Santa Felicia Dam Safety Improvement Project

Location:

The project is located at the Santa Felicia Dam, at the southern edge of Lake Piru Reservoir, approximately 4½ miles northeast of the unincorporated town of Piru in Ventura County, California, and is in a moderately active seismic region of Southern California. Constructed in 1954-1955 by UWCD, the dam provides storage for local runoff and imported State Water used for sustainable groundwater recharge and direct delivery of water supplies within UWCD's service area, as well as seawater intrusion abatement and water quality improvement in the Oxnard Plain.

Project Description:

Santa Felicia Dam is categorized as an extremely high hazard dam due to the large population residing directly within the dam inundation zone. The Santa Felicia Dam Safety Improvement Project consists of constructing a new water conveyance system to deliver water from the reservoir downstream, including a small hydropwer facility. This new water conveyance system for the dam is referred to as the Outlet Works. The new Outlet Works will be designed to withstand the Maximum Credible Earthquake, estimated to be a magnitude 7.2 earthquake. Additionally, the project includes raising the dam crest by 6½ feet and modifications to the existing spillway, resulting in an increased hydraulic capacity of the spillway in order to safely pass extreme flood events and prevent overtopping the spillway walls and dam.

BENEFITS/YIELD

- Improvements to the aging outlet works and spillway increase the resilience of Santa Felicia Dam, reducing the risk to public safety causing dam failure and downstream flooding.
- Minimizing catastrophic dam failure will protect against potential loss of life, injuries, and damage to the downstream communities with a combined population of nearly 400,000 residents along the Santa Clara River Valley.
- The new outlet works secures continued operational flexibility for sustainable groundwater recharge and direct delivery of water supplies within UWCD's service area, thereby increasing resilience of the region's water supply and water sustainability and helping over drafted conditions of groundwater basins.
- The project ensures continued habitat releases to lower Piru Creek. A new release channel connecting discharges from the new outlet works to the existing lower Piru Creek channel will provide high quality spawning and rearing habitat for Southern California steelhead in lower Piru Creek, which is designated critical habitat to the endangered species.
- Modernization allows continued operation of the dam's hydropower facility, and generation of a clean, low green house gas source of power in the Southern California Area.
- The new outlet works will provide operational flexibility and redundancy in operations, allow for selective withdrawal of reservoir water at various elevations for water quality management purposes, and accommodate future sediment level rise in the reservoir.
- The project will create new construction job opportunities. The estimated daily need for skilled laborers ranges from 37 to 46 workers.

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October 2024

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Estimated Cost:

The Santa Felicia Dam Safety Improvement Project will be completed at an estimated cost of $330 million, including 30% contingency.

Current/Potential Partners:

State Department of Water Resources Division of Safety of Dams, Federal Energy Regulatory Commission and National Marine Fisheries Service.

Current/Potential Funding Sources:

- $98 million - EPA Water Infrastructure Finance and Innovation Act (WIFIA) low-interest loan to support both project components
- $68 million – FEMA Hazard Mitigation Grant Program – FEMA Hazard 404 to support the design and construction of the new outlet works
- $163,000 - High Hazard Potential Dam (HHPD) Rehabilitation Grant program
- FEMA Flood Mitigation Assistance Grant Program to support the construction of the new spillway improvements
- State of California Department of Water Resources Dam Safety and Climate Resilience Local Assistance Grant program to support final design, pre-construction construction management, and easement acquisition of the new spillway improvements

NOAA FISHERIES

Ask from United to Regulators, Legislators, Local Agencies, and Stakeholders:

Continued support and guidance to improve earthquake resilience and flood safety.

For more information, please visit **unitedwater.org**

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