

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION**

EXECUTIVE OFFICER SUMMARY REPORT

NOVEMBER 12, 2025

ITEM NO. 5

SUBJECT

Consideration of Tentative Order No. R9-2025-0003, NPDES No. CA9000001, *Waste Discharge Requirements for the East County Advanced Water Purification Joint Powers Authority, East County Advanced Water Purification Project Discharge to Lake Jennings and Sycamore Creek* (Tentative Order No. R9-2025-0003). (Brandon Bushnell)

STAFF RECOMMENDATION

Staff recommend adoption of Tentative Order No. R9-2025-0003 (**Supporting Document 1**).

KEY ISSUES

- 1) Tentative Order No. R9-2025-0003 establishes requirements allowing for use of advanced treated recycled water to augment Helix Water District's (Helix WD) Lake Jennings, an important regional source of domestic drinking water supply. Tentative Order No. R9-2025-0003, if adopted, will be the second National Pollutant Discharge Elimination System (NPDES) permit issued for a reservoir water augmentation project in the State of California and the San Diego region.
- 2) Tentative Order No. R9-2025-0003 also establishes requirements for the discharge of advanced treated recycled water to Sycamore Creek and replaces Order No. R9-2022-0003, *Waste Discharge Requirements for the Padre Dam Municipal Water District, Ray Stoyer Water Recycling Facility, Discharge to Lake Sycamore Creek, San Diego County* (Order No. R9-2022-0003). Order No. R9-2022-0003 established requirements for the discharge of tertiary treated recycled water from the Ray Stoyer Water Recycling Facility (Ray Stoyer WRF) to Sycamore Creek. The Ray Stoyer WRF will be decommissioned.
- 3) Tentative Order No. R9-2025-0003 includes operation, treatment, design, and monitoring requirements based, in part, on recommendations from the State Water Board Division of Drinking Water (DDW) for the protection of public health. These requirements implement recycled water criteria specified in California Code of Regulations, title 22 (Title 22).

PRACTICAL VISION

Tentative Order No. R9-2025-0003 is consistent with the Strategize to Achieve Resilient Local Water Supply chapter of the San Diego Water Board Practical Vision,¹ as it establishes requirements to produce recycled water. The use of sustainable local water supply sources helps reduce the San Diego Region's dependence on imported water and increases the reliability of water supplies. Tentative Order No. R9-2025-0003 is also consistent with the mission of the Strategy for Healthy Waters chapter of the Practical Vision as it integrates all applicable technology-based requirements, water quality-based effluent limitations, and receiving water quality standards to protect the water quality and beneficial uses of Lake Jennings.

DISCUSSION

The purpose of this item is to provide the San Diego Water Board with information to assist in its consideration of Tentative Order No. R9-2025-0003. Tentative Order No. R9-2025-0003, if adopted, will establish requirements for the discharge of advanced treated recycled water to Lake Jennings and Sycamore Creek from the East County Advanced Water Purification Facility (ECAWP Facility). The East County Advanced Water Purification Joint Powers Authority (Discharger) will own and operate the facilities that make up the East County Advanced Water Purification Project (ECAWP Project). The member agencies of the Discharger are Padre Dam Municipal Water District (Padre Dam), the City of El Cajon, and the County of San Diego.

The ECAWP Project is a potable reuse project that will produce advanced treated water to: 1) augment Lake Jennings, which serves as a water supply source for the Helix WD R.M. Levy Drinking Water Treatment Plant (DWTP), and 2) maintain water levels at Santee Lakes, which is a regional recreational area and park owned and operated by Padre Dam. One of the seven recreational impoundments at Santee Lakes discharges to Sycamore Creek, a tributary of the San Diego River.

Padre Dam, the City of El Cajon, and the Lakeside/Alpine and Winter Gardens sewer service areas of the San Diego County Sanitation District will serve as the wastewater sources for the ECAWP Project. The ECAWP Project will include the following facilities: the East County Water Recycling Facility (ECWRF), a Solids Handling Facility, the ECAWP Facility, a dechlorination facility, and potable reuse conveyance facilities. A map and flow schematic of these facilities is provided respectively in Attachments B and C of Tentative Order No. R9-2025-0003. The ECWRF, Solids Handling Facility, and ECAWP Facility will be located at 12001 North Fanita Parkway in Santee (**Supporting Document 2**). The ECAWP Project will be operational in late 2026.

¹ Practical Vision:

https://www.waterboards.ca.gov/sandiego/water_issues/programs/practical_vision/

ECWRF Overview

Padre Dam currently diverts up to 2.0 million gallons per day (MGD) of East County wastewater flows to the Ray Stoyer WRF. Tertiary treated effluent from the Ray Stoyer WRF is 1) discharged to Santee Lakes and Sycamore Creek and 2) provided to Padre Dam's non-potable recycled water customers.

The Ray Stoyer WRF will be taken out of service and replaced with the new 16 MGD ECWRF. The treatment processes at the ECWRF include, in order of flow:

- Screening and grit removal units.
- Primary clarifiers, with ferric chloride for chemical phosphorus removal.
- Flow equalization tank.
- Bioreactors for nutrient removal, that include a 4-stage Bardenpho process.
- Secondary clarifiers, with ferric chloride for chemical phosphorus removal;
- Granular media filters (GMFs);
- Chlorine contact basin (remnant from the former Ray Stoyer WRF chlorine contact basin).
- Odor control unit.

During normal operation, final effluent produced from the ECWRF will serve: 1) as the source water for the ECAWP Facility, and 2) non-potable recycled water use sites. As requested by the Discharger, treatment of domestic wastewater to produce recycled water and distribution of tertiary treated recycled will be regulated under separate Orders.

Solids Handling Facility Overview

The Solids Handling Facility will treat sludge generated from the ECWRF primary and secondary clarifiers. The Solids Handling Facility will produce biosolids which will be either: beneficially used outside the state of California or disposed of at an appropriately permitted landfill. Treatment processes at the Solids Handling Facility include a rotary drum for sludge thickening, anaerobic digestion, digested sludge storage, centrifuge dewatering, cake storage and loadout facilities, and biogas handling.

Sludge will be thickened before being fed to the anaerobic digesters. The digested sludge will be dewatered and the centrate from dewatering will gravity flow to a residuals bypass pump station. Thickener supernatant will be returned to the ECWRF for treatment, while centrate will be discharged to the City of San Diego's Metropolitan Sewerage System (Metro System) via the East County Residuals Line.

ECAWP Facility Overview

The ECAWP Facility will treat up to 15.2 MGD of tertiary filtered effluent from the ECWRF to produce a maximum flow of 13.7 MGD of advanced treated recycled water. The Discharger will direct a maximum of 12.5 MGD of advanced treated recycled water to Lake Jennings and will direct the remainder to Santee Lakes. The Discharger anticipates that the average annual flow of advanced treated recycled water to Lake Jennings will be about 11.5 MGD. Treatment processes at the ECAWP Facility will consist of membrane filtration, reverse osmosis, ultraviolet light with advanced oxidation process, and post-stabilization. The Discharger will minimize corrosion issues, by using a post-stabilization treatment of carbon dioxide and hydrated lime. The post-stabilization treatment ensure the advanced treated recycled water maintains a pH between 7.5 and 8.5 pH units by increasing its alkalinity. After the post-stabilization, the advance treated recycled water used for indirect potable reuse will be chlorinated to ensure that a free chlorine residual is maintained in the pipeline to Lake Jennings. Brine removed from the reverse osmosis process will be discharged to the Metro System via the East County Residuals line.

Potable Reuse Conveyance, Dechlorination, and Reservoir Augmentation Overview

Chlorinated advanced treated recycled water will be conveyed to Lake Jennings via a 12.5 MGD pump station, located at the ECAWP Facility and a 53,500 foot long, 24-inch diameter pipeline. The dechlorination facility adjacent to Lake Jennings will reduce chlorine residual levels in the advanced treated recycled water to nondetectable levels. Advanced treated recycled water will then be discharged to Lake Jennings via a submerged Y-shaped nozzle structure.

East County Residuals Line Overview

The East County Residuals Line will divert brine from the ECAWP Facility and centrate from the Solids Handling Facility to the City of San Diego's Metro System. Brine discharged to the City of San Diego's Metro System will be conveyed to the City of San Diego's E.W. Blom Point Loma Wastewater Treatment Plant and will bypass the City of San Diego's North City Water Reclamation Plant and Pure Water Facility.

Key Requirements of the Tentative Order

Tentative Order No. R9-2025-0003 establishes requirements to support the discharge of advanced treated recycled water to Lake Jennings and Sycamore Creek. These requirements include: 1) operation, treatment, and design requirements, 2) effluent limitations, and 3) monitoring requirements to ensure the protection of water quality and beneficial uses of Lake Jennings and Sycamore Creek, as well as the protection of human health. Key Requirements of Tentative Order No. R9-2025-0003 include:

- Effluent limitations for nutrients based on water quality objectives specified in the *Water Quality Control Plan for the San Diego Basin*. Nutrient effluent limitations are included to prevent excessive algal growth and adverse impacts to aquatic life in Lake Jennings and Sycamore Creek.

- All other effluent limitations are based on maximum contaminant levels (MCLs) for drinking water, specified in Title 22. The MCLs are included as effluent limitations because Lake Jennings serves as a source of municipal supply for the Helix WD R.M. Levy DWTP.
- Operation, monitoring, treatment, and design requirements are based, in part, on criteria specified in Title 22 and conditions outlined in DDW's acceptance letter for the ECAWP Project. Title 22 contains criteria governing planned placement of recycled water into surface water reservoirs to ensure the protection of public health. The Discharger submitted an Engineering Report for the ECAWP Project to DDW, in accordance with Title 22. DDW staff reviewed the Engineering Report to ensure the ECAWP Project complies with applicable Title 22 criteria and issued a conditional acceptance letter to the San Diego Water Board for the project.
- Influent, process control, and effluent monitoring requirements are prescribed to assess and verify compliance with effluent limitations and treatment system performance standards.
- Receiving water monitoring requirements are prescribed to enable the San Diego Water Board to assess the effects on the quality and beneficial uses of Lake Jennings and Sycamore Creek from the discharge of advance treated recycled water.

PUBLIC NOTICE

San Diego Water Board staff notified the Discharger and known interested parties of this action on July 31, 2025 (**Supporting Documents 3 and 4**). Additionally, Board staff posted Tentative Order No. R9-2025-0003 on its website on July 31, 2025. The public comment period closed on September 1, 2025. These actions satisfy the 30-day public notification and comment period requirements of Water Code section 13167.5.

San Diego Water Board staff received one comment letter from the Discharger during the 30-day comment period. The Discharger's comments were organized into two categories: 1) *possible errors or items that require correction* and 2) *requested changes* (**Supporting Document 5**). The comments labeled *possible errors or items that require correction* requested Board staff correct typographical errors to ensure consistency throughout Tentative Order No. R9-2025-0003. The comments labeled *requested changes* asked that parts of Tentative Order No. R9-2025-0003 be reorganized to improve clarity and asked that the Monitoring and Reporting Program be modified to

reduce some receiving water monitoring frequencies and location of compliance sampling for some nutrients.

San Diego Water Board staff received two comment emails after the close of the 30-day comment period from:

- Trussell Technologies, on behalf of the Discharger (**Supporting Document 6**). The email was received on September 14, 2025; and
- The Discharger (**Supporting Documents 7 and 7a**). The email was received on September 19, 2025.

The San Diego Water Board Chair may refuse to admit late comments if there is a showing of prejudice to the Board or any party. In this case, the Board Chair allowed the late comments to be admitted.

San Diego Water Board staff prepared a Response to Comments Report which contains responses to all comments received (**Supporting Document 8**). The Response to Comments Report also describes any substantive changes made to Tentative Order No. R9-2025-0003. Staff prepared a revised Tentative Order No. R9-2025-0003 that displays additions as red-underline text and deletions as ~~red-strikeout~~ text.

SUPPORTING DOCUMENTS

1. Revised Tentative Order No. R9-2025-0003
2. East County Advanced Water Purification Project Map
3. Transmittal Letter
4. Notice of Public Hearing and Written Comment Period
5. Discharger's Comment Letter
6. September 14, 2025, Comment Email from Trussell Technologies
7. September 19, 2025, Comment Email from the Discharger
 - a. Lake Jennings Data Comparison
8. Response to Comments Report