
San Francisco Bay Regional Water Quality Control Board

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August 17, 2018

Mr. Ryan Heacock
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118
Email: RHeacock@valleywater.org

Subject: Comments on Notice of Preparation for Calero Dam Seismic Retrofit Project, Santa Clara County (State Clearing House No. 2018072019)

Dear Mr. Heacock:

San Francisco Regional Water Quality Control Board (Water Board) staff appreciates the opportunity to provide comments on the Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the Calero Dam Seismic Retrofit Project (Project) by the Santa Clara Valley Water District (District) pursuant to the California Environmental Quality Act (CEQA) (State Clearinghouse # 201072019). For additional background on the Project, we also reviewed the Planning Study Report (SCVWD, 2015¹), the FAHCE Settlement Agreement (State Water Board, 2003²), and consulted with other agency staff (Terry, J. and G. Stern³).

Calero Dam impounds the Arroyo Calero (Calero Creek) in unincorporated Santa Clara County, about 12 miles southwest of downtown San Jose. The capacity of Calero Reservoir is 9,934 acre-feet, and its drainage area is about 7.1 square miles. The NOP states that the reservoir receives inflow from the Arroyo Calero Watershed and from unnamed, ungagged, drainages. The NOP also states that the District maintains the reservoir to augment natural percolation to maintain groundwater levels and supply

¹ Santa Clara Valley Water District (SCVWD), 2015. Calero Dam Seismic Retrofit Project Planning Study Report. Prepared by Geotechnical Water Resources Environmental and Ecological Services (GEI Consultants), April 2015, Project 132838-0. SCVWD: San Jose, CA.

² California State Water Resource Control Board (State Water Board), 2003. *Settlement Agreement Regarding Water Rights of the Santa Clara Valley Water District on Coyote, Guadalupe, and Stevens Creeks*. SB 320572 v1:007677.000101/06/2003. State Water Board: Sacramento, CA. (This document is referred to as the "FAHCE settlement agreement, where FAHCE is for Fisheries Aquatic Enhancement Collaborative Effort.)

³ Terry, J. (U.S. Fish and Wildlife) and G. Stern (National Marine Fisheries Service), 2018. Personal communication, August 2, 2018 (email).

water to drinking water treatment plants, and manages reservoir storage levels to provide capacity for incidental flood protection. However, since 2012, the Division of Safety of Dams (DSOD) has restricted reservoir operations to 4 percent of the reservoir's capacity due to seismic safety concerns.

The purpose of the Project is to restore normal water supply operations to the reservoir and protect the dam against the Probable Maximum Flood Event. The Project has following elements:

- Reconstructing and thickening the Dam;
- Constructing a new outlet works system;
- Increasing the capacity of the spillway;
- Creating borrow, disposal, and staging areas for Project construction;
- Breaching Fellows Dike and relocating the historic Bailey Fellows House.

The NOP states the project would take three years to construct, including rewatering in the third year.

The Project has the potential for actions that will require the Water Board's approval under the federal Clean Water Act, the California Water Code, and the San Francisco Bay Basin Water Quality Control Plan (Basin Plan) for discharges of dredge and fill material. The Basin Plan includes the California Wetlands Conservation Policy, which requires no net loss and a long-term net gain in the extent, functions, and values of wetlands, including riparian wetlands. Accordingly, the Water Board is a Responsible Agency under CEQA. We offer the following comments to guide the District in completing the Project DEIR by specifying the scope and content of the environmental information within Water Board's regulatory purview.

Comments

1. **Impacts to Federal and State Jurisdictional Wetlands and Other Waters.** Please note that both a Clean Water Act (CWA) Section 401 water quality certification (401 Certification) and a CWA Section 404 Permit from the U.S. Army Corps of Engineers may be necessary if the Project impacts waters of the U.S. Additionally, the District may need to file a Report of Waste Discharge under the Porter-Cologne Water Quality Control Act (Porter- Cologne) if the Project may result in a discharge of waste, including but not limited to sediment, to waters of the State.

For the Water Board to authorize the proposed Project pursuant to the Clean Water Act, Section 401, we require a project proponent to conduct an alternatives analysis consistent with the U.S. Environmental Protection Agency's 404(b)(1) Guidelines. The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) incorporates the 404(b)(1) Guidelines by reference to determine the circumstances under which filling of wetlands, streams or other waters of the U.S. and/or the State

may be permitted. In accordance with the Basin Plan, filling, dredging, excavating and discharging into a wetland or water of the state is prohibited unless the project meets the least environmentally damaging practicable alternative (LEDPA) standard as determined through the 404(b)(1) alternatives analysis. Although the LEDPA analysis is not required by CEQA, a project proponent may tailor the DEIR alternative analysis to fulfill both the CEQA and 404(b)(1) requirements to help expedite the Water Board's issuance of a 401 Certification and/or waste discharge requirements under Porter-Cologne. Accordingly, we recommend the District prepare and analyze alternatives in the DEIR that would meet the LEDPA standard to help expedite future Water Board actions, and avoid the potential need for a EIR supplement or amendment.

The Guidelines sequence the order in which proposals should be approached: 1) Avoid - avoid impacts to waters; 2) Minimize - modify project to minimize impacts to waters; and, 3) Compensate – once impacts have been fully minimized, compensate for unavoidable impacts to waters. When it is not possible to avoid impacts to water bodies, disturbance should be minimized. Compensatory mitigation for lost water body acreage and functions through enhancement, restoration, and/or creation should only be considered after disturbance has been minimized. Where impacts cannot be avoided, the enhancement, restoration, and/or creation of adequate mitigation habitat to compensate for the loss of water body acreage, functions and values must be provided pursuant to the California Wetland Conservation Policy (also known as the "no net loss" policy; Executive Order W-59-93).

Although the NOP states there would be 310,000 cubic yards of sediment excavated and reused onsite, and other materials will be imported for the Project, the potential temporary and permanent impacts of excavated and fill materials in jurisdictional waters are not addressed in the NOP. The DEIR should thoroughly address the types and quantities of dredged, excavated, and fill materials in the Project and the potential for the excavation and fill discharges to result in adverse impacts.

Cumulative and indirect impacts of wetlands must also be prevented. Indirect impacts may include, but are not limited to: deposition of sediments; erosion of substratum; additional water (flooding); reduced water supply or flows; creating a condition of pollution; changes in shading; and watershed degradation. We elaborate on these issues in the subsequent comments.

- 2. Accurate and Thorough Project Description.** The NOP is vague with respect to the jurisdictional waters that could potentially be impacted by the Project, and only specifically addresses Calero Reservoir. However, based on the maps included with the NOP and our prior knowledge of the site, additional waters that could potentially be impacted by the Project include, but are not limited to: Arroyo Calero, both upstream and downstream of the reservoir and dam; Alamitos Creek which is a tributary to Arroyo Calero about three miles downstream of the dam; and tributaries that flow into the reservoir, such as Cherry Calero Creek. Further, it is our understanding that breaching Fellows Dike will result in inundating more area.

Accordingly, we assume the surface area and capacity of the reservoir would be increased. The DEIR should thoroughly address the hydrology and water quality issues related to breaching the dike. As described in the previous comment, we recommend that the DEIR clearly and fully describe the Project's temporary and permanent impacts to waters of the U.S. and waters of the State. Thus, a clear and accurate description of all the potentially impacted jurisdictional waters is necessary.

3. **Potential Impacts on Biological Resources.** The District should include field assessment information in the DEIR as part of the assessment of potential for impacts on the special-status species most likely to be affected by the Project, including steelhead trout (*Oncorhynchus mykiss*) (see also next comment). Please note that the Water Board is mandated to protect special-status species habitat in waters of the State, though we tend to defer to the U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, and National Marine Fisheries Service (NMFS) for specific avoidance and minimization measures when those agencies are involved in the permitting. The Water Board also regulates wetland and riparian areas for the designated beneficial uses that they support, such as fish spawning and cold water habitat. Such beneficial uses for specific water bodies are listed in the *San Francisco Bay Water Quality Control Plan* (Basin Plan), Chapter 2 and Table 2.1. The beneficial uses of the primary waters in the Project are listed in the following table.

Beneficial Use	Calero Reservoir	Arroyo Calero
Municipal and Domestic Supply (MUN)	✓	
Freshwater Replenishment (FRSH)		✓
Groundwater Recharge (GWR)	✓	
Cold Freshwater Habitat (COLD)		✓
Fish Migration (MIGR)		✓
Protection of Rare and Endangered Species (RARE)		✓
Fish Spawning (SPWN)	✓	✓
Warm Freshwater Habitat (WARM)	✓	✓
Wildlife Habitat (WILD)	✓	✓
Water Contract Recreation (REC-1)	✓	✓
Noncontact Water Recreation (REC-2)	✓	✓

Please note that we recommend the DEIR address the potential for impacts in these waters as well as the tributaries to these waters, including Alamitos Creek. Further, while the RARE beneficial uses of Arroyo Calero is attributed to the presence of steelhead trout (see next comment), additional listed species that could be potentially adversely impacted by the Project may be present, including: tricolored

blackbird; California tiger salamander; California red-legged frog; western pond turtle; and Foothill yellow-legged frog (Terry, J., 2018 and Stern, G., 2018⁴).

Accordingly, the District should conduct biological surveys in all of the waters and riparian habitats that will potentially be impacted by the Project from both direct and indirect effects.

4. **Steelhead Habitat.** Please note that Arroyo Calero has the RARE beneficial uses due to steelhead trout (Basin Plan beneficial use documentation at pg. 315⁵), a federally-listed endangered species, though this species is not mentioned in the NOP. The DEIR should specifically address the potential environmental impacts to steelhead habitat, including effects of reservoir dewatering and the related potential for reduced flow and temporary dry conditions in Arroyo Calero. The DEIR should include a plan for protecting steelhead in the watershed for the duration of the Project (estimated to be three years of construction). This should include safe capture and relocation procedures to protect steelhead populations, or other measures as necessary to protect the species.

Also, given that the dam is a fish passage barrier for steelhead, we urge the District to conduct a fish passage analysis to evaluate feasibility of installing a volitional fish passage facility or trap/truck operation for fish passage through the dam. The DEIR alternatives should be developed with the results of the fish passage analysis to maximize the potential for the Project to protect and enhance the RARE, MIGR, and SPWN beneficial uses by improving access for steelhead to upper Arroyo Calero, and connect Arroyo Calero to other cold water habitat in Alamitos Creek downstream of Calero Dam. Further, we suggest that the District develop and implement a watershed-scale monitoring program that adequately captures population data for in-migrating adults, out-migrating juveniles, and spawning and rearing in the Guadalupe watershed under pre- and post-Project conditions. Monitoring should be consistent with the California Conservation Monitoring Program⁶ (to the extent its methods and procedures are applicable to the San Francisco Bay Area coastal waters and creeks), and/or comparable protocols subject to approval by the Water Board and other permitting agencies for the Project. This would allow for unbiased, long-term population monitoring with statistically significant results to evaluate effects of the Project, including the potential impacts of reservoir dewatering and creek diversions during the three-year construction project, which are addressed in more detail in see Comment 7.

5. **Water Operations.** The Project will include a new outlet works system. The DEIR should thoroughly describe the outlet works system, and how the system will be

⁴ See footnote 3.

⁵ San Francisco Water Board, Basin Plan beneficial use documentation. Available online at: https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/planningtmdls/amendments/WaterBodies/Document%20tables%20FINAL%20new%20cover%20BOOKMARKS%204-6-2012.pdf. Accessed August 10, 2018.

⁶ Adams, Peter B., et al, 2011. California Coastal Salmonid Population Monitoring: Strategy, Design, and Methods. Fish Bulletin 180. California Natural Resources Agency and California Department of Fish and Wildlife. Sacramento.

managed to protect beneficial uses of waters downstream of the dam. In addition, the NOP states that water is delivered to Calero Reservoir from Anderson Dam via a pipeline, and from Almaden Reservoir via a canal, which we understand is the Almaden-Calero Canal (though this is not stated in the NOP). The NOP also states that Arroyo Calero would be rerouted through the Almaden Valley Pipeline during construction. The DEIR should address these water infrastructure components and how they affect water quality and beneficial uses of waters in the Project for the short-term and the long-term in the watershed. In addition, please include a map with these components in the DEIR.

6. **Reservoir Operations Related to Fisheries Aquatic Habitat Collaborative Effort (FAHCE) Settlement Agreement Requirements.** A management objective in the Fisheries Aquatic Habitat Collaborative Effort (FAHCE) settlement agreement is to provide suitable spawning and rearing habitat for steelhead trout and Chinook salmon (*Oncorhynchus tshawytscha*) below Calero Dam to the confluence of Almaden Lake (section 6.6.1.1.(B) in FAHCE Settlement Agreement), which is located downstream of the confluence of Arroyo Calero and Alamitos Creek. Given that the schedule for FAHCE implementation is uncertain, each District project in the watershed will need to implement measures to protect steelhead and Chinook salmon. These measures should be based on the life history and habitat needs of these species and not limit FAHCE implementation alternatives. Please elaborate on the outlet works design alternatives and how the District intends to meet this management objective specific to Arroyo Calero and Alamitos Creek up to Almaden Lake. The DEIR should also describe habitat improvements during the interim period between the DEIR publication and FAHCE implementation. This should include a water operations plan for protecting the Arroyo Calero salmonid populations during and after construction. For example, the DEIR should include details for habitat structural improvements to enhance geomorphic processes and native vegetation, as well as water operations to maximize beneficial uses of the creek.
7. **Reservoir Dewatering and Creek Bypass Discharges.** The NOP states that the reservoir will be completely drained, and water from Arroyo Calero (that would normally fill the reservoir) will be rerouted through the Almaden Valley Pipeline. The DEIR should address the potential impacts of reservoir dewatering and creek diversions, and propose mitigation measures that would avoid and minimize impacts in the affected waters.

Please note that a complete dewatering and diversion plan will be required as part of the water quality certification application before we can authorize dewatering activities to proceed. The plan should include elements to contain, monitor, and treat the water, as appropriate, to prevent adverse water quality impacts in the Project and to maintain normal conditions both upstream and downstream of the dewatered reservoir. The dewatering and diversion plan will need to include diagrams for piping, cofferdams, pumps, flow dissipaters, and other equipment to demonstrate that the dewatering and diversion structures are sized appropriately, and a discharge monitoring plan to determine whether the dewatering and diversion flows meet Basin

Plan receiving water quality objectives, particularly for turbidity, dissolved oxygen, temperature, and pH. Therefore, we encourage the District to analyze potential impacts from reservoir and creek dewatering as wells flow diversions in the DEIR. Further, the dewatering plan will need to address the smaller creeks, as needed, in addition to Arroyo Calero.

Further, we urge the District to determine whether the discharge of reservoir water and bypassed creek flow can be covered under the Water Board's General NPDES dewatering permits, and should prepare the requisite sampling, analysis, and treatment plans, submit the permit applications, etc. A discharger should allow sufficient time for preparation of plans and applying for the permit before beginning a project.

8. Compliance and Coordination with the Guadalupe River Watershed Total Maximum Daily Load (TMDL) Plan. The DEIR should address how the Project will comply with the Guadalupe River Watershed Total Maximum Daily Load implementation plan (Basin Plan, section 7.7.1), including (but not limited to) the following elements:

- *Soil testing and beneficial reuse.* The DEIR should include a soil monitoring plan to determine the appropriate beneficial reuse or disposal options for any soil excavated in the Project site, consistent with the District's Stream Maintenance Program, Attachment G-*Sediment Characterization Plan* (Water Board Order No. R2-2014-0015).
- *Oxidization of sediment in dewatered reservoir.* Dewatering the reservoir will alter the redox potential of the reservoir substrate and cause conversion of sulfides to sulfate. The DEIR should evaluate the potential for adverse effects of the increased sulfate supply that could fuel high rates of methylmercury production by sulfate-reducing bacteria after the reservoir becomes stratified and anoxic conditions are reestablished under post-Project conditions.
- *Methylmercury Mitigation Measure for Calero Reservoir.* Results of the one-time reservoir sediment monitoring event of 2005 for the TMDL Plan indicate a potentially significant impact from mercury hotspots in the reservoir. To avoid these impacts, we recommend that the District further define the extent of mercury contamination while the reservoir is dewatered and cover/cap any hotspots with clean sediment to minimize the potential for mercury to be converted to methylmercury after the reservoir is refilled.
- *Methylmercury Mitigation Measure for Almaden-Calero Canal.* Almaden Reservoir is known source of mercury in the watershed and is a source of flow to Calero Reservoir via the Almaden-Calero Canal. Therefore, while Calero Reservoir is dewatered, we recommend the District remove existing mercury-laden sediment from the Almaden-Calero Canal to reduce the mercury loads discharged into Calero Reservoir.

- *Monitoring to capture Project's effects on methylmercury levels.* The DEIR should propose appropriate mitigation measures of potential adverse impacts of methylmercury production, which should include monitoring to capture conditions during the first stratification season, and tailored to characterize an anticipated spike in methylmercury production. This would need to entail water and biota sampling at least as frequently as was conducted in 2016 and 2017 for the mercury TMDL monitoring to capture the rise, peak, and seasonal decline in methylmercury production and bioaccumulation. The details for the monitoring plan will need to be refined in close coordination with the Water Board's Planning and TMDL Division staff (Basin Plan, Section 7.7.1).
 - *Oxygenation equipment.* In addition, the DEIR should evaluate whether the existing oxygenation equipment, and operation of the equipment, should be modified to address any changes in the reservoir's physical structure and biogeochemical processes resulting from the Project.
 - *Changes in food web.* The DEIR should evaluate post-Project food web and methylmercury bioaccumulation. Dewatering the reservoir will likely cause significant changes to the food web, and hence significant changes to bioaccumulation of methylmercury. This will somewhat invalidate the Water District's recently completed work to address mercury TMDL special study question 1: How do the reservoirs and lakes in the Guadalupe River watershed differ from one another? (Basin Plan, Section 7.7.1).
 - *Non-native fish prevention.* The DEIR should include a plan to prevent introduction of non-native fish into the reservoir after the reservoir is re-filled. However, we recognize that non-native fish could be reintroduced into the reservoir by fish anglers, and by other means such as unwanted pet fish being released into the reservoir. Therefore, we suggest the DEIR to include alternatives for an intensive public education and outreach effort similar to the Presidio Trust's program for Mountain Lake (San Francisco, CA). Another option is to incorporate a public access restriction into the TMDL implementation plan.
 - *Dust evasion of dewatered reservoir.* The DEIR should address the potential for mercury-laden sediment fines to be picked up by wind and pose a risk to workers, park users, nearby residents, and biota in the area.
9. **Cumulative Impacts.** The Project DEIR's cumulative impact analysis should address capital projects being planned within the Guadalupe River watershed, which include (but are not limited to): the Upper Guadalupe River flood control project; seismic upgrade projects at Guadalupe and Almaden dams; and FAHCE implementation.
10. **Construction General Permit.** Last, the District will need to seek coverage under statewide General Permit for Discharges of Storm Water Associated with Construction Activities (Order No. DWQ-2009-0009, as amended by Order Nos. 2010-0014-DWQ and 2012-006-DWQ) (Construction General Permit). The SWPPP shall specify all BMPs that will be used to avoid impact to Guadalupe Creek. These

considerations should be incorporated into project design as early in the planning phase as possible.

We welcome the opportunity to provide additional comments on a draft Project DEIR when it is available for review. If you have any questions about our comments please contact Susan Glendening of my staff at susan.glendening@waterboards.ca.gov or (510) 622-2462.

Sincerely,

Xavier Fernandez
Senior Environmental Scientist

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