

MEMO

To: Congresswoman Grace F. Napolitano

Cc: Joe Sheehy

From: Morgan Leonard

Date: June 15, 2021

Re: Large-scale Recycling Projects in CA

Below you will find background info on the four large-scale water recycling projects whose sponsors would fall under the new proposed recycling grant legislation of having a min project cost of \$500mil.

1. Metropolitan Water District's (MWD's) Regional Recycled Water Program (RRWP)

Total Cost: \$3.4 billion (2018 dollars) for design and construction, \$129 million annually for operations and maintenance

Cost/AF: \$1,826/acre-foot

Timeline: Target date of 2032

Capacity: A full-scale regional recycled water program would produce up to 150 million gallons daily (mgd) or 168,000 acre-feet annually. The first phase of the RRWP would start with 100 mgd.

Participants: The project is a partnership between MWD and LA County Sanitation Districts.

Los Angeles Department of Water and Power, Southern Nevada Water Agency (SNWA), Upper San Gabriel Valley Municipal Water District, Three Valleys Municipal Water District, Main San Gabriel Watermaster, Los Angeles Flood Control District, Long Beach Water Department Water Replenishment District, City of Torrance and Water Replenishment District, Arizona Department of Water Resources, and Central Arizona Water Conservation District have all signed letters of intent to participate in the project in some form.

Project Description: The RRWP would utilize treated wastewater from the LA County Sanitation Districts' Joint Water Pollution Control Plant and treat it through a new advanced water treatment facility. A new conveyance system—up to 60 miles long with multiple pump stations—would deliver that water to groundwater basins within Metropolitan's service area for indirect potable reuse. The groundwater basins include the Central Basin, Main San Gabriel Basin, Orange County Basin, and West Coast Basin.

- A \$17 million demonstration facility was constructed and began operating in October 2019. The facility is used to test proposed purification processes and identify costs and other data needed for a future full-scale facility.
- A 2019 report by MWD recommended a two phased approach:
 - The first phase consists of a 100 mgd treatment plant and “backbone conveyance system” which would have a capital cost of \$2.6 billion and annual O&M cost of \$69 million.
 - The second phase includes a 50 mgd expansion with additional facilities for groundwater replenishment.
- Construction is planned to begin in 2027 and finish in 2031, with the delivery of recycled water starting in 2032.
- The RRWP may also provide water to industrial users such as oil refineries in the Los Angeles and Long Beach harbor areas. Once California implements regulations for direct potable reuse, the program may expand to raw water augmentation at two of MWD's water treatment plants.

2. Valley Water's Purified Water Project

Total Cost: \$600 million (estimate)

Timeline: Target date of 2028

Capacity: Goal to provide at least 10% of all water supplies through recycled water. An initial target to produce 10-12.5 mgd, for an annual yield of approximately 11,200 acre-feet.

Participants: Valley Water, the water provider serving the Santa Clara Valley, is looking to partner with the cities of Palo Alto, Mountain View, Sunnyvale, San Jose, Santa Clara, Morgan Hill, and Gilroy on a large-scale water recycling project in Santa Clara County.

Project Description: Valley Water is developing a plan to meet at least 10% of total water demand with both non-potable reuse and potable reuse. A County Wide Water Reuse Master Plan will evaluate potable reuse expansion throughout the county. The Silicon Valley Advanced Water Purification Center (SVAWPC), completed in 2014, currently produces 8 million gallons of purified water per day.

- In 2019, Valley Water entered into agreements with the Cities of Palo Alto and Mountain View to receive treated wastewater and expand the development of purified water for potable reuse.
- Valley Water is currently in discussions with the City of San Jose on a similar agreement and potential expansion of the SVAWPC.

Grants awarded to date:

- The SVAWPC received \$8.25 million from the American Recovery and Reinvestment Act (P.L. 111-5) and \$5.25 million from the California Department of Water Resources.
- This program is eligible to receive funding through the "San Jose Area" authorized Title XVI project.
 - Reclamation records provided in January 2021 categorize the San Jose Area project as "Inactive - No Recent Funding Requests and Additional Funding Requests Unlikely" with a total of \$45,915,079 in remaining federal cost share.

3. Pure Water, City of San Diego

Total Cost: Phase 1: \$1.5 billion for planning, design, and construction. Phase 2 costs are currently being prepared (recent reporting cites city officials estimating the full cost of the project to be \$5 billion).

Timeline: Target date of 2025 (30 mgd) for Phase 1, and 2035 (additional 53 mgd) for Phase 2.

Capacity: Goal to provide nearly half of San Diego's water supply locally by 2035, total of 83 mgd (93,000 acre-feet per year).

Participants: City of San Diego; the city's Public Utilities Department created four project area working groups for Phase 1 of the project representing businesses, residents, schools/universities, community planning groups, town councils, and civic associations.

Project Description: Pure Water is a phased, multi-year program to provide nearly half of San Diego's water supply locally by 2035. Phase 1 will produce purified water to be piped to the Miramar Reservoir for storage, and then treated again at the existing Miramar Drinking Water Treatment Plant. Phase 1 projects include: the Morena Pump Station and Pipelines, the North City Water Reclamation Plant Expansion, the North City Pure Water Facility and Pump Station, the North City Pure Water Pipeline, and Metropolitan Biosolids Center improvements.

The current design under review for Phase 2 includes construction of a new water reclamation plant and a new Pure Water Demonstration Facility. Treated water would be conveyed to the future Central Area Pure Water Facility, and potentially stored in the San Vicente or Murray reservoirs.

- The project received a National Pollutant Discharge Elimination System (NPDES) permit that allows purified water to be released into Miramar Reservoir in May 2020. This is the first NPDES permit issued for a reservoir augmentation project in the State of California.
- The project was delayed by several months due to litigation filed by the Associated General Contractors over concerns that the contractor bids were open to only union contractors. A legal settlement was approved by the City Council in November 2020.
- Project materials emphasize the importance of the Ocean Pollution Reduction Act (H.R. 4611; Rep. Scott Peters), which passed the House in the 116th, to modify the permitting process for the Point Loma Wastewater Treatment Plant based on implementation of the Pure Water Program. The bill was reintroduced in the 117th as H.R. 587 and was reported out of the House Transportation and Infrastructure Committee on May 28, 2021.

Grants and loans awarded to date:

- June 2020: \$1.16 million Title XVI Water Reclamation and Reuse Grant
- \$30 million in California grants
 - This includes a recent \$1.14 million grant from the California Department of Water Resources for water recycling programs in Southern California (July 2020)
- \$614 million federal WIFIA loan (refinanced in Oct. 2020)
- \$646 million State Revolving Fund loan
- \$286 million from Metropolitan Water District's Local Resources Program (\$340/acre-foot for 25 years; awarded Dec. 2019)

4. Los Angeles' Hyperion 2035 and Operation NEXT

Total Cost: Combined capital costs likely more than \$8 billion

Timeline: Target date of December 2035

Capacity: 217 mgd (243,000 acre-feet per year) of recycled water for beneficial reuse

Participants: The Los Angeles Sanitation and Environment (LASAN) and Los Angeles Department of Water and Power (LADWP) are jointly pursuing two programs, Hyperion 2035 and Operation NEXT. The Water Replenishment District of Southern California (WRD), Metropolitan Water District of Southern California (MWD), and West Basin Municipal Water District are working with LADWP to use the recycled water produced by LASAN for local water supplies.

Project Description: Hyperion 2035 is an initiative through LASAN to recycle 100% of the water flowing through the Hyperion Water Reclamation Plant by 2035. Hyperion is an existing wastewater treatment facility that has been operating since 1894. Through this project, the current secondary wastewater treatment process would be replaced with advanced water treatment processes. LADWP's Operation NEXT Program would then transport the purified recycled water produced at Hyperion and convey it to local groundwater aquifers for storage. The recycled water could also potentially be used as a raw water source for future treatment at the LA Aqueduct Filtration Plant.

- LADWP and LASAN are working on two pilot projects to study the feasibility of converting Hyperion into a fully advanced water purification facility.
 - The Hyperion Advanced Water Purification Facility will be a pilot facility serving nearby Los Angeles International Airport. The pilot project will provide 1.5 mgd of advanced treated recycled water for heating, cooling, toilet flushing and other non-potable uses.
 - The second pilot project is to develop a 1 mgd Hyperion Membrane Bioreactor (MBR) Pilot Facility.
- These projects aim to work towards accomplishing the goals of LA's Green New Deal, including to recycle 100% of all wastewater for beneficial reuse by 2035.

Environmental Compliance: Operation NEXT and Hyperion 2035 are working through California's CEQA process for preparation of a Programmatic Environmental Impact Report.