



- Capital Investment Plan (CIP) Quarterly report for the period ending March 2015

Summary

This report provides a summary of fiscal year accomplishments, capital expenditures to date, and status updates on major capital projects. Also included in this report is information regarding service connections and relocations authorized by the General Manager during the reporting period.

During the third quarter of fiscal year 2014/15, for the period of January to March 2015, 12 Board actions appropriated a total of \$71 million and five construction contracts were awarded. Through March 2015, 11 capital programs encompassing over 240 individual projects were underway. Fiscal year expenditures through March 2015 totaled \$159.6 million for all capital programs, compared to a planned expenditure of \$180.6 million. The third quarter variance is primarily attributed to the long permitting timeline for refurbishing Palos Verdes Reservoir, and lower than planned progress payments on several construction contracts. At the end of the third quarter, 20 construction contracts and six procurement contracts were underway with a total value of approximately \$229 million. Six construction contracts were completed. All capital appropriations are within their authorized budgets.

For the quarter ending March 2015, \$25 million in construction contract payments were disbursed, reflecting construction progress on projects such as the Weymouth Oxidation Retrofit Project (ORP), Lakeview Pipeline/Inland Feeder Intertie, chlorine containment at the Chemical Unloading Facility, Diemer electrical upgrades, and rehabilitation of Prestressed Concrete Cylinder Pipeline (PCCP) segments at the third high-priority location on the Second Lower Feeder.

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 the Administrative Code requires the General Manager to report quarterly to the Engineering and Operations Committee on the Capital Investment Plan (CIP). 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).

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

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 for Metropolitan's treatment plants and throughout the distribution system.

Treatment Plant Reliability – Projects to replace or refurbish facilities and components at 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 on 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 systems.

Supply Reliability/System Expansion - 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 all applicable 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.

<p>Water Quality/Oxidation Retrofit</p> <ul style="list-style-type: none">• Weymouth Oxidation Retrofit Project	
<ul style="list-style-type: none">• Main Ozonation Facilities <p>Weymouth represents the final Metropolitan treatment plant to receive ozone as the primary disinfectant.</p> <p>Construction of the Stage 1 ozone facilities at Weymouth commenced in July 2012. In December 2013, Metropolitan’s Board authorized an increase in change order authority to construct Stage 2 of the Weymouth ORP, which will increase the ozone treatment capacity up to the full plant capacity of 520 million gallons per day (mgd). Construction of both stages is approximately 73 percent complete.</p> <p>Construction is scheduled to be completed by late 2016.</p>	 <p>Weymouth Plant Placement of concrete at the Ozone Generation Building</p>

Treatment Plant Reliability

- **Diemer Electrical Upgrades – Stage 2**
- **Diemer Filter Valve Refurbishment**
- **Jensen Filter Surface Wash Upgrades**
- **Weymouth Filter Building Seismic Upgrades**

- **Diemer Electrical Upgrades – Stage 2**

The electrical upgrades at the Diemer plant are being completed in two stages. The first stage included the new 66 kV Southern California Edison incoming electrical service and substation, new switchgear, standby generators, and duct banks. This work is complete.

The second stage is replacing aged electrical components and reconfiguring power distribution to critical plant processes.

Construction of the second stage is 55 percent complete and is scheduled to be completed by March 2016.



**Diemer Plant
New electrical conduits**

- **Diemer Filter Valve Refurbishment**

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

Fabrication of the new valves has been completed, and the valves have been delivered and stored at a warehouse near the plant.

For construction efficiency, the filter valves will be replaced in conjunction with the filter building seismic upgrades. Final design of both the seismic upgrades to the Diemer plant's east filter buildings and the replacement of the east filter valves has been completed. The Board awarded a construction contract in February 2015 to perform this work.

Replacement of the west filter valves will also be performed in conjunction with seismic upgrades to the west filter buildings. This work is scheduled to commence in fiscal year 2016/17.



**Diemer Plant
Filter valve gallery**

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- Jensen Filter Surface Wash Upgrades

This project is replacing the existing surface wash system with a new fixed-nozzle system. During filter backwashing, the top surface of a filter bed is sprayed with water to break up solids that build up during the filtration process, which helps to clean the filter media.

Construction is 98 percent complete and is scheduled to be completed by April 2015.



Jensen Plant
Formwork and piping for service water pumps

- Weymouth Filter Building Seismic Upgrades

The Weymouth plant has two integrated filter buildings. A seismic assessment of the filter buildings identified that these structures need to be strengthened to reduce the risk of damage from a major earthquake.

This project includes reinforcement of the filter control buildings and sump areas below the filter units. Construction was completed in January 2015.



Weymouth Plant
Filter Building No. 2 pump bay

Colorado River Aqueduct (CRA) Reliability

- **CRA Sand Trap Equipment Upgrades**
- **CRA Pumping Plant Wastewater System**

- **CRA Sand Trap Equipment Upgrades**

This project will replace deteriorated sand trap equipment located upstream of the Iron Mountain, Eagle Mountain, and Hinds Pumping Plants. Final design is complete. Award of a construction contract is planned for June 2015.



**CRA Sand Trap
Traveling bridge over settling basins**

- **CRA Pumping Plant Wastewater Systems**

This project will replace the wastewater collection systems and community septic tanks at all five CRA pumping plants.

The Board awarded a construction contract in March 2015 to replace the wastewater systems for the Hinds and Eagle Mountain Pumping Plants.

Final design for the Iron Mountain and Gene Pumping Plants is 60 percent complete and is scheduled to be completed in late 2015.

Preliminary design for Intake Pumping Plant is 80 percent complete and is scheduled to be completed by June 2015.



**Eagle Mountain Pumping Plant
Broken wastewater collector line**

<p>Distribution System Reliability</p> <ul style="list-style-type: none"> • Palos Verdes Reservoir Cover Replacement • Etiwanda Pipeline Lining Repairs • Orange County Feeder Relining 	
<ul style="list-style-type: none"> • Palos Verdes Reservoir Cover Replacement <p>This project will replace the floating cover and install a new geomembrane liner and subdrain system. The project will also remove a portion of the inlet/outlet tower and modify the spillway.</p> <p>Final design is complete and the California Division of Safety of Dams is currently performing final review of the drawings and specifications. A Mitigated Negative Declaration was issued in March 2015 for a 30-day public review and a Board action is planned for June 2015 to adopt the document. Advertisement for bids is planned for mid-2015.</p>	 <p style="text-align: center;">Palos Verdes Reservoir</p>
<ul style="list-style-type: none"> • Etiwanda Pipeline Lining Repairs <p>This project will replace the Etiwanda Pipeline’s damaged interior mortar lining with a polyurethane lining. The first phase of repairs lined approximately 2,800 feet of the pipeline; two subsequent phases will repair five miles of the line.</p> <p>The first phase was completed in November 2014. The Environmental Impact Report (EIR) and preliminary design for the remaining work have been completed. A Board action is planned for June 2015 for authorization of final design and certification of the EIR for the remaining lining repairs.</p>	 <p style="text-align: center;">Etiwanda Pipeline Application of final coating to new top outlet</p>

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- Orange County Feeder Relining

This project replaces the deteriorated internal lining along an 11-mile portion of the Orange County Feeder within the cities of Santa Ana, Costa Mesa, and Newport Beach.

Construction will be performed in three phases. Final design of Phases 1 and 2 is 80 percent complete and is scheduled to be completed by September 2015. Final design of Phase 3 is five percent complete and is scheduled to be completed by September 2016.



**Orange County Feeder
Previously installed internal seals**

Prestressed Concrete Cylinder Pipe (PCCP) Reliability

- **Second Lower Feeder PCCP Rehabilitation**

This comprehensive long-term program was established to enhance the reliability of Metropolitan’s distribution system and reduce the risk of unplanned outages and costly emergency repairs of PCCP lines.

- **Second Lower Feeder PCCP Rehabilitation**

The first stage of this project lined 1,400 feet of existing PCCP at two sites within the City of Long Beach with a steel liner. Installation at Site 1 was completed in February 2014. All Site 2 work was completed in July 2014.

The second stage will line 4,900 feet of existing PCCP in the cities of Carson and Long Beach with a steel liner. Construction is 90 percent complete and is on schedule to be completed by April 2015.

The remaining 28 miles of PCCP steel lining will be staged and constructed under multiple contracts. Preliminary design has been completed. The first phase of the final design, which will address approximately one half of the remaining PCCP sections, was authorized in January 2015, and a programmatic EIR for the rehabilitation work is scheduled to be released for public review and comment in late 2015.



**Second Lower Feeder
Installation of final segment of liner pipe**

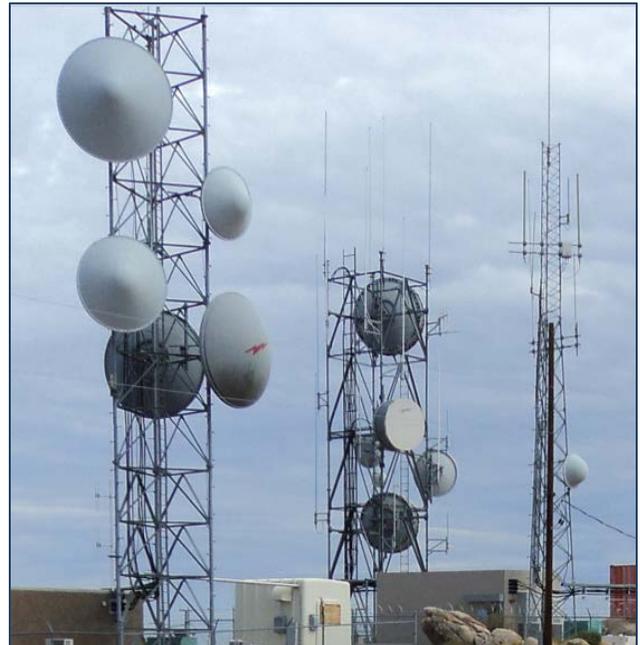
System Reliability

- **Emergency Radio Communication System Upgrade**
- **Wadsworth Pumping Plant Control and Protection Upgrades**

- **Emergency Radio Communication System Upgrade**

This project will provide emergency and day-to-day communications, enhance workplace safety, and improve site security throughout Metropolitan’s treatment plants and the conveyance and distribution system.

A Board action is planned for May 2015 to award a construction contract to install and test the radio equipment being furnished by Metropolitan.



Radio Towers in Mojave Desert

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- Wadsworth Pumping Plant Control and Protection Upgrades

This project will replace the control and communications systems, protection relays, vibration monitoring system, and portions of the power controls at Hiram Wadsworth Pumping Plant. Under the initial phase, upgrades for a single pump/turbine unit will be performed.

Design and programming are currently underway to upgrade the pump/turbine units, the local SCADA system, and supporting mechanical and electrical equipment. The initial phase of the project is approximately eight percent complete and is scheduled to be completed by October 2016.



**Wadsworth Pumping Plant
Pump/turbine controls**

Supply Reliability/System Expansion

- **Lakeview Pipeline/Inland Feeder Intertie**

- Lakeview Pipeline/Inland Feeder Intertie

This project will provide the capability to convey water stored in Diamond Valley Lake to the Mills plant, which currently relies exclusively on deliveries from the East Branch of the State Water Project, by constructing an intertie from the Inland Feeder to the Lakeview Pipeline. The work includes construction of the intertie at the PC-1 pressure control structure, installation of a surge protection system at the Perris Pumpback Facility, and installation of approximately one mile of steel liner within the Bernasconi Tunnel. Construction of the intertie and surge protection system was completed in October 2014.

Installation of the steel liner within the Bernasconi Tunnel was completed in December 2014. Grouting of the annular space between the new liner and the tunnel wall is 85 percent complete, and is scheduled to be completed by April 2015.



**Lakeview Pipeline/Inland Feeder Intertie
Bernasconi Tunnel access excavation**

Regulatory Compliance

- **Chemical Unloading Facility Chlorine Containment**

- Chemical Unloading Facility Chlorine Containment

The Chemical Unloading Facility is used to transfer liquid chlorine from vendor-supplied rail cars to Metropolitan-owned cargo trailers. The new chlorine containment facilities will include an enclosed building to house the rail cars and trailers, trans-loading equipment, chlorine neutralization system, process monitoring room, and an emergency generator.

Construction is 18 percent complete and is scheduled to be completed by February 2017.



**Chemical Unloading Facility
Electrical ductbank**

Cost/Efficiency/Productivity

- **Yorba Linda Power Plant Upgrades**

- Yorba Linda Power Plant Upgrades

This project is replacing the existing Pelton wheel hydraulic turbine at the Diemer plant with a Francis turbine capable of operating under post-ORP hydraulic conditions.

The turbine/generator has been manufactured and delivered to the site. Construction is 77 percent complete and is scheduled to be completed by August 2015.



**Yorba Linda Power Plant
Positioning of generator stator**

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

The Minor Cap Program is authorized each fiscal year to enable staff to expedite small capital projects that arise during the year. 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 during the fiscal year without seeking additional Board approval.

Nine projects were authorized under the 2014/15 and 2015/16 Minor Cap appropriation through the third quarter of fiscal year 2014/15. The five projects authorized during the third quarter (January through March) are listed below:

- Garvey Reservoir Site Erosion Control – This project will construct site erosion control and restoration work to revegetate and stabilize two areas at the Garvey Reservoir site.
- Jensen Outlet Chlorine Diffuser and Sample Pump Modifications – This project will modify the Jensen’s plant’s outlet chlorine diffuser and sample pump for optimal performance under low flow conditions.
- Diamond Valley Lake (DVL) East Marina Restrooms – This project will replace the original restrooms at the DVL East Marina. These restrooms were temporary installations which deteriorated over time.
- Wadsworth 115 kV Substation Electrical Safety System Upgrade – This project will replace the electrical system safety monitoring equipment for the 115 kV substation that supports the operation of the Wadsworth Pumping Plant.
- Willits Street Pressure Control Structure Valve Actuator Replacement – This project will replace the actuator on one of the regulating valves at the Willits Street Pressure Control Structure.

The following table provides the overall status of the 2008/09 through 2014/15 –2015/16 Minor Cap appropriations.

FY Budget	2009/10	2010/11	2011/12	2012/13- 2013/14	2014/15- 2015/16
Amount Appropriated	\$4.15M	\$3.5M	\$3.0M	\$10.0M	\$5.0M
Number of Projects Approved	23	17	15	48	9
Number of Projects Completed Through Mar. 2015	23	17	11	24	0
Percent of Work Complete	100%	100%	85%	70%	19%
Number of Projects Over 3 years	0	0	0	0	0
Expenditures Through Mar. 2015	\$3.65M	\$2.90M	\$2.54M	\$6.23M	\$488.4K

Through March 2015, 75 of the 112 projects have been completed, and there are no projects that have exceeded three years in duration.