2021-23 Biennial Budget Committee Workshop

Workshop #1: March 23, 2021
Workshop #2: April 8, 2021
Workshop #3: April 22, 2021
Budget Committee Meeting and Public Hearing: May 25, 2021
Budget Committee Workshop #2 Agenda

Opening
- Questions from last workshop
- Review of workshop goals
- Comments from the CEO
- Update on financial performance and strategy

Overview of Department Requests
- Customer Service
- Engineering/Operations
- Water Supply Program

Closing
- Questions
- Next steps and adjournment
Questions from Workshop #1
Overall Goals

- Discuss assumptions for budget request
- Answer or gather questions from the Budget Committee
- Do not deliberate or make decisions
TVWD is in Transition

Suburban Water Provider Phase
- Serve customers water purchased under wholesale contracts
- Manage a complex transmission and distribution system
- Prepare for the WWSP Construction Phase

WWSP Construction Phase
- Serve customers water purchased under wholesale contracts
- Manage a complex transmission and distribution system
- Manage the construction of a $1.3 billion program
- Prepare for the Regional Operations Phase

Regional Operations Phase
- Serve customers water produced by WWSS/WIF
- Manage a complex transmission and distribution system
- Manage the newly created WIF and WWSS
But Uncertainty Persists

- Things you know
- Things you know you don’t know
- Things you don’t know you don’t know
- Things you thought you knew but didn’t
## Construction Risks Exists

<table>
<thead>
<tr>
<th>Estimate Class</th>
<th>Expected Accuracy Range</th>
<th>Level of Project Definition</th>
<th>Typical Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 5</td>
<td>Low: -20% to -50%</td>
<td>0% to 2%</td>
<td>Concept Screening</td>
</tr>
<tr>
<td></td>
<td>High: +30% to +100%</td>
<td></td>
<td></td>
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<tr>
<td>Class 4</td>
<td>Low: -15% to -30%</td>
<td>1% to 15%</td>
<td>Study or Feasibility</td>
</tr>
<tr>
<td></td>
<td>High: +20% to +50%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 3</td>
<td>Low: -10% to -20%</td>
<td>10% to 40%</td>
<td>Budget, Authorization, or Control</td>
</tr>
<tr>
<td></td>
<td>High: +10% to +30%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 2</td>
<td>Low: -5% to -15%</td>
<td>30% to 70%</td>
<td>Control or Bid/ Tender</td>
</tr>
<tr>
<td></td>
<td>High: +5% to +20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class 1</td>
<td>Low: -3% to -10%</td>
<td>50% to 100%</td>
<td>Check Estimate or Bid/Tender</td>
</tr>
<tr>
<td></td>
<td>High: +3% to +15%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: The Association for the Advancement of Cost Engineering (AACE) International Recommended Practice No. 18R-97.
## Priorities for the Coming Biennium

<table>
<thead>
<tr>
<th>Human Investment</th>
<th>Intergovernmental Relations</th>
<th>Business Intelligence</th>
<th>Efficiency Through Modernization</th>
<th>Current Initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Prepare employees to be successful in meeting the future requirements of the District.</td>
<td>• Improve relationships with local governments and neighboring utilities to solidify TVWD as a necessary and desired regional resource.</td>
<td>• Improve planning and the District’s ability to respond by developing actionable information from disparate sources of data.</td>
<td>• Improve the service levels provided to our customers and find long-term strategies to lower the cost of doing so.</td>
<td>• Successfully execute and complete the initiatives currently underway.</td>
</tr>
</tbody>
</table>
Update on Financial Performance and Strategy

2021-23 Biennial Budget Committee Workshop
District Financial Management Process

FY 2020
- 7.8 Billion Gallons of Water
- Over 6,000 water quality samples collected
- 630,000 Meter Reads
- 540,000 Bills/Notices Generated
- 752 Miles of Pipe Maintained
- 3,747 Fire Hydrants Maintained

Deliver
- Master Plan
- Customer Forecast
- Operations Plan
- Capital Improvement Plan
- Debt Plan
- Reserves and Fund Balances
- Revenue Requirements

Financial Plan
- Customer Forecast
- Operations Plan
- Capital Improvement Plan
- Debt Plan
- Reserves and Fund Balances
- Revenue Requirements

Rates
- Strategic Plan
- Financial Plan
- Capital Improvement Plan
- Resources and Requirements

Budget
- Revenue Requirements
- Customer Forecast
- Customer Classification
- Block Structure
- Conservation
- Fixed and Volume Charges
## Elements of Financial Performance

<table>
<thead>
<tr>
<th>Expenditures</th>
<th>Revenue</th>
<th>Cash Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Operating</td>
<td>• Water rates</td>
<td>• Collections</td>
</tr>
<tr>
<td>expenditures</td>
<td>and other operating</td>
<td>• Working capital</td>
</tr>
<tr>
<td>• Capital</td>
<td>revenue</td>
<td>• Capital reserves</td>
</tr>
<tr>
<td>expenditures</td>
<td>• SDCs</td>
<td></td>
</tr>
<tr>
<td>• Debt service</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Cumulative Operating Expenditures

Note: These graphs are based on unaudited estimates.
Cumulative Capital Expenditures

Note: These graphs are based on unaudited estimates.
Customer Demands Remain Soft
Comparison of Gallons Per Capita Per Day
Cumulative Water Sales Revenue

Note: These graphs are based on unaudited estimates.
Note: These graphs are based on unaudited estimates.
System Development Charge Revenue

Note: These graphs are based on unaudited estimates.
System Development Charge Revenue

Note: These graphs are based on unaudited estimates.
District’s Cash Position

Note: These graphs are based on unaudited estimates.
Improvements in Labor Market Slows

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Oregon</td>
<td>3.3</td>
<td>3.3</td>
<td>3.5</td>
<td>14.9</td>
<td>14.3</td>
<td>11.6</td>
<td>10.4</td>
<td>8.5</td>
<td>7.9</td>
<td>6.8</td>
<td>6.0</td>
<td>6.4</td>
<td>6.2</td>
<td>6.1</td>
</tr>
<tr>
<td>Ptld Metro</td>
<td>3.2</td>
<td>3.2</td>
<td>3.2</td>
<td>14.3</td>
<td>14.2</td>
<td>11.6</td>
<td>11.0</td>
<td>8.9</td>
<td>8.2</td>
<td>6.8</td>
<td>6.2</td>
<td>6.1</td>
<td>6.2</td>
<td>6.2</td>
</tr>
<tr>
<td>Washington County</td>
<td>2.7</td>
<td>2.7</td>
<td>2.8</td>
<td>12.2</td>
<td>12.2</td>
<td>9.9</td>
<td>9.2</td>
<td>7.3</td>
<td>6.6</td>
<td>5.8</td>
<td>5.1</td>
<td>5.4</td>
<td>5.6</td>
<td>5.4</td>
</tr>
</tbody>
</table>
Number of Customers in “Shutoff” Status

![Bar chart showing the number of customers in "Shutoff" status from April 20 to February 21. The numbers for each month are as follows: April 2020: 1,180, May 2020: 1,771, June 2020: 1,317, July 2020: 1,468, August 2020: 1,263, September 2020: 1,757, October 2020: 1,572, November 2020: 2,066, December 2020: 1,815, January 2021: 2,047, February 2021: 2,094.]
Accounts Receivable of Customers in “Shutoff” Status
Age of Accounts Receivable of Customers in “Shutoff” Status

![Graph showing the age of accounts receivable in days for each month from April 2020 to February 2021. The y-axis represents the age in days, ranging from 0 to 100, and the x-axis represents the months. The heights of the bars indicate the age of accounts receivable for each month.]

- April 2020: 51 days
- May 2020: 58 days
- June 2020: 63 days
- July 2020: 69 days
- August 2020: 67 days
- September 2020: 68 days
- October 2020: 72 days
- November 2020: 74 days
- December 2020: 80 days
- January 2021: 86 days
- February 2021: 90 days
Locations of Struggling Customers

Heat Map

- Based on District’s GIS
- Shows density of dollar balances of bills by location
- Areas of most concern are bluer in color
District’s Financial Performance 2021-23 Biennium

Key Findings

• Operating expenditures below budget
• Capital expenditures below budget
• Water sales revenue below projections
• System development charges exceed plan, but slowing
• Projected ending fund balances higher than forecast
• Remain debt free -- $50 million in WIFIA Loan available
• Starting 2021-23 biennium with manageable challenges
Water Rate Forecast

Financial Strategy

- Board considered several financial strategies with various levels of financial risk
- Board approved financial strategy that lowered overall financial risk and overall costs to customers
- Financial plan will be published in May

<table>
<thead>
<tr>
<th>Effective Date</th>
<th>Typical Bill</th>
<th>Change</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current (Nov 2020)</td>
<td>$56.33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nov 2021</td>
<td>$61.65</td>
<td>$5.32</td>
<td>9.4%</td>
</tr>
<tr>
<td>Nov 2022</td>
<td>$67.48</td>
<td>$5.83</td>
<td>9.5%</td>
</tr>
</tbody>
</table>

¹Single-family residential customer with 5/8-inch meter using 7 CCF per month
Budget Process and Highlights

Andrew Carlstrom
Manager, Customer Service
Oregon Local Budget Process

Requested Budget
- Management develops department-level requests

Proposed Budget
- Budget officer prepares Proposed Budget for Budget Committee Action

Approved Budget
- Budget Committee approves budget in for consideration for Adoption

Adopted Budget
- Board of Commissioners adopts budget and sets appropriations
Oregon Local Budget Appropriations Categories

Types of Appropriations

- Personnel Services
- Materials & Services
- Capital Outlay
- Special Payments
- Debt Service
- Interfund Transfers
- General Operating Contingency
Historical Budget Hierarchy

TVWD

Funds

Appropriations Categories

- Personnel Services
- Materials & Services
- Capital Outlay
- Special Payments
- Interfund Transfers
- General Operating Contingency
New Budget Hierarchy

TVWD

Funds

Appropriations Categories

Personnel Services  Materials & Services  Capital Outlay  Special Payments  Interfund Transfers  General Operating Contingency

Joint Ventures

Funds

Appropriations Categories

Materials & Services  Capital Outlay  Special Payments  General Operating Contingency
Budget Preparation Hierarchy

TVWD

Departments

Appropriations Categories

Personnel Services
Materials & Services
Capital Outlay
Special Payments
Interfund Transfers
General Operating Contingency

Joint Ventures

Funds

Appropriations Categories

Materials & Services
Capital Outlay
Special Payments
General Operating Contingency
Budget Updates

Personnel Services

• Increases in benefits costs have slowed
  ▪ Health insurance rates declined by 2.3% at last renewal
  ▪ PERS costs have been offset by:
    • Side account and match from Employer Incentive Fund
    • PERS reforms
    • Changing demographics
• Retirements
  ▪ Newer employees generally cost less than those retiring
  ▪ Often lower benefits costs
• Continue to verify assumptions
Questions and Answers
Customer Services
Customer Service Department

2021-23 Biennial Budget Committee Workshop
Customer Service

Customer Service Manager
1 FTE

- General Services
  2 FTE

- Customer Service & Utility Billing
  13 FTE &
  4 Limited Term (CIS)

- Field Customer Service
  14 FTE

- Communications
  3 FTE

Administrative Services

Customer Service
Engineering & Operations
Finance
Water Supply Program
Information Technology Services
Customer Service Operating Budget

- **Modernization**
  - Meter to cash transformation
  - CIS implementation
  - AMI strategy

- **Feedback**
  - Surveys initiative
  - Customer and employee feedback to inform decision making

- **Develop Staff**
  - Skills for transformation
  - Internal training capacity

![Expenditures Chart]

<table>
<thead>
<tr>
<th>Expenditures (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel Services</td>
</tr>
<tr>
<td>Materials &amp; Services</td>
</tr>
<tr>
<td>Capital Outlay</td>
</tr>
<tr>
<td>FTEs</td>
</tr>
</tbody>
</table>

- **Expenditures**
  - 15-17 Actual
  - 17-19 Actual
  - 19-21 Budget
  - 21-23 Proposed Budget

- **# of Employees**
  - 15-17 Actual
  - 17-19 Actual
  - 19-21 Budget
  - 21-23 Proposed Budget
## Requested Personnel Services

<table>
<thead>
<tr>
<th>Division</th>
<th>2019-21 Budget</th>
<th>Requested Budget</th>
<th>Change</th>
<th>Percent Change</th>
<th>Annualized Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Services</td>
<td>$1,005,351</td>
<td>$1,085,748</td>
<td>$80,397</td>
<td>8.0%</td>
<td>3.9%</td>
</tr>
<tr>
<td>Customer Service &amp; Utility Billing</td>
<td>3,435,492</td>
<td>3,389,110</td>
<td>(46,382)</td>
<td>-1.4%</td>
<td>-0.7%</td>
</tr>
<tr>
<td>Field Customer Service</td>
<td>3,618,604</td>
<td>3,567,646</td>
<td>(50,958)</td>
<td>-1.4%</td>
<td>-0.7%</td>
</tr>
<tr>
<td>Communications</td>
<td>986,237</td>
<td>996,059</td>
<td>9,822</td>
<td>1.0%</td>
<td>0.5%</td>
</tr>
<tr>
<td><strong>Department Totals</strong></td>
<td><strong>$9,045,684</strong></td>
<td><strong>$9,038,562</strong></td>
<td><strong>($7,122)</strong></td>
<td><strong>-0.1%</strong></td>
<td><strong>0.0%</strong></td>
</tr>
</tbody>
</table>
### Requested Materials & Services

<table>
<thead>
<tr>
<th>Division</th>
<th>2019-21 Budget</th>
<th>Requested Budget</th>
<th>Change</th>
<th>Percent Change</th>
<th>Annualized Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Services</td>
<td>$511,000</td>
<td>$586,591</td>
<td>$75,591</td>
<td>14.8%</td>
<td>7.1%</td>
</tr>
<tr>
<td>Customer Service &amp; Utility Billing</td>
<td>1,521,624</td>
<td>1,497,452</td>
<td>(24,172)</td>
<td>-1.6%</td>
<td>-0.8%</td>
</tr>
<tr>
<td>Field Customer Service</td>
<td>233,660</td>
<td>262,647</td>
<td>28,987</td>
<td>12.4%</td>
<td>6.0%</td>
</tr>
<tr>
<td>Communications</td>
<td>267,340</td>
<td>221,100</td>
<td>(46,240)</td>
<td>-17.3%</td>
<td>-9.1%</td>
</tr>
<tr>
<td><strong>Department Totals</strong></td>
<td><strong>$2,533,624</strong></td>
<td><strong>$2,567,790</strong></td>
<td><strong>$34,166</strong></td>
<td><strong>1.3%</strong></td>
<td><strong>0.7%</strong></td>
</tr>
</tbody>
</table>
No Capital Outlay Requested

<table>
<thead>
<tr>
<th>Division</th>
<th>2019-21 Budget</th>
<th>Requested Budget</th>
<th>Change</th>
<th>Percent Change</th>
<th>Annualized Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Services</td>
<td>$40,500</td>
<td>$0</td>
<td>($40,500)</td>
<td>-100.0%</td>
<td>-100.0%</td>
</tr>
<tr>
<td>Department Totals</td>
<td>$40,500</td>
<td>$0</td>
<td>($40,500)</td>
<td>-100.0%</td>
<td>-100.0%</td>
</tr>
</tbody>
</table>
# Customer Service Department Summary by Division

<table>
<thead>
<tr>
<th>Division</th>
<th>2019-21 Budget</th>
<th>Requested Budget</th>
<th>Change</th>
<th>Percent Change</th>
<th>Annualized Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Services</td>
<td>$1,556,851</td>
<td>$1,672,339</td>
<td>$115,488</td>
<td>7.4%</td>
<td>3.6%</td>
</tr>
<tr>
<td>Customer Service &amp; Utility Billing</td>
<td>4,957,116</td>
<td>4,886,562</td>
<td>(70,554)</td>
<td>-1.4%</td>
<td>-0.7%</td>
</tr>
<tr>
<td>Field Customer Service</td>
<td>3,852,264</td>
<td>3,830,293</td>
<td>(21,971)</td>
<td>-0.6%</td>
<td>-0.3%</td>
</tr>
<tr>
<td>Communications</td>
<td>1,253,577</td>
<td>1,217,159</td>
<td>(36,418)</td>
<td>-2.9%</td>
<td>-1.5%</td>
</tr>
<tr>
<td><strong>Department Totals</strong></td>
<td><strong>$11,619,808</strong></td>
<td><strong>$11,606,352</strong></td>
<td><strong>($13,456)</strong></td>
<td><strong>-0.1%</strong></td>
<td><strong>-0.1%</strong></td>
</tr>
</tbody>
</table>
### Customer Service Department Summary by Appropriation Category

<table>
<thead>
<tr>
<th>Appropriations Category</th>
<th>2019-21 Budget</th>
<th>Requested Budget</th>
<th>Change</th>
<th>Percent Change</th>
<th>Annualized Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel Services</td>
<td>$9,045,684</td>
<td>$9,038,562</td>
<td>($7,122)</td>
<td>-0.1%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Materials &amp; Services</td>
<td>2,533,624</td>
<td>2,567,790</td>
<td>34,166</td>
<td>1.3%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Capital Outlay</td>
<td>40,500</td>
<td>0</td>
<td>(40,500)</td>
<td>-100.0%</td>
<td>-100.0%</td>
</tr>
<tr>
<td><strong>Department Totals</strong></td>
<td><strong>$11,619,808</strong></td>
<td><strong>$11,606,352</strong></td>
<td><strong>($13,456)</strong></td>
<td><strong>-0.1%</strong></td>
<td><strong>-0.1%</strong></td>
</tr>
</tbody>
</table>
Update on Customer Information System Project

2021-23 Biennial Budget Committee Workshop
CIS & the Water Utility Meter to Cash Cycle

A CIS is an application providing utilities an integrated environment to perform functions of the meter to cash cycle.

Source: Water Research Foundation, Report #4583

Meter to Cash

- Manage Customer Account Data
- Read Meters
- Calculate Consumption & Manage Rates
- Prepare and Deliver Bills
- Process & Record Payments
- Manage Credit & Collections
- Conduct General Ledger & Revenue Analysis
CIS Project Summary

• Partnership project between District and Clean Water Services
  – “The Partners” are sharing CIS costs, decision-making, and ownership
  – Foundation of modernizing meter-to-cash operations
  – Essential for future improvements including AMI
• The Partners completed a rigorous CIS selection/contracting processes
  – The new CIS provider is Open International
  – Open’s product is called “SmartFlex”
  – Go-live scope includes CIS, batch processing, customer portal
• The Partners are now implementing the solution
  – The implementation schedule is fast – aggressive schedule
  – Go-live is currently projected for Q1 2022
• Configuration, not customization!
  – The Partners are committed to changing processes, not the system
## CIS Project Cost Estimate

<table>
<thead>
<tr>
<th>Component</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td><strong>Phase 1: Selection</strong></td>
<td>$9.5 million</td>
</tr>
<tr>
<td>- Professional services:</td>
<td></td>
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<tr>
<td>requirements development,</td>
<td></td>
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<tr>
<td>needs assessment, CIS</td>
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<tr>
<td>vendor/product selection,</td>
<td></td>
</tr>
<tr>
<td>contract negotiation, legal</td>
<td></td>
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<tr>
<td><strong>Phase 2: Implementation</strong></td>
<td>$9.5 million</td>
</tr>
<tr>
<td>- Software, professional</td>
<td></td>
</tr>
<tr>
<td>services</td>
<td></td>
</tr>
<tr>
<td>- Professional services:</td>
<td></td>
</tr>
<tr>
<td>project management,</td>
<td></td>
</tr>
<tr>
<td>implementation, data</td>
<td></td>
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<tr>
<td>conversion and integration,</td>
<td></td>
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<tr>
<td>testing, training</td>
<td></td>
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<tr>
<td>- Internal project Labor</td>
<td></td>
</tr>
<tr>
<td>- Contingency</td>
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</tbody>
</table>
CIS Project Lifecycle: 2018 - 2022

1. Initiation
   • Needs assessment
   • TVWD/CWS partnership
   • Budget resources

2. Selection Phase
   • CIS vendor selection
   • Contract negotiation
   • Transition to implementation

3. Implementation Phase
   • Planning, design,
     construction, testing,
     training, go-live,
     stabilization

4. Ongoing Operations & Continuous Improvement
   • Operations under new CIS
   • Continue implementing improvement roadmap
### Why CIS? Key Project Objectives

1. Address current and projected business needs
2. Provide improved system reliability
3. Increase customer satisfaction
4. Improve supportability through:
   - Minimizing new system customization
   - Regular, vendor-provided technology updates
   - Complete legacy platform retirement
5. Provide greater integration with key business systems
6. Manage risk through:
   - Better controls
   - Data management, including customer information
   - Vendor support
7. Provide a sustainable, predictable support cost model
CIS Triple Constraint: Scope-Schedule-Budget

• Established Project Go-Live Scope
  – CIS, batch processing, customer self-service portal
  – Foundation of modernizing meter-to-cash operations

• Established Project Schedule
  – 14.5-month implementation to go-live
  – 4-month post go-live stabilization period

• Established Project Budget
  – $9.5 million: implementation, third-party services, staff labor
  – Costs shared between Partners per intergovernmental agreement

Due to COVID-19, CIS project implementation phase activity to date has been conducted entirely in a virtual environment.
Advanced Metering Infrastructure (AMI)

2021-23 Biennial Budget Committee Workshop
What is Advanced Metering Infrastructure, or AMI?

• AMI is a system that collects time-differentiated consumption information.

• Rather than collecting one/two readings per month, an AMI system (with “smart meters”) is configurable to take meter data multiple times per day.

• Some of the benefits of an AMI system include:
  • Improved consumption information to customers
  • Automating the meter reading process
  • Reduced estimated reads
  • Reduced truck rolls to investigate reads
  • Improved leak detection
  • Reduced theft
  • System water loss and distribution information

Sources: Water Research Foundation, Report #4583, TVWD AMI Business Case
<table>
<thead>
<tr>
<th>TVWD AMI Initiative</th>
</tr>
</thead>
<tbody>
<tr>
<td>• AMI will be an integral component of modernizing TVWD’s meter to cash cycle.</td>
</tr>
<tr>
<td>• The purpose of the AMI initiative is to provide innovative AMI technologies that support the needs and expectations of TVWD customers and operations.</td>
</tr>
<tr>
<td>• The new CIS is an integrated solution with AMI-required meter data management functionality built into the product.</td>
</tr>
<tr>
<td>• AMI is one path for TVWD to achieve implementation of monthly billing, a key recommendation of the Rate Advisory Committee.</td>
</tr>
</tbody>
</table>
**TVWD AMI Initiative (continued)**

- An AMI implementation is a large project and a multiyear effort.
  - The 2021 – 2023 includes funds for starting the project through development of the District’s AMI strategy: $200,000
  - Total project implementation cost estimate to be presented to Board after strategy development.
  - TVWD will pursue partnerships and external funding opportunities for AMI.
  - Like CIS, the AMI initiative will be a multidisciplinary effort within TVWD.
Surveys

2021-23 Biennial Budget Committee Workshop
The TVWD Surveys Initiative

• **Useful feedback is necessary to:**
  • Measure and understand the TVWD customer experience (Cx).
  • Measure and understand the TVWD employee experience (Ex).
  • Provide trend data for District decision making.

• **The surveys initiative in the 2021 – 2023 budget:**
  • Includes funds to be used for consultant and software in designing, delivering, and interpreting external and internal surveys.

• **TVWD will use external expertise as well as develop internal staff capacity.**
  • The Communications division will lead the surveys initiative, working with other District departments.
Questions and Answers
Engineering and Operations

TVWD crews working on a main replacement project.
Engineering and Operations Department

Carrie Pak, P.E.
Chief Engineer
Engineering and Operations Operating Budget

- Continue delivering high-quality water
- Asset Management Program
- WWSS Readiness
- Staff Development
  - Two new staff
    - SCADA Staff
    - Water Works Operator
## Requested Personnel Services

<table>
<thead>
<tr>
<th>Division</th>
<th>2019-21 Budget</th>
<th>Requested Budget</th>
<th>Change</th>
<th>Percent Change</th>
<th>Annualized Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Services</td>
<td>$558,748</td>
<td>$572,291</td>
<td>$13,543</td>
<td>2.4%</td>
<td>1.2%</td>
</tr>
<tr>
<td>System Operations</td>
<td>5,272,462</td>
<td>5,789,431</td>
<td>516,969</td>
<td>9.8%</td>
<td>4.8%</td>
</tr>
<tr>
<td>Engineering</td>
<td>3,543,785</td>
<td>3,142,702</td>
<td>(401,083)</td>
<td>-11.3%</td>
<td>-5.8%</td>
</tr>
<tr>
<td>Water Resources</td>
<td>1,648,222</td>
<td>1,519,250</td>
<td>(128,972)</td>
<td>-7.8%</td>
<td>-4.0%</td>
</tr>
<tr>
<td>Asset Management</td>
<td>2,488,632</td>
<td>2,504,878</td>
<td>16,246</td>
<td>0.7%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Water Operations</td>
<td>535,207</td>
<td>573,517</td>
<td>38,310</td>
<td>7.2%</td>
<td>3.5%</td>
</tr>
<tr>
<td>Construction &amp; Maint.</td>
<td>4,160,366</td>
<td>4,156,152</td>
<td>(4,214)</td>
<td>-0.1%</td>
<td>-0.1%</td>
</tr>
<tr>
<td><strong>Department Totals</strong></td>
<td><strong>$18,207,422</strong></td>
<td><strong>$18,258,221</strong></td>
<td><strong>$50,799</strong></td>
<td><strong>0.3%</strong></td>
<td><strong>0.1%</strong></td>
</tr>
</tbody>
</table>
## Requested Materials & Services

<table>
<thead>
<tr>
<th>Division</th>
<th>2019-21 Budget</th>
<th>Requested Budget</th>
<th>Change</th>
<th>Percent Change</th>
<th>Annualized Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Services</td>
<td>$1,117,970</td>
<td>$2,029,246</td>
<td>$911,276</td>
<td>81.5%</td>
<td>34.7%</td>
</tr>
<tr>
<td>System Operations</td>
<td>990,900</td>
<td>965,150</td>
<td>(25,750)</td>
<td>-2.6%</td>
<td>-1.3%</td>
</tr>
<tr>
<td>Engineering</td>
<td>9,500</td>
<td>15,500</td>
<td>6,000</td>
<td>63.2%</td>
<td>27.7%</td>
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<tr>
<td>Water Resources</td>
<td>1,117,323</td>
<td>1,363,301</td>
<td>245,978</td>
<td>22.0%</td>
<td>10.5%</td>
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<tr>
<td>Asset Management</td>
<td>2,287,080</td>
<td>2,372,248</td>
<td>85,168</td>
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<td>1.8%</td>
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<tr>
<td>Water Operations</td>
<td>191,000</td>
<td>181,500</td>
<td>(9,500)</td>
<td>-5.0%</td>
<td>-2.5%</td>
</tr>
<tr>
<td>Construction &amp; Maint.</td>
<td>1,062,800</td>
<td>1,421,000</td>
<td>358,200</td>
<td>33.7%</td>
<td>15.6%</td>
</tr>
<tr>
<td><strong>Department Totals</strong></td>
<td><strong>$6,776,573</strong></td>
<td><strong>$8,347,945</strong></td>
<td><strong>$1,571,372</strong></td>
<td><strong>23.2%</strong></td>
<td><strong>11.0%</strong></td>
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</tbody>
</table>
### Requested Capital Outlay

<table>
<thead>
<tr>
<th>Division</th>
<th>Budget</th>
<th>Budget</th>
<th>Change</th>
<th>Change</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Services</td>
<td>$40,600</td>
<td>$73,500</td>
<td>$32,900</td>
<td>81.0%</td>
<td>34.5%</td>
</tr>
<tr>
<td>Department Totals</td>
<td>$40,600</td>
<td>$73,500</td>
<td>$32,900</td>
<td>81.0%</td>
<td>34.5%</td>
</tr>
</tbody>
</table>
### Engineering and Operations Department Summary by Division

<table>
<thead>
<tr>
<th>Division</th>
<th>2019-21 Budget</th>
<th>Requested Budget</th>
<th>Change</th>
<th>Percent Change</th>
<th>Annualized Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Services</td>
<td>$1,717,318</td>
<td>$2,734,872</td>
<td>$1,017,554</td>
<td>59.3%</td>
<td>26.2%</td>
</tr>
<tr>
<td>System Operations</td>
<td>6,263,362</td>
<td>6,744,581</td>
<td>481,219</td>
<td>7.7%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Engineering</td>
<td>3,553,285</td>
<td>3,158,202</td>
<td>(395,083)</td>
<td>-11.1%</td>
<td>-5.7%</td>
</tr>
<tr>
<td>Water Resources</td>
<td>2,765,545</td>
<td>2,882,551</td>
<td>117,006</td>
<td>4.2%</td>
<td>2.1%</td>
</tr>
<tr>
<td>Asset Management</td>
<td>4,775,712</td>
<td>4,929,124</td>
<td>153,412</td>
<td>3.2%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Water Operations</td>
<td>726,207</td>
<td>755,017</td>
<td>28,810</td>
<td>4.0%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Construction &amp; Maint.</td>
<td>5,223,166</td>
<td>5,577,152</td>
<td>353,986</td>
<td>6.8%</td>
<td>3.3%</td>
</tr>
<tr>
<td><strong>Department Totals</strong></td>
<td><strong>$25,024,595</strong></td>
<td><strong>$26,781,499</strong></td>
<td><strong>$1,756,904</strong></td>
<td><strong>7.0%</strong></td>
<td><strong>3.5%</strong></td>
</tr>
</tbody>
</table>
# Engineering and Operations Department Summary by Appropriation Category

<table>
<thead>
<tr>
<th>Appropriations Category</th>
<th>2019-21 Budget</th>
<th>Requested Budget</th>
<th>Change</th>
<th>Percent Change</th>
<th>Annualized Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel Services</td>
<td>$18,207,422</td>
<td>$18,258,221</td>
<td>$50,799</td>
<td>0.3%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Materials &amp; Services</td>
<td>6,776,573</td>
<td>8,399,778</td>
<td>1,623,205</td>
<td>24.0%</td>
<td>11.3%</td>
</tr>
<tr>
<td>Capital Outlay</td>
<td>40,600</td>
<td>123,500</td>
<td>82,900</td>
<td>204.2%</td>
<td>74.4%</td>
</tr>
<tr>
<td><strong>Department Totals</strong></td>
<td><strong>$25,024,595</strong></td>
<td><strong>$26,781,499</strong></td>
<td><strong>$1,756,904</strong></td>
<td><strong>7.0%</strong></td>
<td><strong>3.5%</strong></td>
</tr>
</tbody>
</table>
Capital Improvement Program

Objectives:
• Capacity improvements
• Replacement
  • Condition assessment
  • Age
  • Resiliency
• Relocation – Agency Driven
Water Distribution System Assets

- 752 miles of pipe (2 to 54 inches)
- 41 pressure zones serving elevations from 150 ft. to 990 ft.
- 12 pump stations, over 55 pressure regulating facilities
- 23 active storage reservoirs
- 1 aquifer storage and recovery (ASR) facility with capacity of 300 MG
- 1 electrical generator station
- Over 150 water quality sampling stations
CIP Process

• Water Master Plan
• SCADA Master Plan
• Asset Management Plan
• Operations and Maintenance Staff
• Other Agencies
CIP Fact Sheet Anatomy

**PROJECT INFORMATION**

- **Project Category:** Storage
- **Project Manager:** Andrew Barrett
- **Work Performed By:** Outside Contract
- **Total Priority Score:** 30

**FUNDING SOURCES**

- Water Rates: Yes
- Service Fees: No
- SDC Improvement, Fee Elig.: 0%
- Partner Cost Percentage: 0%

**FUTURE OPERATING COST IMPACT**

- No anticipated impact on District operating costs. This project replaces existing infrastructure. Near-term operating costs are anticipated to be reduced.

**BUDGET INFORMATION & PROJECTED COSTS**

- **FY 17-19 Budget:** 10,915,898
- **FY 17-19 Projected:** 14,614,782
- **FY 19-20 Budget:** 362,500
- **FY 19-20 Projected:** -
- **FY 20-21 Budget:** -
- **FY 20-21 Projected:** -
- **FY 21-22 Projected:** -
- **FY 22-23 Projected:** -
- **Six-Year (FY2020-25):** 362,500
- **Future Years (FY2026-48):** -

---

**PROJECT DESCRIPTION**

This project involves the demolition of the existing 5 MG concrete reservoir, then design and construction of a 5 MG prestressed concrete reservoir within the footprint of the existing reservoir. Onsite piping and valves will also be replaced.

---

**KEY DRIVERS FOR CIP PROJECT**

1. **Project Urgency:** This project is on-going and nearing completion. The budget accounts for items associated with final completion of the project.
2. **Asset Condition:** The existing reservoir was in disrepair and at the end of its useful life.
3. **Reliability:** Improvements required to maintain reliable and aesthetically resilient facilities.

---

**PROJECT INFORMATION**

- **Project Category:** Storage
- **Project Manager:** Andrew Barrett
- **Work Performed By:** Outside Contract
- **Total Priority Score:** 30
- **Partner Cost Percentage:** 0%

**FUNDING SOURCES**

- Water Rates: Yes
- Service Fees: No
- SDC Improvement, Fee Elig.: 0%

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- **FY 19-20 Projected:** -
- **FY 20-21 Budget:** -
- **FY 20-21 Projected:** -
- **FY 21-22 Projected:** -
- **FY 22-23 Projected:** -
- **Six-Year (FY2020-25):** 362,500
- **Future Years (FY2026-48):** -
CIP Prioritization

- **Timing:**
  - Sensitivity to time commitments
  - External demands, growth, condition, or other 3rd party
  - No points assigned, based on year needed

- **Customer Criticality:**
  - Level of importance based on cost per customer benefit
  - Points: 1-3, 5

- **Water Quality:**
  - Adherence to water quality and regulatory requirements
  - Points: 1-3, 5

- **Asset Condition & Risk:**
  - Probability of failure, consequence of failure. Related to known condition
  - Points: 1,3,5,10
# CIP Prioritization

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reliability:</strong></td>
<td>Seismic resiliency, reliability of service, and redundancy</td>
<td>1-4</td>
</tr>
<tr>
<td><strong>Safety &amp; Security (including fireflow):</strong></td>
<td>Fire protection, facility security, worker and public safety</td>
<td>1-5</td>
</tr>
<tr>
<td><strong>Cost Effectiveness / Community Benefit:</strong></td>
<td>Delay of other projects, partnership opportunity, other benefits or savings</td>
<td>1, 3, 5</td>
</tr>
<tr>
<td><strong>Environment:</strong></td>
<td>Mitigation of impacts to natural environment</td>
<td>1-4</td>
</tr>
</tbody>
</table>
Criticality Ratings

Green
• great structural and mechanical conditions

Yellow
• some repairs needed; seismically and operationally vulnerable

Red
• major help needed now
Rating: Green

Reservoirs:
- Springville 1 & 2
- Bonny Slope Park 1 & 2
- Cooper Mountain 1 & 2
- Teufel
- Ridgewood View
- Grabhorn
- Garden Home
- Schell

Pump Stations:
- Teufel
- Bethany
- Thompson
- Ridgewood View
- Grabhorn ASR
Rating: Yellow

**Reservoirs:**
- Inglewood
- Sunset
- Thompson
- Florence Lane 1
- Florence Lane 2
- North Road*
- 189th Reservoir*
- Rosander

**Pump Stations:**
- Sunset
- Cooper Mtn
- Goyak
- 189th
- Florence Lane

*have recovery plan for emergencies*
Rating: Red

Reservoirs:
• Taylors Ferry No 1
• Taylors Ferry No 2
• Goyak*
• Somerset

Pump Stations:
• Viewmont
• Catlin Crest
• Inglewood

*have recovery plan for emergencies
Taylors Ferry Reservoir

- Located in Metzger
- Built in ~1948 and 1975
- Serves 498 pressure zone
- Replace with 2-1.75 MG prestressed tanks
- Storage
- New on-site piping
Farmington Fluoride and Flow Control Facility

- Located in Cooper Mtn Area
- Scope change
- WWSP intertie with a 6.5 MGD initial flow-through capacity; 17 MGD ultimate capacity
- Fluoride injection
- Flow control; future pump station
Somerset Reservoir

- Only storage in 1045 pressure zone
- Constructed in 1963
- Needs coating and safety improvements
- Complete seismic failure expected
- Capacity of 0.175 MG
- Additional future storage recommended in the long-term planning horizon
Metzger N-S Fire Flow Improvement

• Serves Tigard Triangle Area
• Successfully installed 10,000 feet of 12-inch and 16-inch pipe
• Trenchless crossing
• Steep terrain
• Liquifiable soil
Project Categories

- Source: WWSS, WIF, JWC
- Source: TVWD
- Storage
- Pump Stations
- Pipelines
  - Mains replacements
  - Fireflow improvements
  - Miscellaneous and Agency-driven
- Pipelines – Valves and Vaults
- Facilities, Fleet Replacements, Information Technology
- Meters and Services
## 2021-23 Biennium CIP Summary

<table>
<thead>
<tr>
<th>Category/Description</th>
<th>2021-2023 Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>$7.8</td>
</tr>
<tr>
<td>Storage</td>
<td>8.4</td>
</tr>
<tr>
<td>Pump Stations</td>
<td>2.0</td>
</tr>
<tr>
<td>Pipelines</td>
<td></td>
</tr>
<tr>
<td>Agency-Driven Pipeline Upgrades &amp; Renewals</td>
<td>7.0</td>
</tr>
<tr>
<td>Metzger Pipeline East (WWSP)</td>
<td>82.7</td>
</tr>
<tr>
<td>All Other Pipelines</td>
<td>10.0</td>
</tr>
<tr>
<td>Valves and Vaults</td>
<td>2.0</td>
</tr>
<tr>
<td>Facilities</td>
<td>1.8</td>
</tr>
<tr>
<td>Fleet Replacements</td>
<td>1.5</td>
</tr>
<tr>
<td>CIS</td>
<td>6.6</td>
</tr>
<tr>
<td>Meters &amp; Services</td>
<td>3.6</td>
</tr>
<tr>
<td><strong>Biennial Total</strong></td>
<td><strong>$133.5</strong></td>
</tr>
</tbody>
</table>

*Note: Values in millions.*
## Storage and Pumping Highlights – 2021-23

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmington Fluoride &amp; Flow Control Facility</td>
<td>15-13</td>
</tr>
<tr>
<td>Taylors Ferry Reservoir Replacements</td>
<td>15-15</td>
</tr>
<tr>
<td>Florence Lane Reservoir Coatings &amp; Cathodic Improvements</td>
<td>15-18</td>
</tr>
<tr>
<td>Somerset Reservoir Modifications</td>
<td>15-20</td>
</tr>
<tr>
<td>Taylors Ferry Booster Pump Station design</td>
<td>15-28</td>
</tr>
<tr>
<td>Pump Replacement Program</td>
<td>15-31</td>
</tr>
</tbody>
</table>
Pipeline Highlights - 2021-23

- Small-diameter mains  
  - Page 15-32

- Agency-driven replacements  
  - Page 15-44 to 15-50

- Fire Flow Improvements  
  - Pages 15-52 to 15-55, and 15-57

- Metzger Pipeline East  
  - Pages 15-61 to 15-63

Percent of Breaks by Type (1999 – 2016)

- Shear: 72%
- Corrosion: 16%
- Other: 12%

Corroded Pipe at the Lincoln Center – Replaced in 2016
Other CIP items

- Vaults and PRV valves (Page 15-66 to 15-69)
- Facilities, Fleet (Pages 15-71 to 15-79)
- Customer Information Service (Page 15-80)
- Meters and services (15-81 to 15-82)
## Six-Year CIP Summary

<table>
<thead>
<tr>
<th>Category/Description</th>
<th>6-year Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>$10.0</td>
</tr>
<tr>
<td>Storage</td>
<td>16.4</td>
</tr>
<tr>
<td>Pump Stations</td>
<td>13.6</td>
</tr>
<tr>
<td><strong>Pipelines</strong></td>
<td></td>
</tr>
<tr>
<td>Agency-Driven Pipelines</td>
<td>12.4</td>
</tr>
<tr>
<td>Metzger Pipeline East (WWSP)</td>
<td>115.1</td>
</tr>
<tr>
<td>All Other Pipelines</td>
<td>47.1</td>
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<tr>
<td>Valves and Vaults</td>
<td>3.9</td>
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<tr>
<td><strong>Facilities</strong></td>
<td></td>
</tr>
<tr>
<td>Fleet Replacements</td>
<td>4.3</td>
</tr>
<tr>
<td><strong>CIS</strong></td>
<td>6.6</td>
</tr>
<tr>
<td><strong>Meters &amp; Services</strong></td>
<td>11.7</td>
</tr>
<tr>
<td><strong>6-year Total CIP</strong></td>
<td><strong>$242.8</strong></td>
</tr>
</tbody>
</table>

*Note: Values in millions.*
Six-Year CIP Project Highlights

• Source Projects
  • Metzger Supply Improvements for WWSS  Page 15-7
  • Booster Chlorination  Page 15-12

• Storage Projects
  • Goyak Reservoir Seismic:  Page 15-14
  • Rosander 2 Reservoir  Page 15-17

• Pipelines
  • Mains replacement, agency-driven, development-driven  Pages 15-32 to 15-49
  • Fireflow improvements  Pages 15-52 to 15-57
Questions and Answers
Water Supply
Water Supply Program Department

Dave Kraska, P.E.
WWSP Program Director
Water Supply Program Department Operating Budget

- Complete design work and related activities
- Initiate and advance 16 construction projects
- Continue planning for operations and system integration
## Water Supply Program Department Summary by Appropriation Category

<table>
<thead>
<tr>
<th>Appropriations Category</th>
<th>2019-21 Budget</th>
<th>Requested Budget</th>
<th>Change</th>
<th>Percent Change</th>
<th>Annualized Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel Services</td>
<td>$4,798,806</td>
<td>$4,007,052</td>
<td>($791,754)</td>
<td>-16.5%</td>
<td>-8.6%</td>
</tr>
<tr>
<td>Materials &amp; Services</td>
<td>72,095</td>
<td>76,990</td>
<td>4,895</td>
<td>6.8%</td>
<td>3.3%</td>
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<tr>
<td>Capital Outlay</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Department Totals</strong></td>
<td><strong>$4,870,901</strong></td>
<td><strong>$4,084,042</strong></td>
<td><strong>($786,859)</strong></td>
<td><strong>-16.2%</strong></td>
<td><strong>-8.4%</strong></td>
</tr>
</tbody>
</table>
Budget Summary Presentation Outline

Presented on March 23
• Water Supply Program (Department 60)
  • TVWD staff involved in delivering the WIF and the WWSS

Tonight’s presentation:
• Willamette Intake Facilities (Fund 44)
  • Overview and status
  • Planned activities and budget for next biennium
• Willamette Water Supply System (Fund 45)
  • Overview and status
  • Planned activities and budget for next biennium
Willamette Water Supply Program Mission

Provide a cost-effective, reliable, and resilient water supply system by July 2026, that benefits current and future generations of the communities we serve and supports a vibrant local economy.
WIF/WWSS Overview

1. Willamette River intake, located in Wilsonville
2. New state-of-the-art water treatment plant
3. 30+ miles of large diameter transmission pipeline
4. Water storage tanks
Capital Spend Will Dramatically Increase in the Next Few Years

$1 billion in work left to deliver

Influencers
- Demand on WWSS partner agency staff and resources
  - WCLUT
  - PGE
- Reliance on regional partners for delivering projects
- Effects on stakeholders
  - Ratepayers
  - Property owners and businesses
  - Motorists, pedestrians, and cyclists
- Challenging economic climate
  - Competition for regional construction resources
  - COVID-19
- Need for jurisdictional approvals and properties
  - Many permits and approvals remain
  - Dozens of easements remain
  - Risk of opportunistic behaviors
- Environment of continual change
**WWSS & WIF Costs and Schedule (Baseline) are Updated Annually**

**Why adopt a Baseline and when?**
- Board to adopt a capital improvement plan (IGA Section 5 & 8)
- Component of WWSS Financial Procedures (IGA Exhibit 6)
- Part of WWSS governance (WWSS MAM)
- Updated annually and modified if needed

**How is it used?**
- Planning and managing work
- Establishing fiscal year budgets
- Detecting potential changes or variances
- Input to risk analysis and management
- Reporting to Board, Partners, WIFIA, and public
- Input to financial forecasting by Partners
Approach to Annual Baseline Preparation and Review

December

- WWSP Prepares Initial Draft

Partners/WWSS Committees

- Review

WWSP Addresses Comments; Prepares Updated Draft

March

- Management Committee Considers Recommendation to WWSS Board

April

- WWSS Board Considers Adoption

- Revenues suffering pandemic-related challenges
- Costs have increased since Baseline 5.2
- Acknowledge that all design done within one year
  - Last opportunity to make changes before everything is in construction
  - Substantial risk of cost escalation remains
**Managing Cost & Schedule Risk Related to Baseline 6.1**

- Identified and evaluated a range of options to reduce spend on the WWSP through 2026 by between $30 million and $170 million.
- Balanced maintaining the mission of the WWSP with the current realities.
- Agreed on a limited number of changes to reduce spend through 2026 by about $50 million, while still delivering water by June 2026:
  - Defer one reservoir
  - Defer most of PLW_2.0
  - Completing the fiber-optic communications network north of the WTP
  - Minor WTP components
  - Staff positions
WILLAMETTE INTAKE FACILITIES
Co-located with the Willamette River Water Treatment Plant
Willamette Intake Facilities
Willamette Intake Facilities Components

WWSS Electrical Improvements
WRWTP Pumps Electrical, SCADA, and I&C Equipment
Air Burst System

Existing Grade
Existing Pump Station Building
Caisson
WWSS Pumps and Revised Mechanical Equipment

76" Intake Pipe
Intake Bollards
Intake Screen Protection

LEGEND
- Willamette Intake Facilities (WIF)
- Willamette Water Supply System (WWSS)
- Willamette River Water Treatment Plant (WRWTP)
Fish Screens
Raw Water Pump Station Structure
Air Burst System

Compressors

Receiver Tank

Air Burst Valves
WIF-Related Elements of the WWSP’s RWF_1.0 Project

- **WIF Elements**
  - Raw Water Pipeline and Electrical Duct Bank
  - Standby Power, Surge Control, and Upper Site Electrical Building
  - Air Burst System Improvements
  - New Fish Screens
  - Seismic Improvement for Caisson and Pump Building

- **WWSS Elements**
  - Mechanical Pump Station Upgrades

North
Construction Cost Estimate Update

<table>
<thead>
<tr>
<th>Total Project Budget</th>
<th>Estimated WIF Share</th>
<th>Estimated WWSS Share</th>
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<tbody>
<tr>
<td>$108,766,499</td>
<td>$11,009,417</td>
<td>$97,757,082</td>
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Note: Total project budget estimate does not include permitting and other allocated system-wide costs
RWF_1.0 Project Schedule

• Design Phase:
  • Complete

• Construction Phase 1
  • Mostly below-ground work
  • Started Q2 2020
  • Ends Q1 2022

• Construction Phase 2
  • Above-ground construction and equipping
  • Starts Q3 2022
Completed Construction Elements (Q1 2021)

Mass Excavation

Upper Site CFA Piles
Current Activities (Q1 2021)
Ground Improvements

Batch Plant

Jet Grout

Deep Soil Mixing
Current Activities (Q1 2021)
Ground Improvement Spoils Handling
Current Activities (Q1 2021) Upper Site

- Trenchless crossing launching and receiving shafts
- Foundation for air burst receiver tank
- Coordination for the raw water pump station seismic retrofit improvements
2021-23 WIF BIENNIIUM
BUDGET ACTIVITIES
WIF-related Elements of the RWF_1.0 Project 21 – 23 Biennium

Construction Phase 1
• Starts Q2 2020
• Ends Q1 2022
• Ground stabilization
• Intake screens replacement
• Pump station seismic retrofit

Construction Phase 2
• Starts Q3 2022
• Ends Q4 2024
• Air-burst system improvements
• Building mechanical improvements
WIF Requested Capital Outlay 2021-23 Biennium

<table>
<thead>
<tr>
<th>Resources</th>
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<tbody>
<tr>
<td>TVWD</td>
<td>$3,131,620</td>
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<tr>
<td>Other Partners</td>
<td>3,402,116</td>
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Note: Requested capital outlay includes budget for allocated system-wide costs
WILLAMETTE WATER SUPPLY SYSTEM
WWSP Map

As found on the front page of:

www.OurReliableWater.org
# Project Delivery Progress – Spring 2019

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<thead>
<tr>
<th>Work Package</th>
<th>Design</th>
<th>Construction</th>
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<td>Conceptual/Preliminary</td>
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<td>PLM_1.1</td>
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<tr>
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Complete: Work package is complete. 
Active Work: Work package is currently active.
# Project Delivery Progress – Spring 2021

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WWSP Schedule

As found on the front page of:

www.OurReliableWater.org
2021-23 WWSS BIENNIIUM BUDGET ACTIVITIES
FY 2021 - 23
WWSS Work Planned for FY 2021-23

- Complete design of 7 projects
- Advance construction of 16 projects
- Continued program management
  - WIFIA compliance and loan programs
  - Safety program
  - Communications and outreach program
  - Development of financial procedures
- Continued acquisitions
  - Real estate
  - Permits and land use approvals
- Plan
  - Water supply integration
  - Commissioning and start-up
  - Operations
## WWSS Requested Capital Outlay 2021-23 Biennium

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## WWSP Summary

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Supporting Our Economy

• Business Utilization: Recent Activities
  • 94% of spend for WWSS is benefitting the local economy
  • 69 additional local businesses were accounted for from Q3 to Q4 reporting
  • Finalized 2020 Q4 utilization statistics
  • Publishing Semi-annual Business Utilization Report

Data through Q4 2020
Questions and Answers
Next Steps

• Future Workshops and Meetings
  • Workshop #3: April 22, 2021
  • Budget Committee Meeting and Public Hearing: May 25, 2021

• Questions for the Team