



Irvine Ranch
Water District

Irvine Lake Improvement Project

increasing water resiliency, enhancing safety, and improving efficiency

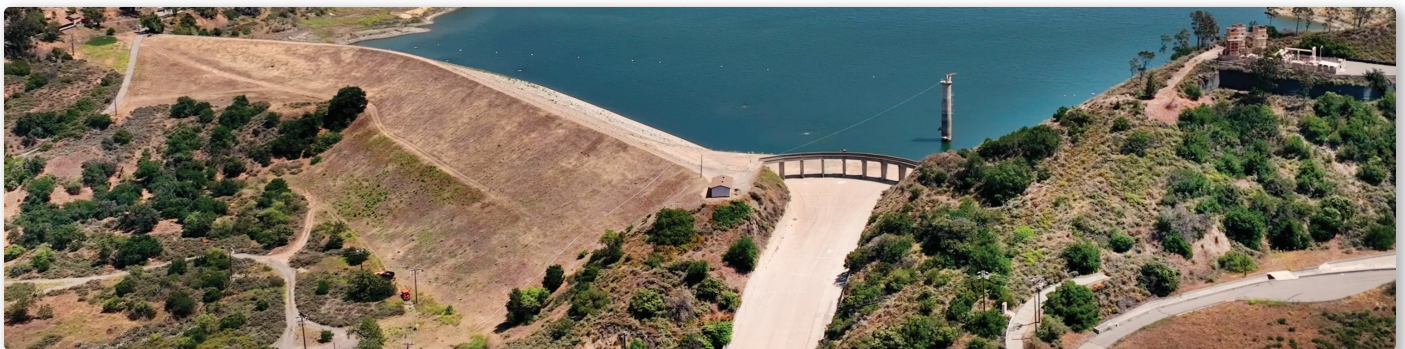


BACKGROUND

- Originally constructed in 1933, Irvine Lake, which is formed by the Santiago Creek Dam, serves as a vital part of Orange County water infrastructure.
- While Irvine Lake provides recreational benefits to the county, the primary purpose of the lake is to store water for the benefit of surrounding communities in central and south Orange County.
- Irvine Lake/Santiago Creek Dam is jointly owned by Irvine Ranch Water District (75%) and Serrano Water District (25%).
- Today, the lake remains an important source of water for IRWD's Baker Water Treatment Plant and SWD's Walter Howler Filtration Plant, which collectively provide water to 85,000 homes throughout central and southern Orange County.

THE PROBLEM

Beginning in 2017 and completed at the end of 2019, Irvine Ranch Water District (IRWD) and Serrano Water District (SWD) undertook a comprehensive condition assessment of the nearly 90-year-old Santiago Creek Dam, along with its spillway and outlet tower. That assessment showed that while the dam is in good shape, the outlet tower and spillway are at the end of their useful life and should be replaced and upgraded to today's seismic and safety standards.



THE SOLUTION

The project will replace the current outlet tower and spillway at Irvine Lake/Santiago Creek Dam and restore Irvine Lake back to its full storage capacity. The project will be designed using a Risk Informed Decision Making process (RIDM), that uses a rigorous, systematic, and thorough approach to dam safety that identifies and reduces risks. Incorporating RIDM into the project design goes above and beyond the current standards required by the state and will yield an overall safer facility that will provide increased reliability for years to come.

THE DETAILS



Replace the existing outlet tower, which controls flow into and out of the reservoir, improve the regulation of flow and bolster the seismic performance of the structure.

- The new outlet tower will be embedded in bedrock within the slope and include multiple intakes, creating increased efficiency and seismic stability.



Construct a new spillway structure with nearly three times the original capacity.

- By increasing the spillway crest to 796 feet, we will increase the reservoir storage by roughly 3,700-acre feet, providing the opportunity for more water storage in the future.



COST AND TIMELINE:

Project cost: \$226 MILLION
Design completion: 2024
Construction begins: 2025
Construction completion: 2028

BENEFITS

- **Preserving and restoring local water supplies** – The project will result in a significant amount of local water as a result of increased storage capacity, which will allow for more native water capture as opposed to purchasing expensive imported water.
- **Increased water resiliency** – The improvements at Irvine Lake will result in the additional storage capacity of 3,700-acre feet of water and ongoing opportunity for increased storage capacity in the future. This will result in enhanced water resiliency, allowing agencies to be less dependent on imported water.
- **Improved efficiency and seismic performance** – The new outlet tower will better control flow out of the reservoir and be designed for optimum seismic performance.
- **Increased safety and reliability** – The dam safety improvements, beyond the guidelines required by the California Department of Water Resources Division of Dam Safety (DSOD), will result in increased reliability into the future.
- **Promotes the well-being and security for the communities we serve** – More than 1.5 million residents live in areas impacted, directly and indirectly, by the Santiago Creek Dam, and will benefit from the project's enhanced safety and seismic measures. The project's modern safety measures will protect residences, businesses, essential services, and critical fire/life safety infrastructure.

FOR MORE INFORMATION, CONTACT:

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Santiago Creek Dam Outlet Tower and Spillway Improvements Project

(Irvine Lake Improvement Project)

Scoping Meeting, May 16, 2023

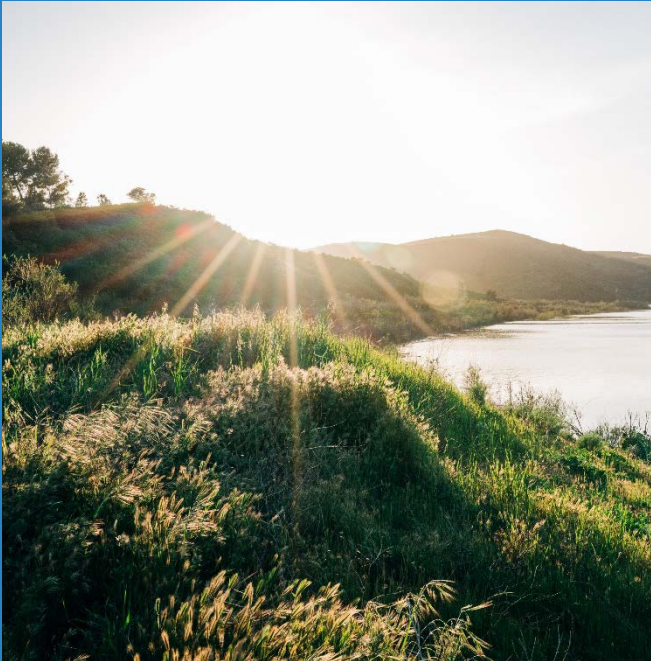




Agenda

- Purpose of meeting
- California Environmental Quality Act (CEQA) overview
- Irvine Ranch Water District (IRWD) & Serrano Water District (SWD) overview
- Project description
- CEQA process & schedule
- Public comments

Purpose of meeting



Initiate CEQA process

- Notice of Preparation published May 4, 2023, initiated public notice of Environmental Impact Report (EIR) preparation
- 30-day public review and comment period

Public scoping

- Early public consultation
- Allows public to help identify potential issues to address in EIR

Describe project

- Demolish existing outlet tower and spillway and construct new outlet and spillway and related facilities, extend useful life of facilities, improve water supply reliability
- Meet or exceed current regulatory requirements and satisfy the Districts' operational requirements



Identifies potentially significant impacts to the environment



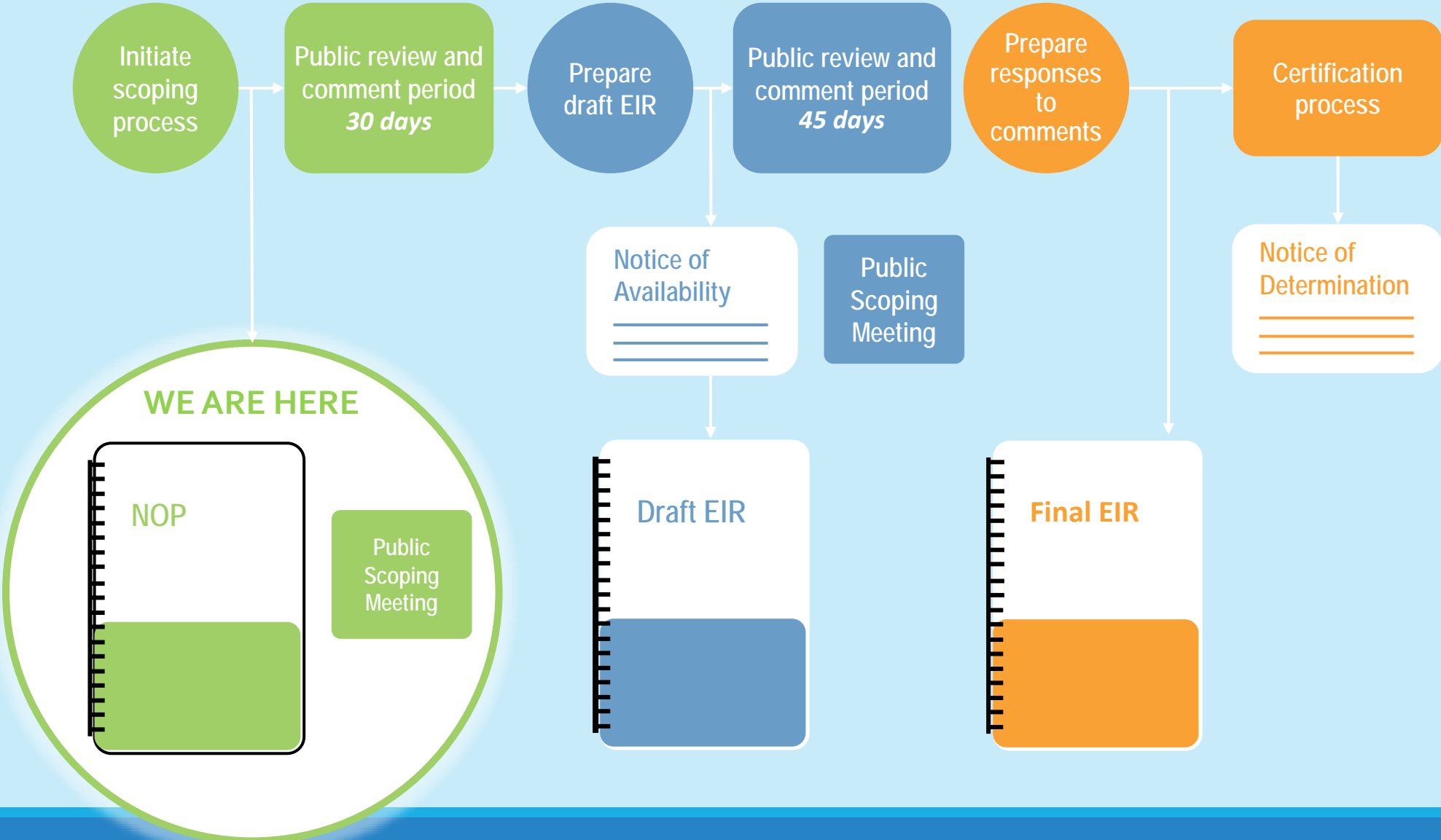
Requires public agencies to consider impacts prior to project approval



Identifies feasible mitigation measures and alternatives

California Environmental Quality Act (CEQA) overview

CEQA process for the project EIR



Irvine Ranch Water District overview

Established 1961, serving Irvine and parts of Tustin, Newport Beach, Costa Mesa, Lake Forest, Orange and unincorporated O.C.

- 181 square miles
- 465,000 residents served



Irvine Ranch Water District services



- **Drinking water:** 5 treatment plants, 27 wells, 37 reservoir tanks, 1,979 miles of pipeline
- **Sewer collection:** 2 treatment plants, 1,374 miles of pipeline
- **Recycled water:** 26 % of water supply, 4 storage reservoirs, serving 25 million gallons a day
- **Urban runoff treatment:** 45 natural wetland treatment sites

Serrano Water District overview

Established 1876,
serving Villa Park and
a portion of Orange

- 4.7 square miles
- 6,500 residents served



Serrano Water District services



- **Drinking water:** 1 treatment plant, 3 wells, 2 reservoirs, 43 miles of pipeline
- **Recreational facility management:** SWD is part owner of recreational rights at Irvine Lake; fishing and recreation are managed by County of Orange

Existing Santiago Creek Reservoir



- Commonly known as Irvine Lake, the reservoir was constructed in 1933
- It is jointly owned by IRWD (75%) and Serrano (25%) water districts
- An important source of water serving 85,000 homes throughout central and southern Orange County

Project location



Project objectives

The project would replace the outlet tower and spillway to:



- Improve local water supply reliability with enhanced storage capabilities
- Extending the useful life of the facilities
- Minimize impacts to local environmental resources and surrounding property owners
- Meet or exceed safety and design requirements established by California Department of Water Resources Division of Safety of Dams (DSOD)

Project overview

Proposed project would consist of the following elements:

- Demolition of existing structures
- Inclined inlet/outlet structure construction
- Downstream outlet works construction
- Pipeline relocation and upsizing
- Inclined inlet/outlet structure access roadway and bridge construction
- Dam control building construction
- Existing dam crest raising and widening
- Emergency access walkway and stair system construction
- Vehicle bridge construction
- Construct Improved Spillway
- Utility relocation

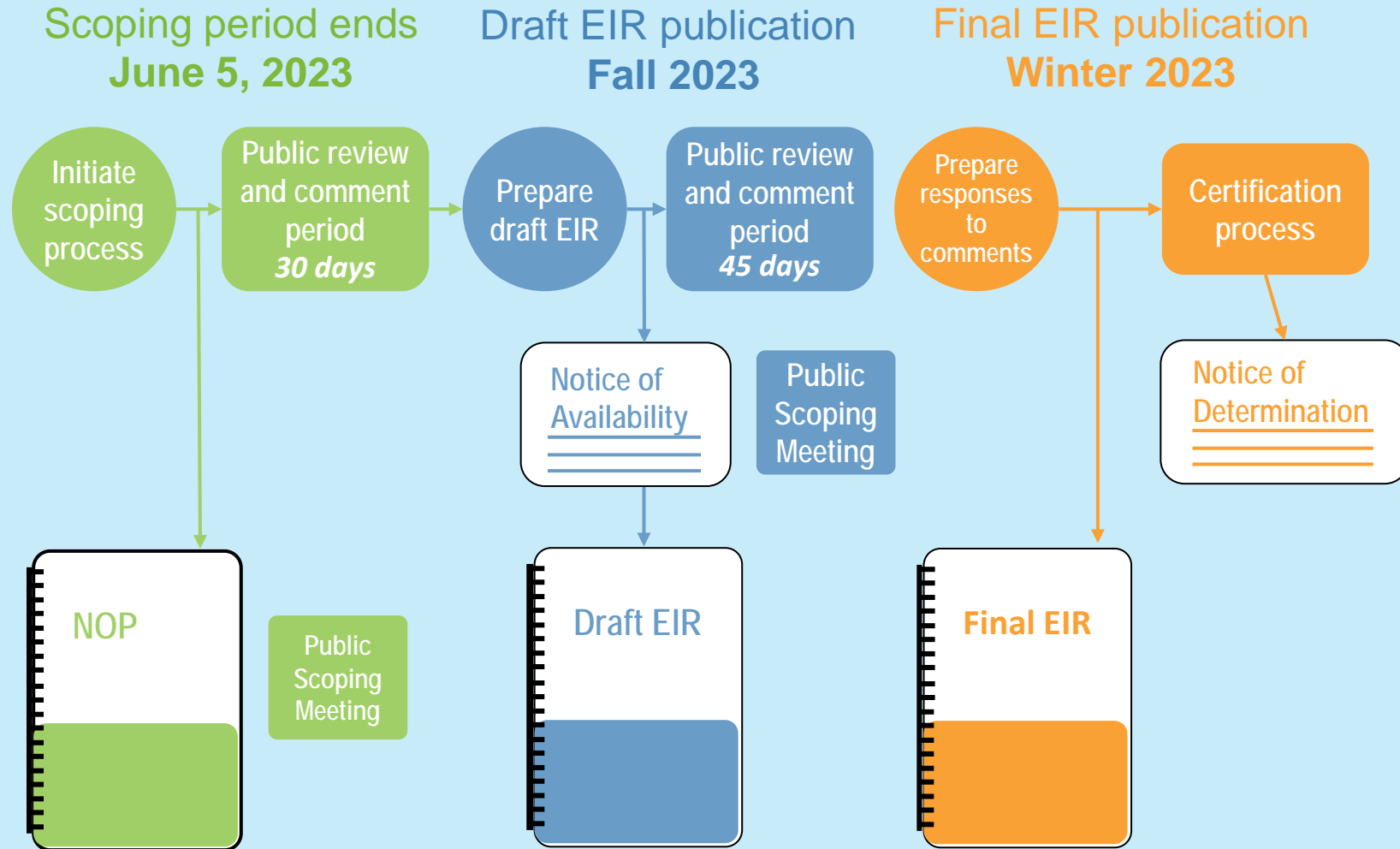


Topics to be analyzed in EIR

Environmental resources required by CEQA

- Aesthetics
- Air quality
- Biological resources
- Cultural resources
- Energy
- Geology & soils
- Greenhouse gas emissions
- Land use & planning
- Hydrology & water quality
- Noise
- Transportation
- Tribal cultural resources
- Utilities and service systems

CEQA schedule: next steps



How you can comment



NOP availability

- Irvine Katie Wheeler Library, 13109 Old Myford Road, Irvine
 - Library of the Canyons, 7531 East Santiago Canyon Road, Silverado
- [IRWD.com/doing-business/environmental-documents](https://www.irwd.com/doing-business/environmental-documents)**

Comment period ends **June 5, 2023**

Submit comments tonight
or email/mail comments to:

Irvine Ranch Water District
Attn: Andy Uk, Environmental Compliance Analyst
P.O. Box 57000
Irvine, CA 92619-7000

Email: Uk@IRWD.com

Project information & updates

[IRWD.com/irvinelakeproject](https://www.irwd.com/irvinelakeproject)

Public comments

