Metropolitan’s Capital Investment Plan for Fiscal Years 2018/19 and 2019/20

CMAA Southern California Chapter
April 11, 2018
• Regional water wholesaler
• 26 Member Agencies
• 19 Million residents
• 242 Mile Colorado River Aqueduct (CRA)
• 830 Miles of Distribution Pipelines
• 5 Treatment Plants (2,640 MGD)
• $10.3 Billion in Capital Assets
Annual Capital Expenditures
(Adjusted to Current $)

1,800
1,600
1,400
1,200
1,000
800
600
400
200
0

$ Million


Colorado River Aqueduct
Original Construction
Annual Capital Expenditures
(Adjusted to Current $)

$ Million

1,800
1,600
1,400
1,200
1,000
800
600
400
200
0


Colorado River Aqueduct
Original Construction

CRA
Expansion
Annual Capital Expenditures
(Adjusted to Current $)

- Colorado River Aqueduct Original Construction
- System Expansion to Receive SWP
- CRA Expansion


$ Million

- 1,800
- 1,600
- 1,400
- 1,200
- 1,000
- 800
- 600
- 400
- 200
- 0
Annual Capital Expenditures
(Adjusted to Current $)

- Colorado River Aqueduct Original Construction
- System Expansion to Receive SWP
- CRA Expansion
- Diamond Valley Lake, Inland Feeder, Oxidation Retrofit (ORP)
Annual Capital Expenditures
(Adjusted to Current $)

Infrastructure
Reliability
Capital Program Structure

Programs

Appropriations

Projects

* Excluding Minor Capital Projects
CIP Budget Process

Biennial Budget Objectives

- Thorough & rigorous review of all capital projects
- Evaluate and prioritize to maintain reliability and regulatory compliance
- Continuing focus on Infrastructure Reliability

Procedure

- Solicit project proposals from end-user
- Management screening
- Cross-functional evaluation team scoring
- Prioritization within funding target
- Executive review
Capital Program Prioritization

Justification
- Delivery Reliability
- Regulatory Compliance
- Supply Reliability
- Business Operations

Project Directives
- Compliance Notices
- Board Actions

Potential Service Disruption
Cost efficiency & productivity
Risk Multiplier
CIP for Fiscal Years 2018/19 - 2019/20

Highlights

- 2-Year planned spending - $514.5 million
- Over 90% proposed for Infrastructure Reliability work
  - Aging infrastructure - $235 M
  - PCCP rehabilitation - $92 M
  - Seismic upgrades - $42 M
  - Other infrastructure improvements - $96 M
- Prioritized to maintain reliability & comply with regulations
CIP for Fiscal Years 2018/19 & 2019/20

Budget Estimate = $514.5 Million

- Cost Efficiency & Productivity $8M
- Water Quality/ORP $3M
- Treatment Plant Reliability $68M
- System Reliability $91M
- System Flexibility/Supply Reliability $9M
- ROW & Infrastructure Protection $12M
- Regulatory Compliance $8M
- Regional Recycled Water $4M
- Minor Capital Projects $9M
- PCCP Reliability $92M
- Distribution System Reliability $107M
- CRA Reliability $102M
- System Flexibility/Supply Reliability $9M
- Water Quality/ORP $3M
- Cost Efficiency & Productivity $8M

Total Budget Estimate: $514.5 Million
## CRA Reliability

<table>
<thead>
<tr>
<th>Project Description</th>
<th>2-Year Estimate</th>
<th>Total Project Estimate (non-escalated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Pump Reliability - Pumps, Motors, Valves, Auxiliary Systems</td>
<td>$17 million</td>
<td>$185 million</td>
</tr>
<tr>
<td>Main Pump Power Cables</td>
<td>$14 million</td>
<td>$42 million</td>
</tr>
<tr>
<td>Pumping Plant Sump Systems</td>
<td>$11 million</td>
<td>$29 million</td>
</tr>
<tr>
<td>Water Distribution Systems</td>
<td>$9 million</td>
<td>$19 million</td>
</tr>
<tr>
<td>Total 33 Projects</td>
<td>$102 million</td>
<td>-</td>
</tr>
</tbody>
</table>
Main Pump Power Cables Replacement

Planned work

- Replace electrical cables that power main pumps at all 5 pumping plants

Estimated cost

- $42 million
Pump Plant Sump System Rehabilitation

Planned work
- Replace sump system at all 5 pumping plants

Estimated cost
- $29 million

Corroded

Pinhole Leak

Corroded Sump Pipe
Planned work
- Refurbish pumps, motors, discharge valves, overhead cranes, auxiliary systems at all 5 pumping plants

Estimated cost
- $185 million
### Distribution System Reliability

<table>
<thead>
<tr>
<th>Project Description</th>
<th>2-Year Estimate</th>
<th>Total Project Estimate (non-escalated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orange County Feeder Lining</td>
<td>$19 million</td>
<td>$33 million</td>
</tr>
<tr>
<td>Palos Verdes Reservoir Rehabilitation</td>
<td>$15 million</td>
<td>$47 million</td>
</tr>
<tr>
<td>Orange County Service Center</td>
<td>$10 million</td>
<td>$13 million</td>
</tr>
<tr>
<td>Dam Safety Initiatives</td>
<td>$11 million</td>
<td>$25 million</td>
</tr>
<tr>
<td>Total 65 Projects</td>
<td>$107 million</td>
<td>-</td>
</tr>
</tbody>
</table>
Distribution System Reliability

Orange County Feeder Relining

Orange County C&D Facility
Planned work

- Replace/install monitoring systems
- Assess dams, spillways, and appurtenant structures
- Anticipate improvements/upgrades will be required

Estimated cost
- $25 million
ROW & Infrastructure Protection

- **Assessment**
  - Access, erosion, security
  - Encroachments
  - Recommend improvements

- **Regional Approach**
  - Programmatic EIR
  - Resource agency permitting
  - Program-wide mitigation

- **Current status**
  - Design/Environmental
  - Contracts to be advertised
  - late 2015

- **Total Est. Cost:** $100 M
## ROW & Infrastructure Protection

<table>
<thead>
<tr>
<th>Project Description</th>
<th>2-Year Estimate</th>
<th>Total Project Estimate (non-escalated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orange County Region</td>
<td>$ 3 million</td>
<td>$ 24 million</td>
</tr>
<tr>
<td>Western San Bernardino Region</td>
<td>$ 1 million</td>
<td>$ 15 million</td>
</tr>
<tr>
<td>Los Angeles Region</td>
<td>$ 2 million</td>
<td>$ 10 million</td>
</tr>
<tr>
<td>Riverside &amp; San Diego Region</td>
<td>$ 2 million</td>
<td>$ 33 million</td>
</tr>
<tr>
<td>Total 4 Operating Regions</td>
<td>$ 12 million</td>
<td>$ 100 million</td>
</tr>
</tbody>
</table>
PCCP Reliability

- Identified 5 At-Risk Feeders
  - 100 miles rehabilitation
  - $2.1 billion est. cost
  - 20 year program

- Ongoing Monitoring, Evaluation & Prioritization

- Flexible Implementation
  - Urgent Repairs
  - Re-sequencing
## PCCP Reliability

<table>
<thead>
<tr>
<th>Project Description</th>
<th>2-Year Estimate</th>
<th>Total Project Estimate (non-escalated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second Lower Feeder PCCP Rehab</td>
<td>$ 78 million</td>
<td>$ 495 million</td>
</tr>
<tr>
<td>Sepulveda Feeder PCCP Rehab</td>
<td>$ 2 million</td>
<td>$ 655 million</td>
</tr>
<tr>
<td>Rialto Pipeline PCCP Rehab</td>
<td>$ 3 million</td>
<td>$ 613 million</td>
</tr>
<tr>
<td>Allen-McColloch Pipeline PCCP Rehab</td>
<td>$ 3 million</td>
<td>$ 272 million</td>
</tr>
<tr>
<td>Calabasas Feeder PCCP Rehab</td>
<td>$ 2 million</td>
<td>$ 101 million</td>
</tr>
<tr>
<td>Total 5 Feeders</td>
<td>$ 92 million</td>
<td>$ 2.1 billion</td>
</tr>
</tbody>
</table>
## System Reliability

<table>
<thead>
<tr>
<th>Project Description</th>
<th>2-Year Estimate</th>
<th>Total Project Estimate (non-escalated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Union Station Headquarters</td>
<td>$ 24 million</td>
<td>$ 64 million</td>
</tr>
<tr>
<td>Wadsworth Pumping Plant Control and Electrical Protection</td>
<td>$ 10 million</td>
<td>$ 21 million</td>
</tr>
<tr>
<td>Union Station Headquarters Security</td>
<td>$ 6 million</td>
<td>$ 7 million</td>
</tr>
<tr>
<td>La Verne Machine Shop Equipment Upgrade</td>
<td>$ 6 million</td>
<td>$ 8 million</td>
</tr>
<tr>
<td>Total 36 Projects</td>
<td>$ 91 million</td>
<td>-</td>
</tr>
</tbody>
</table>
Headquarters Improvements

Planned work

- Upgrade IT network systems in wing
- Strengthen structural beams, slabs, columns
- Upgrade fire/life safety systems
- Upgrade kitchen equipment & finishes

Estimated cost

- $64 million

Fire/Life Safety System
Asphalt and Roof Replacements

Scope
- Replace asphalt paving & roofs at various facilities
- Similar to Minor Capital Projects appropriations

Planned work
- Skinner facility
- CRA pumping plants

Estimated cost
- $5 – 8 million/yr.
## Treatment Plant Reliability

<table>
<thead>
<tr>
<th>Project Description</th>
<th>2-Year Estimate</th>
<th>Total Project Estimate (non-escalated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weymouth Filter Valve Replacement</td>
<td>$ 9 million</td>
<td>$ 23 million</td>
</tr>
<tr>
<td>Jensen Caustic Tank Farm Containment Upgrades</td>
<td>$ 6 million</td>
<td>$ 20 million</td>
</tr>
<tr>
<td>Diemer Filter Outlet Conduit Seismic Upgrades</td>
<td>$ 5 million</td>
<td>$ 8 million</td>
</tr>
<tr>
<td>Weymouth Domestic &amp; Fire Water System Improvements</td>
<td>$ 5 million</td>
<td>$ 7 million</td>
</tr>
<tr>
<td><strong>Total 41 Projects</strong></td>
<td><strong>$ 68 million</strong></td>
<td><strong>-</strong></td>
</tr>
</tbody>
</table>
Treatment Plant Reliability

Weymouth Filter Valve Replacement

Jensen Caustic Containment Upgrade
## Other (Not in Current CIP)

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Total Project Estimate (non-escalated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional Recycled Water</td>
<td>$2.7 billion</td>
</tr>
<tr>
<td>California WaterFix</td>
<td>$11 - $17 billion</td>
</tr>
</tbody>
</table>
Regional Recycled Water

Conceptual – subject to change – up to 150 MGD
California WaterFix
Planned spending of $514.5 million over the biennium

Projects prioritized to maintain reliability & regulatory compliance

Increased spending planned on the Distribution System, PCCP, CRA, & System reliability programs

Planning for increased CIP spending beyond the biennium
Additional Information

Website: www.mwdh2o.com

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> Rates & Reports
> Proposed Budget & Rates

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Interim Capital Program Manager

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