California
WATER COMMISSION

Water Storage Investment Program Concept Paper Form

Please complete the questions below and return your completed concept paper by email to cwc@water.ca.gov by 5:00 p.m. on March 31, 2016. Completed concept papers should not exceed four pages.

Contact Information

Contact Name: Thomas J. Haglund	
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Agency/Organization Name: Tuolumne Utilities District (TUD)	
Agency Type (select one):	☒ Public Agency ☐ Nonprofit Organization ☐ Public Utility ☐ Tribe ☐ Mutual Water Company ☐ Local Joint Powers Authority ☐ Other:

Project Information

Project Name: Sierra Pines Reservoir	
Project Type:	☐ CALFED Surface Storage ☐ Groundwater Storage ☐ Groundwater Contamination Prevention or Remediation ☐ Conjunctive Use ☐ Reservoir Reoperation ☒ Local Surface Storage ☐ Regional Surface Storage ☐Other:
Estimated Project Cost: $40 Million	
Estimated WSIP Funding Request: $20 Million	

Please describe your project, including location, water source, facilities, and operations:

Construct a dam to create a nominal 850 acre-foot capacity reservoir and recreational area located at the existing confluence of the Pacific Gas and Electric Tuolumne Main Canal and the Tuolumne Utilities District Section 4 Ditch. The reservoir site is located approximately 1.5 miles north of the community of Twain Harte in Tuolumne County. The reservoir would provide additional water storage, recreational benefit, aquatic habitat, ecosystem support, potential hydroelectric power generation, and mitigate vulnerabilities of the upstream historic wooden flume conveyance structures that could easily be compromised due to wildfire, rock slide, or tree fall. The water source to fill this reservoir is already secured via an existing contract with PG&E for diversions out of the Tuolumne Main Canal. The Tuolumne Main Canal originates at Lyons Reservoir. Lyons Reservoir is supplied by the South Fork of the Stanislaus River.

Per Water Code section 79753, the Commission may only fund the public benefits of water storage projects. Further, ecosystem improvements must make up 50% of the funded public benefits (Water Code section 79756(b)). What public benefits does your project provide? (select all that apply):

☒ Ecosystem Improvements ☒ Water Quality Improvements ☐ Flood Control
☒ Emergency Response ☒ Recreation

Please describe the magnitude of the public benefits and how the project will be operated to provide the public benefits:

1. The project would add enough water storage to mitigate the threat of drought. In 2014-2015, Tuolumne County was at serious risk of running out of water.
2. A new Sierra Pines Reservoir will add disaster resiliency to an area that is "sandwiched" between two recent wildfires; the Rim Fire and the Butte Fire. A fire hazard assessment has been conducted on the Tuolumne Main Canal and within hours of a fire starting in the river canyon the entire wooden flume system could be destroyed. Destruction of the flume system would cut off approximately 95% of the water supply to the majority of the residents of Tuolumne County.
3. The reservoir would provide habitat for waterfowl and recreational activities such as fishing and hiking and would complement an adjacent public access area already operated by Pacific Gas and Electric Co.
4. The reservoir site is also adjacent to property that has been acquired by the Tuolumne Utilities District to site a regional water treatment facility. Integrating the proposed reservoir and water treatment facility would result in enhanced drinking water quality and also improve the efficiency of the water delivery system.
5. Even during normal water years, residents of Tuolumne County are asked to conserve water for a period of 2 weeks each year when the existing canal system is taken off-line for maintenance. The Sierra Pines Reservoir would minimize the impact that the maintenance outage has on customers.

Water Code section 79752 requires that funded projects provide measurable improvements to the Delta ecosystem or to the tributaries of the Delta. Please describe how your project provides ecosystem improvements in the Delta or tributaries to the Delta:

1. The reservoir will allow a sustained minimum instream flow in the South Fork Stanislaus River enhancing the riparian and related river bed ecosystem including water quality along this reach of river enhancing the ecosystem to a tributary to the Delta. *In 1977 and again in 2014, in-stream flows were significantly reduced to protect the human population from running out of water.*

Water Code sections 79755 and 79757 require the Commission to make a finding that a project will advance the long-term objectives of restoring ecological health and improving water management for beneficial uses in the Delta prior to allocating funding for a project. Please describe how your project could help advance the long-term objectives of restoring ecological health and improving water management for beneficial uses in the Delta:

1. The project will add ecosystem enhancements by creating additional habitat for waterfowl and aquatic species.
2. The larger reservoir will allow a sustained minimum instream flow in the South Fork Stanislaus River enhancing the riparian and related river bed ecosystem including water quality along this reach of river enhancing the ecosystem to a tributary to the Delta. *In 1977 and again in 2014, in-stream flows were significantly reduced to protect the human population from running out of water.*

Please describe any other benefits provided by your project, such as water supply reliability benefits, and the potential beneficiaries:

1. It is expected that climate change patterns will bring back the conditions of 2014-2015 perhaps with more amplitude. The proposed reservoir will create storage to enable the region to weather through extended drought conditions experienced in 2014 and 2015. *Historically dry conditions persisted through the winter months of 2013 and early spring of 2014 with no guarantees of recovery. This would have left a population of 50,000 people out of water in the later part of 2014 had late spring showers not arrived.*
2. The proposed storage reservoir will provide multiple benefits including a vital and reliable water supply for Tuolumne County, but at the same time will enhance the ecosystem of a tributary to the Delta.
3. The water from the proposed reservoir will provide water reliability for the City of Sonora that supports a major medical center and cancer treatment care facility that draws thousands of patients from surrounding counties.
4. Sonora is an international destination for travelers visiting both the National Forests but also, destinations including Yosemite National Park and surrounding historic Gold rush era towns of the Motherlode. The proposed reservoir will help ensure a reliable water source to keep this regional function of the Tuolumne County community vibrant.
5. The additional water storage can be used to generate hydroelectric power through PG&E's Phoenix Powerhouse adding green energy *(and peaking power capacity)* to California's power grid directly offsetting power generated using carbon intensive fuels.