PATTERSON PASS WATER TREATMENT PLANT UPGRADES AND OZONATION PROJECT

Zone 7 Board of Directors Meeting

Project Overview and Award of Construction Phase Contracts

February 6, 2019
Agenda

- **Project overview**
  - Objectives, scope, and benefits
  - Major facilities
  - Schedule
  - Costs and funding

- **Construction phase contracts recommended for award**
  - Construction contract
  - Construction management services
  - Engineering support services
  - Environmental support services
# Project Overview

<table>
<thead>
<tr>
<th>Project:</th>
<th>PPWTP Upgrades &amp; Ozonation Project</th>
</tr>
</thead>
</table>
| **Objectives:**   | • Improve treated water quality and plant reliability  
                     • Increase plant capacity to 24 MGD  
                     • Increase treated water storage capacity an additional 5 MG  
                     • Replace or upgrade many major plant components that are reaching the end of their useful life |
| **Scope:**        | • Construction of new facilities including an ozone generation building, contactor structures, filters, chemical storage and feed facilities, a 5 MG treated water storage tank, and a pump station  
                     • Demolition and modification of existing facilities including UF facilities, clarifiers, washwater recovery ponds, chemical facilities, and access road |
| **Construction Schedule:** | Begin construction March 2019, complete in April 2022 |
| **Cost & Funding Sources:** | Approximately $110 million for planning, design, and construction; funded by water rates, new connection fees, and bonds ($19 million) |
| **Operating Cost:** | Approximately $980,000 net increase in annual operating and maintenance costs to operate ozone system and pump station; some of the increased energy and chemical costs offset by cost savings in reduction of other chemicals and residuals handling |
Benefits of Ozone Treatment

1. More effective disinfection
   - Better at treating organic matter than chlorine

2. Reduces potentially harmful Disinfection By-Products (DBPs)

3. Enhances water treatment process
   - Reduces coagulant use
   - Reduces sludge handling costs

4. Most effective treatment for Contaminants of Emerging Concern (CECs)
   - Cyanotoxins, endocrine disruptors, and pharmaceuticals

5. Most effective treatment for Taste and Odor (T&O) causing compounds
Plant Site

South Bay Aqueduct (SBA)

Patterson Reservoir

Patterson Pass Water Treatment Plant (PPWTP)
Project Facilities

- Ozone Generation Building and Contactor
- CO2 and LOX Storage
- 5 MG Storage Tank and Pump Station
- Chlorine Contact Basin
- 6 New Filters
- New Entrance and Fencing
Project Artistic Rendering

Current View (June 2018)

Artistic Rendering of Proposed Project

New treated water storage tank
New chlorine contact basin
New filters
New O3 Generation Building & Contactor
New LOX & CO₂ Tanks
New entrance
Project will be in Service in Spring 2022

Key Project Milestones:

- Adoption of Final CEQA Document: Sept. 2018
- Design Completion: Nov. 2018
- Bid Opening: Jan. 15, 2019
- Award of Construction Phase Contracts: Feb. 6, 2019
- Substantial Completion: Early 2022
- Final Completion: Spring 2022
Total Project Costs by Fund

<table>
<thead>
<tr>
<th>Project</th>
<th>Fund 120*</th>
<th>Fund 130**</th>
<th>Total</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPWTP Upgrades</td>
<td>$19.5M</td>
<td>$45.5M</td>
<td>$65M</td>
<td>100% funded with available fund balance</td>
</tr>
<tr>
<td>PPWTP Ozonation</td>
<td>$22.5M</td>
<td>$22.5M</td>
<td>$45M</td>
<td>$19M of Fund 120’s construction phase costs is funded from bond proceeds.</td>
</tr>
<tr>
<td>Totals</td>
<td>$42M</td>
<td>$68M</td>
<td>$110M</td>
<td>Includes planning, design, and construction</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fund Split</th>
<th>Fund 120</th>
<th>Fund 130</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPWTP Upgrades</td>
<td>30%</td>
<td>70%</td>
</tr>
<tr>
<td>PPWTP Ozonation</td>
<td>50%</td>
<td>50%</td>
</tr>
</tbody>
</table>

- Funds are available in Fund 120 and Fund 130 for these projects, and fund balances are projected to be in compliance with the Board-approved reserve policy requirements after the funds are expended/projects completed.

* Fund 120 – Water Enterprise Capital Renewal/Replacement and System-Wide Improvements Fund
** Fund 130 – Water Enterprise Capital Expansion Fund
## Fund 120* Fund Balance

<table>
<thead>
<tr>
<th>Fund 120 Component</th>
<th>Balance on June 30, 2018</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debt Rate Stabilization Reserve</td>
<td>$6,300,000</td>
<td>Debt rate stabilization (not available to fund capital projects)</td>
</tr>
<tr>
<td>Capital Projects Available Fund Balance</td>
<td>$35,027,349</td>
<td>Water system renewal, replacement, and improvement program</td>
</tr>
<tr>
<td><strong>Total Fund Balance</strong></td>
<td><strong>$41,327,349</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Major Projects Funded from the Capital Projects Available Fund Balance through FY 2021/22

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>DVWTP Ozonation Project (non-bond share)</td>
<td>$11.0M</td>
</tr>
<tr>
<td>PPWTP Upgrades Project</td>
<td>$19.5M</td>
</tr>
<tr>
<td>PPWTP Ozonation Project (non-bond share)</td>
<td>$3.5M</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$34M</strong></td>
</tr>
</tbody>
</table>

- Fund 120 has an additional $57M from water revenue bonds to finance the DVWTP and PPWTP Ozonation projects. The remaining ozone project costs are funded from the Capital Projects Available Fund Balance.
- Other Renewal/Replacement and System-Wide Improvements projects are funded by Board-approved Asset Management Program annual funding (~$12M/yr).

* Fund 120 – Water Enterprise Capital Renewal/Replacement and System-Wide Improvements Fund
## Fund 130* Fund Balance (Restricted)

<table>
<thead>
<tr>
<th>Fund 130 Component</th>
<th>Balance on June 30, 2018</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>SBA Enlargement Sinking Fund</td>
<td>$11,423,181</td>
<td>Funds debt service payment after build-out</td>
</tr>
<tr>
<td>Future Contractor’s Share Sinking Fund</td>
<td>$3,369,632</td>
<td>Funds annual payment after build-out</td>
</tr>
<tr>
<td>Debt Rate Stabilization Reserve</td>
<td>$2,300,000</td>
<td>Debt rate stabilization (not available to fund capital projects)</td>
</tr>
<tr>
<td>Capital Projects Available Fund Balance</td>
<td>$81,407,872</td>
<td>Water enterprise capital expansion projects and water purchases</td>
</tr>
<tr>
<td><strong>Total Restricted Fund Balance</strong></td>
<td><strong>$98,500,685</strong></td>
<td></td>
</tr>
</tbody>
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### Major Projects Funded from the Capital Projects Available Fund Balance through FY 2021/22

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<th>Project</th>
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<tr>
<td>PPWTP Upgrades Project</td>
<td>$45.5M</td>
</tr>
<tr>
<td>PPWTP Ozonation Project (non-bond share)</td>
<td>$22.5M</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$68.0M</strong></td>
</tr>
</tbody>
</table>

- Other Expansion projects are funded from annual connection fee revenue (~$35M/yr).
- Annual debt payments for State Water Project and Cawelo total $20M.
Project Team for Successful Project Completion

- **Firm:** C. Overaa & Co.
- **Scope:** Project construction
- **Amount:** $76,139,000, plus 10% contingency

- **Firm:** Covello | A Psomas Company
- **Scope:** Provide construction management, inspection, and document control
- **Amount:** $6,895,000, includes 10% contingency

- **Firm:** CDM Smith Inc.
- **Scope:** Provide engineering support ($5.4M) and programming services ($2.1M)
- **Amount:** $7,515,000, includes 10% contingency

- **Firm:** Environmental Science Associates (ESA)
- **Scope:** Perform pre-construction surveys and biological monitoring
- **Amount:** $225,000, includes 10% contingency
Next Step – Adopt Four (4) Resolutions

- Approve the plans, specifications, appendices, and addenda for the PPWTP Upgrades and Ozonation Project
- Accept Overaa’s bid
- Appropriate $19,078,361 in the FY 2018-19 budget from Fund 120 and Fund 130 for the PPWTP Upgrades and Ozonation Project
- Authorize the General Manager to:
  - Award the construction contract to Overaa for $76,139,000, and execute change orders as and when needed in an amount not to exceed 10% of the construction contract amount
  - Negotiate, execute, and amend as necessary, a professional services agreement with CDM Smith for engineering support services in an amount not-to-exceed $7,515,000, which includes 10% contingency
  - Negotiate, execute, and amend as necessary, a professional services agreement with Covello for construction management services in an amount not-to-exceed $6,895,000, which includes 10% contingency
  - Negotiate, execute, and amend as necessary, a professional services agreement with ESA for environmental support services in an amount not-to-exceed $225,000, which includes 10% contingency