Environmental Services Commission
Policy clarification for High Pressure at Customer Points of Use

What we need from you
- Discussion and recommendation on policy guidance

Doug Lane
September 6, 2018

Elevation and Pressure
- Bellevue has 69 Different Pressure zones
- Pressure varies with elevation inside each zone

30 PSI Minimum
80 psi

HIGH ELEVATION LOW PRESSURE

LOW ELEVATION HIGH PRESSURE

RESERVOIR or WATER SOURCE

PRV
System-Wide

Pressure exceeds 80 psi for:

- 44% of land area
- 38% of population (56,200/148,000)
- 35% of meters (14,300/40,800)

Pressure exceeds 100 psi at about 9% of meters (3,500/40,800)

SA270 Pressure & Flow

Problem in SA270 Zone:

- Very Low Fire Flow
- Low Pressure at Higher Elevations
- Multi-Jurisdictional (Issaquah)

Solution:

- South Cove PRV (Completed by Issaquah)
- Replace W Lake Samm AC Main (in Design)
- Add Individual PRVs
- Raise Pressure
Project Vicinity Map

SA270 zone pressure increase
Three customer categories:
- Already over 80 psi
- Will be > 80 psi after increase
- Below 80 psi after increase

Current Law and Policy

**Law:**
- Minimum 30 psi (20 psi in emergencies) in public mains
- No regulatory maximum pressure in public mains
- Universal Plumbing Code (UPC) requires buildings be equipped with a PRV when pressure exceeds 80 psi.

**City Policy:**
- Minimum 30 psi (20 psi in emergencies)
- Homeowner is explicitly responsible for all aspects of individual PRVs, including “development” (construction):
  - “Property owners shall be responsible for development, maintenance, and repair of... pressure reducing valves, pumps, and backflow prevention assemblies on the customer side of the meter.”
- Neither Code nor Policy allow utility to build or install private assets. Code only allows utility to acquire private assets.
**Current Practice**

*When Pressure Exceeds 80 psi:*

- **Development / Re-Development:** Property owner installs and owns PRVs (no Utilities Dept. involvement).

- **City-Initiated (System Change):** Utilities installs private PRVs in a vault on the customer side of the meter, and then transfers ownership to the property owner. 1-year warranty
  
  - **Why?**
    - Saves Cost (vs. other alternatives)
    - Controls project implementation
    - Limits liability
    - Good customer service

**Proposed Policy**

“Private property owners are solely responsible for compliance with the Uniform Plumbing Code, including installation, operation, maintenance and ownership of individual service line pressure-reducing valves. In special cases where it is mutually-beneficial to facilitate public system improvements, the Utility may choose to furnish individual PRVs for the property owner to own and maintain.”

(See memo for further explanatory text)
Recommendation

Requesting:
- Discussion of draft policy language (attached to memo)
- Approval of language or direction for modification

What happens next?
- Incorporate into current and future projects
- Public outreach
- Incorporate into next Water System Plan
Agenda

January – May: 2019 – 2025 CIP Budget Review

June 7: 2019-2020 Operating Budget Review

June 21:
• Rate Review
• ESC Budget Proposal Recommendation LT

September 6: Proposed Budget Update
• CIP Budget Changes
• Operating Budget Changes
• Rate Review
CIP Project Changes

1. **West Lake Sammamish Parkway Project**
   - Increased cost of $5 million
   - Cost increase due to project scope changes: Additional watermain elements, PRV stations, & pavement restoration

<table>
<thead>
<tr>
<th>Watermain Replacement (W-16)</th>
<th>Small Capital Improvement Projects (W-69)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$4.22 million</td>
<td>$0.78 million</td>
</tr>
</tbody>
</table>

2. **WSDOT I-405 Widening Project**
   - Need to relocate existing watermains affected by:
     - Main Street Bridge replacement
     - Lake Washington Boulevard Bridge replacement
   - Added funding of $2.1 million needed in Watermain Replacement Program (W-16)

Changes to Proposed CIP Budget

<table>
<thead>
<tr>
<th>Changes to Proposed CIP - June</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019-2025 Proposed CIP - June</td>
<td>$ 217.9M</td>
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</table>

**Changes:**

<table>
<thead>
<tr>
<th>Changes</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Lake Sammamish Parkway Project</td>
<td>$ 5.0M</td>
</tr>
<tr>
<td>WSDOT I-405 Widening Project</td>
<td>$ 2.1M</td>
</tr>
</tbody>
</table>

| 2019-2020 Proposed CIP - September           | $ 225.0M |
Proposed 2019-2025 Utilities CIP Budget – $225.0M

Aging Infrastructure
$173.5M
77.1%

Capacity for Growth
$18.3M
8.1%

Environmental Preservation
$18.5M
8.2%

Service Enhancement (AMI)
$14.7M
6.6%

Changes to Proposed Operating Budget

<table>
<thead>
<tr>
<th>Changes:</th>
<th>AMOUNT</th>
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<tbody>
<tr>
<td>2019-2020 Proposed Budget - June</td>
<td>$ 316.2M</td>
</tr>
<tr>
<td>Wholesale – Water Supply Cost</td>
<td>($ 0.9 M)</td>
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<tr>
<td>Wholesale – Water Connection Charges</td>
<td>$ 0.6 M</td>
</tr>
<tr>
<td>Taxes and Support Services</td>
<td>$ 0.5 M</td>
</tr>
<tr>
<td>Personnel Cost</td>
<td>($ 0.3 M)</td>
</tr>
<tr>
<td>2019-2020 Proposed Budget - September</td>
<td>$ 316.1 M</td>
</tr>
</tbody>
</table>
Proposed 2019-2020 Utilities Operating Budget

$316.1M, 183.0 FTE/LTE

30% Capital Related:
- Transfers to CIP / R&R
- CIP Design and Management

18% Local Operations:
- Operations & Maintenance
- Customer Service/Outreach
- Engineering System Planning
- Development Services
- Support Systems/Assets Management/Regulatory

52% Financial Obligations:
- Taxes / Support Services
- Drinking Water Supply
- RCFC Payments
- Wastewater Treatment

Excludes operating reserves

Proposed 2019-2020 Utility Rates September 2018

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Water</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>September</td>
<td>3.7%</td>
<td>5.0%</td>
</tr>
<tr>
<td>June</td>
<td>5.0%</td>
<td>5.0%</td>
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<tr>
<td><strong>Sewer</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>September</td>
<td>3.9%</td>
<td>2.3%</td>
</tr>
<tr>
<td>June</td>
<td>3.9%</td>
<td>2.3%</td>
</tr>
<tr>
<td><strong>Storm</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>September</td>
<td>5.4%</td>
<td>5.4%</td>
</tr>
<tr>
<td>June</td>
<td>5.5%</td>
<td>5.5%</td>
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<tr>
<td><strong>Combined</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>September</td>
<td>4.0%</td>
<td>3.8%</td>
</tr>
<tr>
<td>June</td>
<td>4.6%</td>
<td>3.8%</td>
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</tbody>
</table>
### Typical Residential Combined Water, Sewer, & Storm Utility Monthly Bill Rate Drivers

<table>
<thead>
<tr>
<th></th>
<th>2019 Bill</th>
<th>2020 Bill</th>
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<tbody>
<tr>
<td>Prior Year Monthly Bill</td>
<td>$169.55</td>
<td>$176.40</td>
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<tr>
<td>Wholesale costs</td>
<td>1.4%</td>
<td>0.8%</td>
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<tr>
<td></td>
<td>$2.35</td>
<td>$1.33</td>
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<tr>
<td>Local</td>
<td></td>
<td></td>
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<tr>
<td>CIP/R&amp;R</td>
<td>1.0%</td>
<td>1.8%</td>
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<tr>
<td></td>
<td>$1.62</td>
<td>$3.22</td>
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<tr>
<td>Taxes and Interfunds</td>
<td>0.6%</td>
<td>0.5%</td>
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<tr>
<td></td>
<td>$1.03</td>
<td>$0.83</td>
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<tr>
<td>Operations</td>
<td>1.0%</td>
<td>0.7%</td>
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<tr>
<td></td>
<td>$1.85</td>
<td>$1.30</td>
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<tr>
<td>Total Local</td>
<td>2.6%</td>
<td>3.0%</td>
</tr>
<tr>
<td></td>
<td>$4.50</td>
<td>$5.35</td>
</tr>
<tr>
<td>Total Increase</td>
<td>4.0%</td>
<td>3.8%</td>
</tr>
<tr>
<td>New Monthly Bill</td>
<td>$176.40</td>
<td>$183.08</td>
</tr>
</tbody>
</table>

### Competitive Utility Rates with our Neighbors – 2018 Combined Water, Sewer & Storm Monthly Bill (Proposed 2019 Bill for Bellevue Only)

- **Residential**
  - Bellevue 2018: $176.40
  - Mercer Island: $197.89
  - Kirkland: $167.22
  - Redmond: $169.65

- **Multi-Family**
  - Bellevue 2018: $2,045
  - Mercer Island: $2,917
  - Kirkland: $2,045
  - Redmond: $2,045

- **Commercial**
  - Bellevue 2018: $18,420
  - Mercer Island: $19,339
  - Kirkland: $19,339
  - Redmond: $14,247
ESC Utilities Budget Review – Next Steps

- Public hearing – October 4
- Budget and rates recommendation to Council – November 1