



## **Engineering Services Group**

### **Core Business: Capital Investment Plan**

Manage board-authorized projects in the Capital Investment Plan (CIP) to enhance the quality and reliability of the region's water supply and infrastructure.

### **Performance Measure(s)**

- Final Design Cost as a percentage of Construction Cost

*Targets:*

- 9% - 12% for Construction Costs > \$3,000,000
- 9% - 15% for Construction Costs ≤ \$3,000,000

- Construction Inspection Costs as a percentage of Construction Cost

*Targets:*

- 9% - 12% for Construction Costs > \$3,000,000
- 9% - 15% for Construction Costs ≤ \$3,000,000

- Complete capital construction projects on time

*Target: >95% of construction contracts completed within approved durations*

### **Objective#1:**

*Manage high priority projects which replace or rehabilitate equipment and facilities, to enhance reliability of Metropolitan's conveyance and distribution system, and to protect water quality.*

### **Action(s):**

#### **Infrastructure Reliability:**

#### **CRA Projects**

1. Complete final design, initiate and complete construction of CRA Siphon Repairs.
2. Complete final design and initiate construction of CRA Transition Structure/Manhole Covers – Phase 2.
3. Complete final design, initiate and complete construction of the Hinds Pumping Plant Delivery Pipe Expansion Joint Repairs.
4. Complete final design and initiate construction of the CRA 230kV Disconnect Switch Replacement.



**Objective#1 - continued:**

*Manage high priority projects which replace or rehabilitate equipment and facilities, to enhance reliability of Metropolitan's conveyance and distribution system, and to protect water quality.*

**Action(s):**

**Conveyance & Distribution System Rehabilitation Projects**

1. Complete preliminary design and commence final design of the Rialto Pipeline Prestressed Concrete Cylinder Pipe (PCCP) Replacement.
2. Complete final design and initiate construction of the Santa Ana River Bridge seismic rehab for the Upper Feeder.
3. Complete preliminary design and commence final design of the Collis St. Pressure Control Structure valve replacement for the Palos Verdes Feeder.
4. Initiate construction of the Eagle Rock Control Tower & Puddingstone Spillway control gates replacement.
5. Complete preliminary and final design of the floating cover replacement for the Palos Verdes Reservoir.

**Water Quality:**

**Conveyance & Distribution System Rehabilitation Projects**

1. Complete the relocation of air release and vacuum valves at the final 65 sites for the Distribution System Treated Water Cross Connection Prevention Program.

**Objective#2:**

*Manage high priority projects which replace or rehabilitate equipment and facilities, to enhance reliability, comply with regulations, and improve plant operating efficiency of Metropolitan's water treatment plants.*

**Action(s):**

**Water Quality/Regulatory**

1. Continue to manage construction of the Diemer ORP.
2. Complete construction of the Electrical Switchgear Building for the Weymouth ORP.
3. Continue to manage construction of the filter outlet chlorination system at the Jensen plant.



**Objective#2 - continued:**

*Manage high priority projects which replace or rehabilitate equipment and facilities, to enhance reliability, comply with regulations, and improve plant operating efficiency of Metropolitan's water treatment plants.*

**Action(s):**

**Infrastructure Reliability**

1. Continue to manage construction of the Filter Media Replacement project at the Diemer plant.
2. Complete construction of the Domestic/Fire Water Pump Station at the Diemer Plant.
3. Continue to manage construction to replace the sodium hydroxide storage tanks at the Mills plant.
4. Continue to manage construction of the electric building seismic upgrades at the Skinner plant.
5. Complete construction of the Weymouth Filter Outlet Conduit Repairs.
6. Continue to manage construction of the electrical system upgrades at the Weymouth plant.
7. Continue to manage construction of the washwater reclamation facility upgrades at the Weymouth plant.

**Objective#3:**

*Manage CIP projects in a cost-effective manner to achieve fiscal year objectives.*

**Action(s):**

1. Continue to conduct Value Engineering workshops to avoid costs and improve functionality of capital projects.
2. Monitor CIP expenditures and report to the Board on a quarterly basis.



**Core Business: System Reliability**

Operate and maintain the water and power systems in an effective and efficient manner to ensure reliable delivery of water supplies.

Lead Organization: Water System Operations Group

Support Organization(s): Engineering Services Group, etc.

**Objective#1:**

*Ensure public safety, minimize long-term cost, and avoid unplanned outages by performing periodic technical assessments and monitoring facilities and right-of-way.*

**Action(s):**

1. Perform state-mandated dam inspections and deformation monitoring.
2. Perform corrosion monitoring of pipelines and facilities, maintain corrosion mitigation systems, and coordinate with other utilities on pipeline corrosion issues and repairs.
3. Perform technical assessments of coatings and other materials to increase reliability, minimize long-term costs, and meet stricter environmental regulations.
4. Perform mandated Underground Service Alert (USA) marking & related surveys to prevent 3<sup>rd</sup> party damage to Metropolitan facilities, and to avoid unplanned outages.
5. Review and respond to external requests to use Metropolitan property to enhance infrastructure protection.

**Core Business: Energy Management**

Develop cost-effective programs, projects and objectives to control operational costs, and move Metropolitan towards energy independence.

Lead Organization: Engineering Services Group

Support Organization(s): Water System Operations Group

**Objective#1:**

*Continue to monitor consumption of nonrenewable energy and fuels, and minimize greenhouse gas emissions.*

**Action(s):**

1. Continue to measure and report on Metropolitan's carbon emissions, including preparation, auditing, and certification of 2010 carbon footprint; and provide the annual report on emissions to the Air Resources Board and The Climate Registry (formerly known as the California Climate Registry).



**Objective#2:**

*Manage projects and initiatives to control operational costs, and move Metropolitan towards energy independence.*

**Action(s):**

1. Monitor power industry retail and wholesale costs, solar technological developments and cost trends, and alternate financing mechanisms for renewable energy.
2. Monitor the solar power industry and available rebate incentives, and proceed with Weymouth Solar Power Facility when it becomes cost-effective.
3. Develop overall programmatic budget and schedule for delivery of 10 MW of solar facilities at treatment plants.
4. Continue development of distribution system small hydro projects, when cost-effective.
5. Report to the Board on an annual basis on energy management activities.

**Core Business: Bay-Delta Solutions**

Develop near-term and long-term solution that enhances the Delta ecosystem, improves water supply reliability, and protects water quality.

Lead Organization: Office of the GM - Bay-Delta

Support Organization(s): Engineering Services Group

**Objective#1:**

*Continue to provide technical support on the Delta Habitat Conveyance Conservation Program (DHCCP) and Bay Delta Conservation Plan (BDCCP).*

**Action(s):**

1. Advise Department of Water Resources (DWR) and State Water Contractors on various technical matters for the evaluation of conveyance alternatives.
2. Provide planning input and guidance to DWR in support of preliminary design.
3. Monitor DWR engineering, environmental and planning efforts so that the budget is appropriately used and schedule is minimized.



***Other: Workforce Development/Succession Planning***

**Objective#1:**

*Manage workforce development and succession planning activities to optimally maintain the Engineering Services Group's expertise, skills, and quality of deliverables.*

**Action(s):**

1. Finalize Engineering Services' succession plan and incorporate into training and recruitment processes.
2. Continue to manage various workforce development efforts including brown bag technical series, plant engineer rotation program, other technical rotations, and cross-training.