



● **Capital Investment Plan quarterly report for period ending December 2017**

Summary

This report provides a summary of accomplishments to date on the Capital Investment Plan (CIP) during fiscal year 2017/18. It also provides updates on the status of major capital projects and capital expenditures to date, and information regarding service connections and relocations authorized by the General Manager during the reporting period of October to December 2017.

Fiscal year expenditures through December 2017 totaled \$93.2 million for all capital programs. At the end of the second quarter, 31 construction contracts and 12 procurement contracts were underway with a total value of approximately \$235.8 million. All capital appropriations are within their authorized budgets.

During the second quarter of fiscal year 2017/18, the Board appropriated a total of \$41.7 million with 14 actions. Six construction contracts totaling \$12.8 million were awarded, while seven construction contracts were completed. During the quarter, \$23.6 million in construction contract payments were authorized, reflecting construction progress on projects such as the Weymouth Oxidation Retrofit Project (ORP), rehabilitation of filters at the Weymouth plant, rehabilitation of basins and filters at the Diemer plant, electrical upgrades at the Jensen plant, rehabilitation of Palos Verdes Reservoir, and the solar generating facility at the Jensen plant.

More detailed information regarding accomplishments is included in the following pages.

Purpose

Administrative Code Requirement Section 2720 (a) (1): General Manager's Quarterly Reports

Attachments

Not applicable

Detailed Report

Section 2720 of Metropolitan's Administrative Code requires the General Manager to report quarterly to the Engineering and Operations Committee on the Capital Investment Plan. The report also covers service connections approved by the General Manager pursuant to Sections 4700-4708, with the estimated cost and approximate location of each, and the execution of any relocation agreements involving an amount in excess of \$100,000 under the authority of Section 8122(c).

Service Connections and Relocations

No new agreements for service connections were approved by the General Manager pursuant to Sections 4700-4708 during the reporting period.

No new relocation agreements involving an amount in excess of \$100,000 were approved under the authority of Section 8122(c).

Capital Investment Plan

Highlights of progress and major milestones on selected projects are presented below, grouped by CIP program. The programs included in this report are described below:

Water Quality/Oxidation Retrofit – Projects to add new facilities to ensure compliance with water quality regulations for treated water, located at Metropolitan's treatment plants and throughout the distribution system.

Treatment Plant Reliability – Projects to replace or refurbish facilities and components of Metropolitan's five water treatment plants in order to continue to reliably meet treated water demands.

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Colorado River Aqueduct (CRA) Reliability – Projects to replace or refurbish facilities and components of the CRA system in order to reliably convey water to Southern California.

Distribution System Reliability – Projects to replace or refurbish existing facilities within Metropolitan’s distribution system, including reservoirs, pressure control structures, hydroelectric power plants, and pipelines, in order to reliably meet water demands.

Prestressed Concrete Cylinder Pipe (PCCP) Reliability – Projects to refurbish or upgrade Metropolitan’s PCCP feeders to maintain water deliveries without unplanned shutdowns.

System Reliability – Projects to improve or modify facilities located throughout Metropolitan’s service area in order to utilize new processes and/or technologies, and improve facility safety and overall reliability. These include projects related to Metropolitan’s Supervisory Control and Data Acquisition (SCADA) system and other Information Technology projects.

Supply Reliability/System Flexibility - Projects to increase the capacity and flexibility of Metropolitan’s water supply and delivery infrastructure to meet service demands.

Regulatory Compliance – Projects to provide for prudent use and management of Metropolitan’s assets in compliance with regulations and codes other than water quality.

Cost Efficiency/Productivity – Projects to upgrade, replace, or provide new facilities, software applications, or technology, that will provide economic savings that outweigh project costs through enhanced business and operating processes.

Right of Way and Infrastructure Protection – Projects to refurbish or upgrade above-ground facilities and right-of way along Metropolitan’s pipelines in order to address access limitations, erosion-related issues, and security needs.

Regional Recycled Water – This program includes the design and construction of an Advanced Water Treatment Demonstration Plant, which represents the initial step in development of a potential regional recycled water system for recharge of groundwater basins within Southern California.

Minor Capital Projects – Projects to refurbish, replace, or upgrade Metropolitan facilities that cost less than \$250,000.

Water Quality/Oxidation Retrofit Program

- **Weymouth Oxidation Retrofit Project (ORP)**

- **Main Ozonation Facilities**

Weymouth represents the final Metropolitan treatment plant to receive ozone as the primary disinfectant.

The main ORP construction was completed in May 2017. Remaining activities include control system integration, start-up and testing, permitting with the State Division of Drinking Water, and preparation of O&M manuals. These remaining activities are 90 percent complete and are scheduled to be completed by June 2018. On October 1, 2017, use of ozone as the primary disinfectant commenced.

A separate construction contract is underway for chemical feed systems needed to support the ozonation process. Construction is 97 percent complete and is scheduled to be completed by June 2018.



**Weymouth Plant
Ozone Generation Building**

Treatment Plant Reliability Program

- **Diemer Filter Building Upgrades**
- **Diemer Basin Rehabilitation**
- **Weymouth Filter Rehabilitation**

- **Diemer Filter Building Upgrades**

This project replaces the existing filter valves that are deteriorated due to corrosion of the valve bodies and degradation of the embedded seats.

For construction efficiency, the filter valves are being replaced in conjunction with the filter building seismic upgrades.

Construction at the plant’s east module was completed in January 2017.

For the west module, new valves have been delivered and stored at a warehouse near the plant, and procurement of the valve actuators is underway. Final design to install the west valves and all actuators is 90 percent complete and is scheduled to be completed by June 2018, to coincide with the actuator delivery.



**Diemer Plant
New backwash and filter outlet valves**

- **Diemer Basin Rehabilitation**

This project rehabilitates aging electrical and mechanical equipment at the Diemer plant’s treatment basins.

Construction at the east basin was completed in October 2017.

Final design for the west basin is 99 percent complete and is scheduled to be completed by February 2018.



**Diemer Plant
East Basin No. 3 in operation**



- Weymouth Filter Rehabilitation

This project replaces the internal components of the Weymouth plant's 48 filters, including the underdrains, filter media, launder troughs, and surface wash system.

Construction was completed in December 2017.



**Weymouth Plant
New handrails at filters**

<p>Colorado River Aqueduct (CRA) Reliability Program</p> <ul style="list-style-type: none"> • Whitewater Siphons Erosion Protection • CRA Pumping Plant Expansion Joint Repairs 	
<ul style="list-style-type: none"> • Whitewater Siphons Erosion Protection <p>This project provides erosion protection of the Whitewater Siphons along the CRA.</p> <p>Construction is 30 percent complete and is scheduled to be completed by May 2019.</p>	 <p style="text-align: center;">Whitewater Siphon Erosion Protection Drop structure layers</p>
<ul style="list-style-type: none"> • CRA Pumping Plant Expansion Joint Repairs <p>This project repairs 16 expansion joints located on the pump delivery lines at the five CRA pumping plants. Repairs will be completed in two stages. The initial stage addressed three joints and was completed in February 2016.</p> <p>Construction of the Stage 2 repairs was completed in October 2017.</p>	 <p style="text-align: center;">Expansion Joint Repairs Welding of new expansion joint on the pump delivery line</p>

Distribution System Reliability Program

- **Palos Verdes Reservoir Rehabilitation**
- **Etiwanda Pipeline Lining Repairs**

- **Palos Verdes Reservoir Rehabilitation**
This project replaces the floating cover and installs a new geomembrane liner and subdrain system. The project also modifies the inlet/outlet tower and spillway.
Construction is 58 percent complete and is scheduled to be completed by late 2018.



**Palos Verdes Reservoir
Placement of asphalt paving on reservoir floor**

- **Etiwanda Pipeline Lining Repairs**
This project replaces the Etiwanda Pipeline’s damaged interior mortar lining with a polyurethane lining. The first stage of repairs, which was completed in 2014, lined approximately 2,800 feet of the pipeline. The remaining five miles of the pipeline will be relined via two sequential contracts. Construction of the Stage 2 repairs was completed in March 2017.
Design of the Stage 3 repairs is 99 percent complete and is scheduled to be completed by September 2018.



**Etiwanda Pipeline
Application of polyurethane coating**

Prestressed Concrete Cylinder Pipe (PCCP) Reliability Program

- **Second Lower Feeder PCCP Rehabilitation**

- Second Lower Feeder PCCP Rehabilitation

The PCCP Reliability Program is a comprehensive long-term program that enhances the reliability of Metropolitan’s distribution system and reduces the risk of unplanned outages and costly emergency repairs of PCCP lines.

The first line to be addressed is the Second Lower Feeder. The remaining 28 miles of PCCP in the feeder will be lined under multiple construction contracts. Construction of the initial contract to line Reach 1 is 20 percent complete and is scheduled to be completed by August 2018.

Final design of the second and third reaches is 30 percent completed and is scheduled to be completed by July 2018.



**Second Lower Feeder
Pipemobile delivering coiled steel liner pipe**

System Reliability Program

- **Headquarters Building Improvements**
- **Wadsworth Pumping Plant Control and Electrical Protection Upgrades**

• **Headquarters Building Improvements**

This project performs structural upgrades at Metropolitan’s Headquarters Building to increase the building’s level of seismic performance, and to reduce the risk of significant damage and resulting business disruption due to a major earthquake. This project also includes needed building improvements to enhance security and fire safety, and to modernize building features.

Final design is 45 percent complete and is scheduled to be completed by June 2018.



Metropolitan’s Headquarters Building at Union Station

• **Wadsworth Pumping Plant Control and Electrical Protection Upgrades**

This project replaces the control and communication systems, protective relays, vibration monitoring system, and portions of the power controls at Hiram Wadsworth Pumping Plant. Under the initial phase of the project, upgrades for a single pump/turbine unit were completed and tested.

Modification of the remaining eight pump/turbine units is 10 percent complete and is scheduled to be completed by February 2020.



Wadsworth Pumping Plant Pump/turbine control panels

Cost Efficiency/Productivity Program

- **Solar Power Plant at the Jensen Plant**

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This project constructs a 1-megawatt solar generating facility on the grounds of the Jensen plant in Granada Hills. The solar facility will provide a hedge against power cost increases and price volatility, and will enhance Metropolitan’s long-term power use efficiency.

Construction was completed in October 2017.



Jensen Solar Power Plant

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Capital Program for Projects Costing Less Than \$250,000 (Minor Cap Program)

The Minor Capital Projects Program is authorized biennially to enable staff to expedite small capital projects. Since many of these projects require rapid response to address unanticipated failures, safety or regulatory compliance concerns, or to take advantage of shutdown opportunities, the Minor Cap Program authorizes the General Manager to execute projects that meet defined criteria without seeking additional Board approval.

Four projects were authorized under the Minor Cap Program during the second quarter of fiscal year 2017/18 (October through December):

- Diamond Valley Lake (DVL) Angler Avenue Access Project – This project will retrofit Angler Avenue to accommodate night-time use of the East Marina at DVL, which is currently limited to daylight hours of operation.
- Hinds Pool Refurbishment – This project will perform renovations to the community swimming pool at Hinds Pumping Plant.
- Eagle Mountain Pool Refurbishment – This project will perform renovations to the community swimming pool at Eagle Mountain Pumping Plant.
- Gene Pool Refurbishment – This project will perform renovations to the community swimming pool at Gene Pumping Plant.

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The following table provides the overall status of the Minor Cap appropriations for fiscal years 2012/13 -2013/14 through 2016/17 – 2017/18.

Fiscal Year	2012/13-2013/14	2014/15-2015/16	2016/17-2017/18
Amount Appropriated	\$10M	\$8M	\$10M
Number of Projects Approved	45	37	33
Number of Projects Completed Through Dec. 2017	43	16	3
Percent of Work Complete	99%	80%	59%
Number of Projects Over 3 years	0	0	0
Expenditures Through Dec. 2017	\$8.4M	\$5.7M	\$2.4M

Through December 2017, 62 of the 115 projects have been completed, and no projects have exceeded three years in duration.