

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Board Report

Engineering Services Group

• Engineering Services Group Monthly Activities for June 2025

Summary

This monthly report provides a summary of Engineering Services Group activities for June 2025 in the following key areas:

- Colorado River Aqueduct (CRA) Program
- Dams & Reservoirs Program
- Distribution System Program
- Additional Facilities and Systems Program
- Prestressed Concrete Cylinder Pipe (PCCP) Program
- Water Treatment Plants Program
- Pure Water Southern California
- Drought Mitigation State Water Project Dependent Areas
- Value Engineering Program
- Project Management Section Leadership Training
- Operations and Engineering Partnering Workshop

Purpose

Informational

Attachments

Detailed Report - Engineering Services Group's Monthly Activities for June 2025

Engineering Services Group's Monthly Activities for June 2025

Engineering Services manages and executes projects within the Capital Investment Plan (CIP) to maintain infrastructure resiliency, ensure regulatory compliance, enhance sustainability, and provide flexibility in system operations to address uncertain water supply conditions. In addition, Engineering Services provides technical services to enhance reliable system operation and real property planning, valuation, acquisition, and disposition services to protect Metropolitan's assets. Engineering Services empowers our staff and partners with our business partners and the communities we serve to accomplish Metropolitan's mission.

Recent key activities on CIP programs and other key engineering functions are described below.

Protect public health, the regional economy, and
Metropolitan's assets

Colorado River Aqueduct (CRA) Program

The CRA program includes CIP projects to replace or refurbish facilities and components of the CRA system to reliably convey water from the Colorado River to Southern California.

- Solar Level Sensor Installation This project installs eleven water level gauging stations at remote sites along the CRA and raises five accessways on Sand Hill Conduit. Construction is complete.
- Gene Security Upgrades-Pilot This project installs security equipment such as cameras, card readers, and door switches at the Gene Pumping Plant. This is a pilot effort to support the larger CRA Security Improvements Project to test the technology that will be used and to assess its effectiveness. Lessons learned from this pilot effort will be applied during the final design of the security technology improvements at the CRA facilities. Construction is complete.
- CRA Main Pump Rehabilitation This project will rehabilitate all 45 main pumps, motors, discharge valves, and supporting auxiliary systems at the five CRA pumping plants. The study phase is 90 percent complete and scheduled to be complete by September 2025.
- Black Metal Mountain Electrical Upgrades This project replaces the existing single-phase 2.4 kV power line delivering power to the Black Metal Mountain communication site with a more robust three-phase power line rated for 4.16 kV usage. The project will also enhance the main access road to the

communications sites. Final design is 60 percent complete and scheduled to be complete by August 2025.

Dams & Reservoirs Program

The Dams & Reservoirs Program includes CIP projects to upgrade or refurbish Metropolitan's dams, reservoirs, and appurtenant facilities to reliably meet water storage needs and regulatory compliance.

- Garvey Reservoir Rehabilitation This project will replace the aging reservoir floating cover and liner, structurally strengthen the outlet tower, upgrade the on-site water quality laboratory building, rehabilitate the junction structure, and replace the existing standby generator and a portion of the security perimeter fence. The outlet tower retrofit requires a permit from the California Division of Safety of Dams (DSOD); the design documents were submitted to DSOD in May 2025. Staff is expediting completion of design, with a goal of advertising the bid package this summer.
- Lake Skinner Storm Drain Improvements This project will replace the existing drainage ditch at Lake Skinner Dam with an improved trapezoidal drainage ditch to improve stormwater drainage away from the face of the dam. The contractor continues demolishing the existing channel and excavating the new drainage ditch. Construction is 80 percent complete and is scheduled to be complete by September 2025.

Distribution System Program

The Distribution System Program includes CIP projects to replace, upgrade, or refurbish existing facilities within Metropolitan's distribution system, including pressure control structures, hydroelectric power plants, and pipelines, to reliably meet water demands.

- Service Connection OC -88 Chillers Replacement This project replaces deteriorated cooling equipment, including three chillers and two chilled water pumps that provide cooling for the pump station's pump motors and air conditioning system. The contractor has completed the installation of all three chillers and both chilled water pumps. Construction is complete.
- Auld Valley PCS Valve Replacement This project will rehabilitate one 42-inch sleeve valve and procure one 42-inch sleeve valve for the Red Mountain Pressure Control Structure, and rehabilitate two 42-inch sleeve valves for the Auld Valley Pressure Control Structure. One valve at the Auld Valley PCS has been rehabilitated, and the second one is currently at the Metropolitan shop being rehabilitated, to be installed during a November 2025 shutdown. Metropolitan is currently reviewing the submittals provided by the vendor to procure the new 42-inch sleeve valve for Red Mountain, to be installed in the fall of 2026.
- Santa Monica Feeder Cathodic Protection This project installs cathodic protection for a steel portion of the Santa Monica Feeder to address corrosion detected during a 2018 inspection. Construction is complete.
- Lakeview Pipeline Procurement This project will procure 12,500 feet of steel liner pipe segments with diameters ranging from 114 inches to 117 inches. This initial quantity of Metropolitan-furnished pipe will allow the future Lakeview Pipeline Stage 2 project contractor to begin field installation while

they are procuring the remaining pipe segments. Fabrication is underway, and pipe deliveries to the Etiwanda Pressure Control Facility are expected to begin in July 2025.

• Lake Skinner East Bypass Gate Procurement — This project will procure and install three new slide gate assemblies with new actuators at the East Lake Skinner Bypass channel, located off the San Diego Canal close to Lake Skinner. The procurement contract was awarded in March 2024, with the Notice to Proceed given to the manufacturer in April 2024. The estimated delivery date for the new gates and actuators is December 2025. The gates will be installed under a construction contract, with a tentative award date of July 2026.



Service Connection OC -88 Chillers Replacement - New Chillers



Lakeview Pipeline Procurement – 133.5-inch Bulkhead Fabrication

Additional Facilities and Systems Program

The Additional Facilities and Systems Program includes CIP projects to refurbish, replace, upgrade, or provide new facilities and systems that support Metropolitan's business and district-wide operations.

 La Verne Shops Improvements — This project will improve the La Verne Shops building and install Metropolitan-furnished shop equipment. The contractor installed the plasma cutter, roof access ladders, air compressor equipment, and a new waterjet system. Construction is approximately 97 percent complete and is scheduled to be complete in December 2025.



La Verne Shops Improvements – New Hydraulic Press Located in Machine Shop

Prestressed Concrete Cylinder Pipe (PCCP) Program

The PCCP Program includes CIP projects to refurbish or upgrade Metropolitan's PCCP feeders to maintain water deliveries without unplanned shutdowns.

- Second Lower Feeder PCCP Rehabilitation Reach 3B This project installs 3.7 miles of steel lining and three conical plug valves along a portion of the Second Lower Feeder that traverses the cities of Lomita, Los Angeles, and Torrance. The contract completed the installation of the three conical plug valves and the installation of steel lining in April 2025. The electrical and SCADA work at the valve vaults and site restoration has been completed, and the contractor is working on punch list items. Construction is 94 percent complete and is scheduled to be complete in September 2025.
- Sepulveda Feeder Relining Reach 2 This project installs steel lining along 3.8 miles of PCCP through several cities, including the cities of Torrance and Los Angeles. Final design is approximately 99 percent complete and is scheduled to be complete by August 2025.

- Sepulveda Feeder PCCP Rehabilitation Reach 9 This project will rehabilitate approximately 19,400 linear feet of 120-inch to 96-inch diameter PCCP with a combination of solid steel and coiled steel liner systems. Reach 9 is located on Hayvenhurst Avenue from near State Route 118 to just north of the Van Nuys Airport in Los Angeles. Additionally, a new 54-inch sectionalizing valve and valve structure will be installed on the Sepulveda Feeder near the intersection of Hayvenhurst and Chatsworth Street. Final design for Reach 9 is 90 percent complete and is scheduled to be complete in December 2025.
- Electromagnetic Inspection Regular inspections of the PCCP feeders are a critical step in evaluating the condition of each pipeline and assist staff in prioritizing the relining work on each feeder. This project conducts the fifth cycle of electromagnetic and visual inspections of Metropolitan's approximately 146.4 miles of PCCP pipelines. Inspections of the Skinner Plant Effluent No.2 and San Diego Pipeline No. 4 are scheduled to be completed in June 2025.



Second Lower Feeder PCCP Rehabilitation Reach 3B Metropolitan Staff Asphalt Compaction Testing

Water Treatment Plants Program

The Water Treatment Plants Program includes CIP projects to replace or refurbish facilities and components at Metropolitan's five water treatment plants to continue to reliably meet treated water demands.

- Weymouth Basins 5–8 and Filter Building No. 2 Rehabilitation This project rehabilitates major mechanical and structural components of Basins 5–8 and Filter Building No. 2 at the Weymouth plant, including the flocculation/sedimentation equipment, sludge pumps, baffle boards, and walls, launders, and outlet drop gates. Rehabilitation work also includes seismic upgrades of basin walls and inlet channel, hazardous material abatement, and replacement of inlet gates in Basins 1-4 and filter valves and actuators in Filter Building No. 2. The contractor completed all basin rehabilitation work, including structural wall modifications, mechanical piping, replacement of inlet gates and electrical equipment and performed equipment testing. The contractor continued the replacement of filter valves and actuators in Filter Building No. 2. Construction is approximately 95 percent complete and is scheduled to be complete in December 2025.
- Weymouth Administration Building Upgrades This project upgrades the Weymouth Administration Building to withstand a significant earthquake. The planned upgrades include structural strengthening consistent with current seismic standards for essential facilities, accessibility and fire/life safety improvements, architectural modifications near the areas of structural upgrades, and improvements associated with the preservation of historic architectural features. Final design is approximately 99 percent complete and is scheduled to be complete in July 2025.
- Diemer Filter Rehabilitation This project rehabilitates the 48 filters at the Diemer plant to enhance filter performance, minimize filter media loss, and rehabilitate or replace aging components. Planned upgrades include replacing filter media, filter valve actuators, and instruments; modifying the filter upstream influent weir and surface wash laterals; and improving the coal grit removal facilities for the east and west sides of the plant. Final design is approximately 98 percent complete and is scheduled to be complete in September 2025.
- Mills Electrical Upgrades, Stage 2 This project upgrades the electrical system with dual-power feeds to key process equipment to comply with current codes and industry practices, improve plant reliability, and enhance worker safety. Stage 1 construction is complete. Stage 2 improvements will add a second incoming 12 kV service from Riverside Public Utilities, reconfigure the existing 4.16 kV switchgear, and replace the standby generator switchgear and the emergency generator programmable logic controller. Riverside Public Utilities energized the second incoming service to the plant. The contractor completed system-level testing and facility switchover to the permanent system and began demobilization from the project site. Construction is approximately 99 percent complete and is scheduled to be complete in July 2025.



Weymouth Basins 5–8 and Filter Building No. 2 Rehabilitation — Beginning Demolition of the Filter Drain Valves, North of Filter Building No. 2



Pure Water Southern California

The Pure Water Southern California (PWSC) Program is a large regional recycled water program that will provide a new local source of safe and reliable drinking water for Southern California. PWSC currently focuses on four areas: demonstration testing, environmental planning, technical studies, and preliminary design of initial pipeline reaches. PWSC will produce up to 150 million gallons per day of purified water from the Advanced Water Purification Facility (AWPF) in Carson for indirect potable reuse and direct potable reuse (DPR) applications.

• Environmental Planning — The draft Environmental Impact Report (EIR) was completed and published in May 2025 for a 60-day review period. Three public meetings were held in May and June. Board certification of the final EIR is scheduled for early 2026. Metropolitan is also pursuing State Bill 149 certification to streamline the litigation process should there be any.

- **Program Management** PWSC program management efforts lead the planning for the PWSC Program, including project controls, scheduling, budget development, risk management, coordination with program partners and stakeholders, grants and funding, and preparation of various plans and studies.
 - In December 2024, the Board authorized entering into an agreement with the United States Bureau of Reclamation (USBR) to accept up to \$125,472,855 in funding under the USBR Large-Scale Water Recycling Program grant. Metropolitan has received approximately \$17.4 million from USBR to date.
 - Technical studies are underway to support the planning of DPR implementation and development of program phasing options, including treated water augmentation.
 - A board workshop is scheduled for July 22 to discuss term sheets for future agreements with member agencies that will be directly taking water and the potential framework for a community benefits program.
 - Updated program costs are in development and will be presented to the Board this fall.
- Advanced Water Purification Facility The AWPF will purify treated wastewater from Los Angeles Sanitation District (LACSD) 's A.K. Warren Water Resource Facility using membrane bioreactors (MBRs), reverse osmosis, and ultraviolet/advanced oxidation. With its expertise in biological wastewater treatment, LACSD will be responsible for implementing the AWPF pretreatment, including the MBR facilities.
 - A final draft of conceptual facilities has been prepared. This document records key assumptions of AWPF components.
 - Metropolitan received the Method of Services study from Southern California Edison in May. This study identifies the infrastructure and costs needed to meet AWPF power requirements.
 - Staff is preparing and plans to issue a Request for Qualification document this summer to procure a progressive design-build entity to start the design of the AWPF.
- Direct Potable Reuse Metropolitan has completed bench-scale testing to screen the potential DPR treatment processes that could be used for the program. Planning of pilot-scale and demonstration-scale testing is in progress. Key testing equipment will be procured in the coming months to facilitate the design of the DPR testing facility.

Conveyance Pipeline System – The PWSC conveyance system consists of the backbone pipeline that extends over 40 miles from the AWPF, repurposing an existing pipeline owned by the San Gabriel Valley Municipal Water District, and constructing a new DPR pipeline to convey water from the backbone eastward for raw water augmentation at Metropolitan's Weymouth plant.

- Completed the Conceptual Design Report for the conveyance system.
- Conducted 16 market-sounding meetings with prospective contractors for Construction Management / General Contractor (CM/GC) alternative delivery services for Reaches 1 and 2, with plans to advertise this summer.
- Continued coordination with Southern California Edison (SCE) in drafting a lease agreement for Metropolitan's usage of approximately 12 miles of SCE right-of-way along the San Gabriel River.

• Continued utility and geotechnical field investigations for Reaches 1 and 2, with preliminary design anticipated to complete by the year's end.

Drought Mitigation-State Water Project Dependent Areas

The Drought Mitigation—State Water Project Dependent Areas Program includes CIP projects to replace, refurbish, upgrade, or construct new facilities, which are identified to mitigate the vulnerability experienced by specific member agencies that are affected during shortages of State Water Project supplies.

- Valve Procurements for Foothill Pump Station Intertie Two 54-inch diameter butterfly valves were delivered and are now stored at the Lake Mathews Valve Storage Building. These valves will be installed during the construction of the Foothill Pump Station Intertie project. Procurement for one 132-inch diameter butterfly valve is currently in the submittal phase.
- Foothill Pump Station Intertie This project will connect Metropolitan's Inland Feeder to the San Bernardino Valley Municipal Water District's Foothill Pump Station. The project is one of four Rialto Pipeline service area supply reliability improvement projects. Foothill Pump Station will provide the hydraulic lift for direct water delivery from Diamond Valley Lake to the Rialto Pipeline. The project will install supply and discharge bypass pipelines, isolation valves and their vault, and a surge protection system. Final design is planned to be completed by fall 2025; however, the project requires permits from CA Fish and Wildlife and US Fish and Wildlife (USFWS) to address impacts on an endangered species found at the project site. The project will receive a \$5M USBR grant, and USBR will assist Metropolitan with permit consultation with USFWS. USBR has initiated the USFWS consultation. The project is also pursuing land acquisition to obtain access rights to property necessary for project construction.
- Sepulveda Feeder Pump Stations This project installs new pump stations at the existing Venice and Sepulveda Canyon pressure control facilities, providing the ability to reverse flow in the Sepulveda Feeder and deliver 30 cubic feet per second from the Central Pool to portions of the Jensen Plant exclusive area. This project utilizes a progressive design-build (PDB) project delivery method. The Board awarded a Phase 1 PDB agreement in September 2023. Phase 1 includes preliminary design and development of a Guaranteed Maximum Price (GMP) for completion. The contractor has submitted a 70% GMP, and Metropolitan is currently in negotiations. A board action to authorize Phase 2 final design and construction for the Venice site is anticipated in July 2025.

Sustain Metropolitan's mission with a strengthened business model

Value Engineering Program

Engineering Services conducts a Value Engineering (VE) program to review capital projects and identify opportunities and alternatives to enhance project performance, optimize funding for CIP projects, and demonstrate responsible use of public funds. The objective of the VE program is to improve the overall value of CIP projects by applying an industry-accepted assessment methodology to examine a project's function, design, equipment, material selections, and contracting approach. This comprehensive assessment is conducted at strategic stages in a project's life cycle.

Direct Potable Reuse Facility Improvements

Engineering held a VE workshop for the PWSC DPR Facility Improvements project. The PWSC Program is a partnership between Metropolitan and LACSD to beneficially reuse cleaned wastewater that is currently discharged to the Pacific Ocean from LACSD's A.K. Warren Water Resource Facility. The project involves upgrades and enhancements to modify Metropolitan's existing Advanced Water Treatment Demonstration Plant site for a new testing facility to facilitate additional testing and data collection aimed at regulatory acceptance of DPR application and process optimization. The site improvement also includes expanding the field offices to accommodate additional staff to support future testing. The workshop focused on optimizing the layout of the DPR testing facility and other site improvements while addressing health and safety, current and future operations and maintenance activities, and the constructability of the DRP improvements. Participants included Metropolitan staff from Engineering, Water Quality, Operations, Security, IT, LACSD staff, design consultants, value engineering consultants, and subject matter experts.



Grace F. Napolitano Pure Water Southern California Innovation Center (NIC)

Empower the workforce

Project Management Section Leadership Training

In May 2025, staff completed an internal program management (PM) training series as part of ongoing efforts to strengthen project delivery capabilities and promote a consistent approach to managing capital projects. The final module shown in the photos below provided a comprehensive overview of key project management initiatives, highlighting recent project management procedure updates and reinforcing best practices in project planning, documentation, communication, and collaboration.

The PM training was developed and delivered by ESG Program Management staff and attended by both new and experienced project managers and management staff. Participants provided positive feedback, citing the training's clarity, relevance to day-to-day work, and usefulness in supporting project execution.

Staff intends to continue these peer-led training modules as part of a broader knowledge-sharing initiative to build internal capabilities, support professional development, and improve the consistency and efficiency of project delivery across the organization.



Project Management Section Manager, Francisco Becerra, presenting Key Initiatives at PM Refresher Training



Project Manager, Patrizia Hall, presenting on Metropolitan's Administrative Code and Competitive Bidding Policy at PM Refresher Training



Program Management Section Participants at PM Refresher Training

Partner with interested parties and the communities we serve

Operations and Engineering Partnering Workshop

On May 28, the 10th internal partnering workshop was held to collaborate and emphasize how our collective priorities contribute to Metropolitan's mission. At this workshop, staff reviewed the progress of ongoing initiatives to proactively enhance business processes, collaborated to develop new initiatives that address current issues, and highlighted key issues and efforts that affect the Engineering Services, the Operations Groups, and the Office of Safety, Security and Protection Group. Past partnering workshops have had a broad focus on improving relations and work processes between the two groups, while some have zoomed in and concentrated the focus on specific areas or operating regions.



Metropolitan staff at the Operations & Engineering Partnering Workshop