.

- The combined replacement Dam and spillway structure includes primary and auxiliary low-level outlets at the same elevation as the low-level outlet at the existing Dam resulting in the same minimum reservoir level following construction. The primary outlet would be used to release water from the Reservoir to provide minimum downstream streamflow in the Silver Fork, regular Reservoir operations, and emergency releases. The auxiliary outlet would be used to increase release capacity during large inflows, provide operational redundancy if the primary outlet is damaged or out of service, and manage reservoir elevation to reduce spill frequency.
- An all-season surface, including a prefabricated modular bridge, would be constructed across the combined Dam and spillway structure to provide maintenance access for District vehicles and public pedestrian access along the Dam crest.
- A seepage cutoff wall would extend underground from the new dam's right abutment to Kit Carson Road (approximately 200 lineal feet total).
- A layer of riprap would be placed on the exposed backfill slopes of the wing dykes of the concrete dam where erosion protection is necessary.

#### *Kit Carson Road Improvements*

The northern rim of Silver Lake has a low area along Kit Carson Road that is only a few feet above the maximum Reservoir level at its lowest point. To help avoid the potential for overtopping during extreme flood events, as part of the Project, the District would raise this section of Kit Carson Road as shown in **Figure 2** to the same elevation/height as the crest of the proposed replacement Dam, which would be approximately 7 feet above the labyrinth weir crest. This improvement would prevent the Reservoir from overtopping the roadway during the most extreme flood events.

#### *Utility Relocation and Installation*

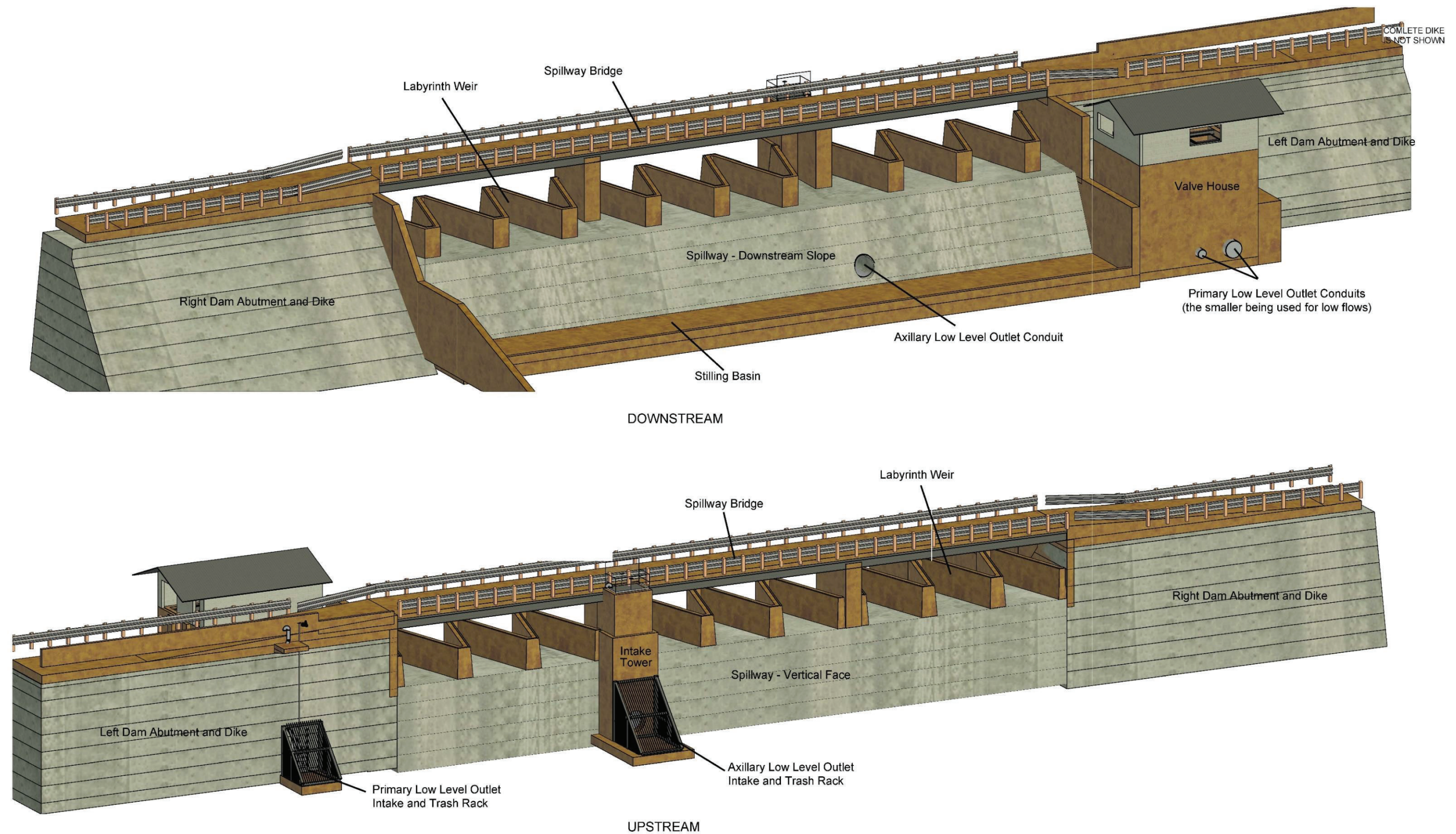
A new underground power service line would be constructed from an existing Kirkwood Meadows Public Utility District power line on the opposite/west side of SR 88 to the new primary outlet valve house, as shown in **Figure 2**. The power service would be used during construction and operation. Existing buried Volcano Communications telecom lines that extend through the project area, including along the lakebed, would be relocated onto the combined replacement Dam and spillway structure.





**Figure 2. Proposed Replacement Dam, Spillway, and Appurtenances**





Source: GEI Consultants, Inc 2024.

**Figure 3. Renderings of the Combined Replacement Dam and Spillway Structure**



## PROJECT CONSTRUCTION

This section describes construction of the Proposed Project including site access, construction and staging areas, construction methods including water control systems, and schedule.

### *Site Access, Construction and Staging Areas*

Site access, construction and staging areas are shown in **Figure 4**. The Project site is accessible directly from SR 88 on the west via the boat ramp parking lot and from the east via Kit Carson Road. Project access would be coordinated with Caltrans, California Highway Patrol, El Dorado County Department of Transportation, Amador County Department of Transportation and Public Works, Kit Carson Lodge, and U.S. Forest Service. A traffic control plan would be developed to ensure acceptable levels of traffic flow and continuous emergency vehicle access are maintained during the construction period.

The primary staging areas for use during construction are located adjacent to both abutments of the combined replacement Dam and spillway structure and in dry areas within the Reservoir. An EID-owned parcel on the west side of SR 88 across from the main construction area may also be used for staging during construction.

### *Construction Methods*

The Proposed Project will require blasting, reuse, export, and import of materials, and installation of water control systems during construction.

Blasting would be used to help remove approximately 16,000 cubic yards of hard granitic rock for the development of the left portion of the spillway and stilling basin, the primary outlet works, valve house, and the discharge channel. It is estimated that blasting would be conducted during approximately 12 to 15 days of construction. To ensure public safety, SR 88 would be closed for durations of up to 15 minutes during each blast and would involve prior approval and close coordination with Caltrans. After blasting, rock would be removed, likely primarily by excavator, and transported to the staging area for processing into usable rockfill or riprap products or would be hauled offsite for disposal/recycling.

The Project would involve the reuse, export, and import of materials. The Project requires a total excavation of approximately 34,000 cubic yards of material from granitic bedrock, soils, and volcanic sediments. Excavated materials would be stockpiled and processed within Project staging areas onsite and reused, if suitable, for engineered fill material in the abutments and Kit Carson Road improvements, riprap, bedding for erosion protection layers, and other fill materials during grading.

Additionally, material from the existing Dam, spillway, abandoned fish ladder, other appurtenances, pavement, and other materials that are removed and not reused would be



hauled offsite. It is estimated 32,000 cubic yards of materials would be removed and hauled from the Project site to a licensed construction refuse facility in South Lake Tahoe or in the Jackson/Ione area. The surplus soil, rock, and all other solid waste from the project would be disposed of in accordance with all applicable regulations.

Import of aggregate materials from offsite commercial sources would include gravel and sand materials to be used as filter and drainage media, aggregate materials for concrete, and aggregate base for access road surfacing. Other bulk materials to be imported include cement, pozzolan, bentonite, hot mix asphalt, and miscellaneous materials. Cementitious materials (cement and pozzolan) and aggregates (sand, gravel) would be sourced from South Lake Tahoe. A batch plant would be developed onsite within the designated staging areas to mix these materials with water into a concrete mixture that would form the Dam. The replacement Dam requires approximately 9,100 cubic yards of concrete. Each cubic yard of concrete requires approximately 3,000 pounds of aggregate and 650 pounds of cementitious materials.

Water control systems would be required during construction to maintain a construction pool for making minimum streamflow releases, dewatering the construction site and routing flows around or through the construction site to the Silver Fork, managing potential stormwater inflows, and controlling the introduction of groundwater into the construction site. Water control systems may use a variety of structures, including, but not limited to, cofferdams, sumps, pumps/hoses, ditches, berms, sedimentation basins or tanks, and temporary wells. Water control systems would be designed to discharge either back into the Reservoir or to the Silver Fork channel downstream of the existing/replacement Dam and spillway.

### *Schedule*

The Project is planned to be constructed within 18 months and is tentatively scheduled to begin in the winter of 2027. Construction of the Dam embankment is anticipated to be completed within one construction season. The early months of a second construction season would likely be needed to complete some of the structural, mechanical and electrical components of the new facilities, but Project impacts on the Reservoir level during the second season would be minimal or limited to the spring months if snow melt occurs in a normal manner at approximately the typical time period and there are no unforeseen Project delays



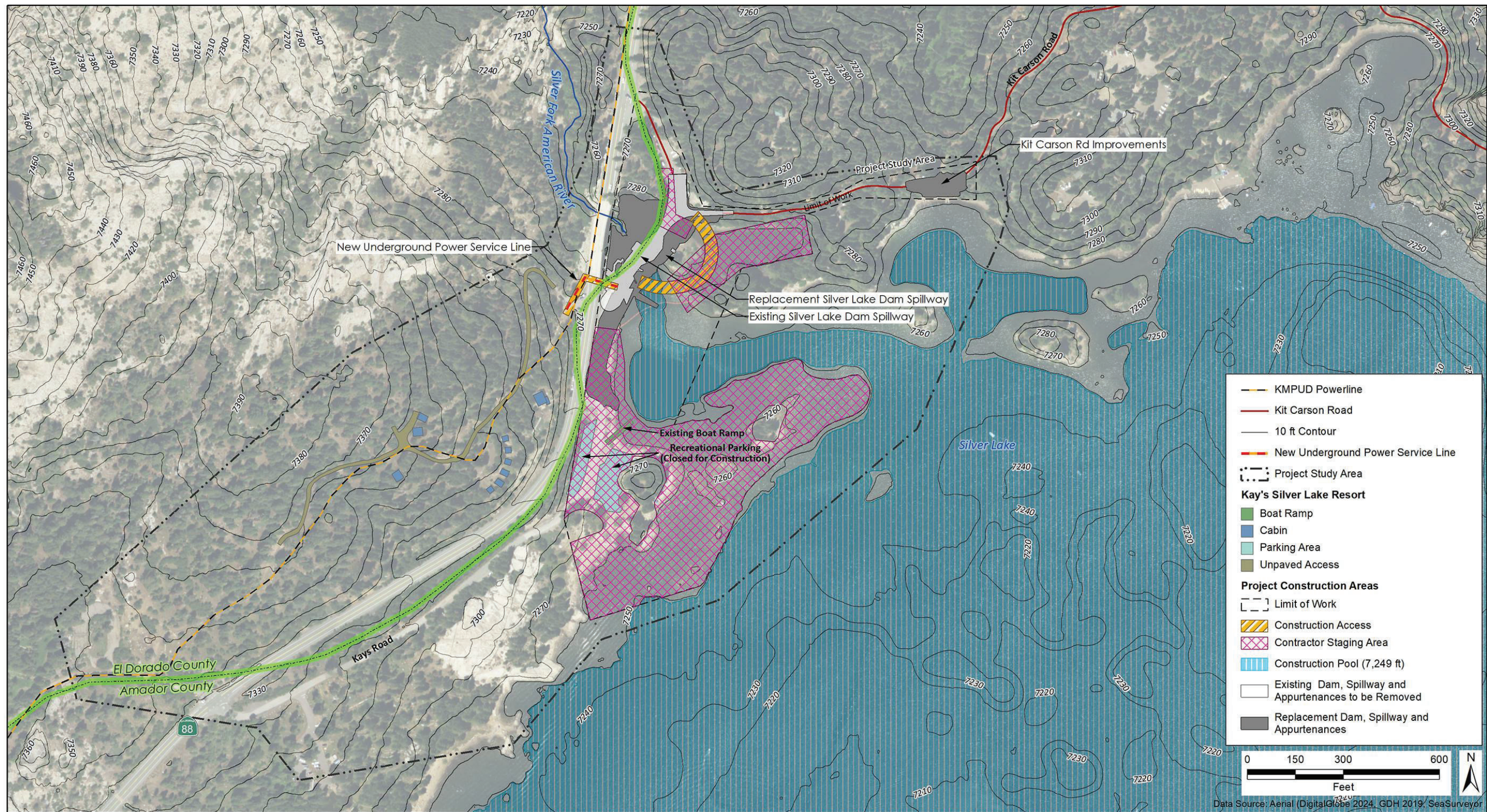


Figure Source: GEI Consultants, Inc. 2024.

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**Figure 4. Construction Areas and Access**



## RESERVOIR OPERATIONS DURING CONSTRUCTION

The amount of water that can be safely stored will be limited during construction of the Project. The Reservoir water level would be maintained at a level to enable safe construction of the Dam, while still providing a limited pool for recreation use during the late spring and summer months and for maintaining minimum instream flows throughout the duration of construction. With the use of cofferdams, the Reservoir would be maintained at an approximate elevation of 7,249 feet (referred to as the “construction pool”), which is a gage height of approximately 6.5 feet and equates to approximately 1,900 acre-feet or 21% of the Reservoir’s active storage. The approximate perimeter of the construction pool relative to the full Reservoir is shown in **Figure 5**. The construction pool is the maximum Reservoir level that can be maintained without extending the Project’s construction schedule that would impact two summer recreation and water supply seasons.

The construction pool is anticipated to diminish in late summer and fall as a result of maintaining instream flows, loss from the natural leakage from the Reservoir into Oyster Creek, surface evaporation, and naturally diminished inflows. Due to these factors that will affect the water available from the construction pool, temporary pumps may be used to access the natural storage of Silver Lake in the event additional water is needed to maintain minimum instream flows until fall rains occur and the reservoir level increases. The natural storage of Silver Lake that exists below the Dam’s outlet works is estimated to be approximately 4,800 acre-feet.