Hyperion Reuse and Groundwater Development Program

May 21, 2019

Water Resources Division
Water Rights and Resource Management (Groundwater)
Chris Repp, P.E., MSCE
Water Supply Planning Efforts

- 2020 Urban Water Management Plan
- Recycled Water Master Planning Documents (2012)
- Water Conservation Potential Study (2017)
- Groundwater System Improvement Study
- Stormwater Capture Master Plan (2015)
- Mayor’s ED5 & Sustainable City Plan (2015)
Driving Forces for Studying Hyperion

• “Creation of an integrated water strategy that increases local water supplies“ - Sustainable City pLAn / Mayor’s Executive Directive #5

• “A strategic plan outlining potential full development of recycled water at Hyperion.” - FY 2019 LADWP GM Goals)

• “Conduct a conceptual analysis for serving customer demands south of Santa Monica Mountains with groundwater to maximize production and recharge in the Central and West Coast Basins.” - Water System Six-Month Strategic Goals

• Mayor Garcetti’s Hyperion Announcement (February 21, 2019)

• pLAn Update / Green New Deal (April 6, 2019)
LA Groundwater Replenishment Project
Initial Phase & Ozone Demonstration
Program Objective:
Serve customer demands generally south of the Santa Monica Mountains with groundwater by maximizing production and recharge in the Central and West Coast Basins.
April 2019 - March 2020 (Projected)

Total Supply: 532,400 AFY

- **Los Angeles Aqueduct**: 362,777 AF, 67%
- **MWD**: 90,241 AF, 17%
- **Groundwater**: 73,586 AF, 14%
- **Recycled Water**: 8,496 AF, 2%

*April 2019 - March 2020 (Projected)*
WRD SERVICE AREA IN SOUTHERN LA COUNTY

SERVICE AREA = 420 SQUARE MILES

43 CITIES

POPULATION > 4 MILLION

550,000 ACRE FEET USED PER YEAR

50% GROUNDWATER FROM LOCAL WATER WELLS

50% IMPORTED WATER

WRD SUPPLEMENTS NATURAL GROUNDWATER RECHARGE

SECURING OUR WATER FUTURE TODAY

4040 Paramount Boulevard | Lakewood, California 90712

www.wrd.org
1. Advanced Treatment at Hyperion

LEGEND
Phase 1
- MBR Aeration/Separation
- RO-UV/AOP
- Fine Screening
- Equalization Basin

Full Implementation
- MBR Aeration
- RO-UV/AOP
- Fine Screening
2. Hyperion to Central Groundwater Basin

- **Full Advanced Treatment (LASAN)**
- **Conveyance to Central Basin (LADWP)**
- **Extraction & Treatment (LADWP)**
- **Injection Wells at LA Forebay (WRD)**
## Preliminary Program Cost Estimate

<table>
<thead>
<tr>
<th>Advanced Treated Water Production</th>
<th>Capital Cost ($B)</th>
<th>O &amp; M Cost ($M per year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>174 MGD / 195,000 AFY</td>
<td>$8.1</td>
<td>$332</td>
</tr>
</tbody>
</table>

$/$Acre-Ft: Life Cycle Cost

$1,651
## Cost Breakdown

### Table 4: Preliminary Cost Estimate

<table>
<thead>
<tr>
<th>Potential Component</th>
<th>Capital Cost ($M)</th>
<th>O&amp;M Cost ($/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Treatment at Hyperion</td>
<td>$2,860</td>
<td>$174,500,000</td>
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<tr>
<td>Hyperion to Central Basin</td>
<td>$2,444</td>
<td>$95,600,000</td>
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<tr>
<td>Desalter to Harbor</td>
<td>$41</td>
<td>$115,000</td>
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<tr>
<td>JWPCP to Harbor</td>
<td>$10</td>
<td>$61,000</td>
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<tr>
<td>CRWRF to Harbor</td>
<td>$48</td>
<td>$181,000</td>
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<tr>
<td>L.A. River to GRIP (ARC)</td>
<td>$14</td>
<td>$5,200,000</td>
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<td>Mandatory System Upgrades</td>
<td>$2,645</td>
<td>$56,520,000</td>
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<tr>
<td><strong>Total Cost</strong></td>
<td><strong>$8,062</strong></td>
<td><strong>$332,177,000</strong></td>
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</tbody>
</table>
Preliminary Program Schedule

HTP to Central Basin 11/29/18 - 11/24/35
Planning  Design  Bid & Award  Construction  Post Construction

Desalter to Harbor 11/29/18 - 11/26/27
Planning  Design  Bid & Award  Construction  Post Const.

2035
Ongoing Efforts

• Groundwater Development and Augmentation Plan (GDAP)
• Joint Master Plan with WRD
• Program Initiated into CIP – April, 2019
• MOU between LADWP & LASAN
• Hyperion AWPF Demonstration Project
• Hyperion NdN MBR Pilot Facility
• Agency Outreach & Coordination
• Community Engagement