BURLINGTON PUBLIC WORKS

FY 2019 PROPOSED BUDGETS

Water
Wastewater
Stormwater
DPW MISSION STATEMENT

• We steward Burlington’s infrastructure and environment by delivering efficient, effective and equitable public services.
Water Resources

Providing clean water and fire protection services through

- **Water Supply**
  - Treatment of water from Lake Champlain for drinking water
  - Distribution of water to homes, businesses and fire hydrants
  - Maintenance of water distribution system including valves, water mains & services, fire hydrants, elevated storage tanks and reservoirs

- **Wastewater (Sanitary)**
  - Treatment of sewage from homes and business before discharge to the Winooski River and Lake Champlain
  - Treatment of combined stormwater/wastewater to maximum extent practicable before discharge
  - Maintenance of collection system, three treatment plants, 25 pump stations

- **Stormwater Management**
  - Collection of stormwater runoff in combined and separate storm sewers
  - Regulatory review of increases in impervious surface or earth disturbances to mitigate (Chapter 26)
  - Watershed Planning and Retrofit design to mitigate stormwater runoff volumes and treat pollutants before discharge to waterways
Water Resources, by the Numbers

- **1** water plant and finished water pump house
- **2** pump houses (finished water and reservoir)
- **110** miles of water mains
- **2** Reservoirs (7MG storage)
- **2** Water Towers (UVM 500,000 gallons; Redstone 150,000 gallons)
- **10,000+** water meters
- **900** fire hydrants

- **3** Wastewater Treatment Plants
- **49** miles of sanitary sewer
- **45** miles of combined sanitary / storm sewer
- **37** miles of storm sewer
- **25** pump stations
- **102** storm water outfalls
- **3200** catch basins
- **2** post-closure landfills
- **1** methane powered generating station
FY18 Water Resources Work

- New Hydrant in Maple Street Water Capital Reinvestment Project
- Triple Leaf Gate Valve
- Main Plant Sludge Transfer Pump Replacement
- Water Plant Back-Up Blower for Filtration Backwashing System
- Stormwater Outfall Capital Planning
- Sludge Tanker
- King Street Infiltration System
High Level FY’19 Budget Goals:

Balance Near Term Operational and Capital Needs with Long Term Capital Needs, Utility Financial Health and Rate Payer Affordability

Near Term Operational and Capital Needs

- Ensure sufficient resources to maintain smooth and safe water, wastewater and stormwater operations and strong regulatory compliance

- Address revenue shortfall discovered during meter billing review and provide sufficient resources to continue improvements to revenue assurance (meter to cash) program

- Continue increased water main capital reinvestment levels to reduce water main breaks, tap water discoloration and unplanned water service disruptions, and support pavement sustainability
High Level FY’19 Budget Goals:

Balance Near Term Operational and Capital Needs with Long Term Capital Needs, Utility Financial Health and Rate Payer Affordability

Long Term Capital Needs, Financial Health and Rate Payer Affordability

- Meet debt service requirements for existing and future planned Water and Wastewater bonds.

- Maintain neutral or surplus oriented annual budget to support maintenance of O&M days of cash on hand near current levels while addressing UVM repayments

- Balance cash financed (PayGo) capital expenditures with debt financed capital expenditures
  - Maintain sufficient PayGo capital funding to meet immediate needs of Wastewater system (plants, pump stations and sewers) and Stormwater system (outfalls, sewers, coordinated treatment retrofits)
  - Briefly postpone (1-2 years) some Wastewater and Stormwater capital and include these costs as part of upcoming Stormwater and Wastewater borrowing
  - Leverage existing Water Bond authorization for reservoir roof refurbishment ($200K, 20+ asset)
Key Drivers (revenue side)

- **Water/Wastewater:**
  - Loss of volumetric (usage) revenue in Water and Wastewater due to correction of meter billing issue (offset mildly by positive corrections)
    - Responsible for 55% and 52% of Water and Wastewater Rate increase

- **Wastewater:**
  - Loss of Hadley Road (South Burlington) customers in December 2018 ($110,000)
    - 22% of rate increase in Wastewater

- **Stormwater:**
  - Increase of utility revenue in stormwater due to reassessment of measured impervious surface (~$86K)
  - Increase in revenue due to $250K FHWA stormwater grant for outfall repair and $25K “utility support” grant from VTRANS
Key Drivers (expense side)

- **Revenue Assurance Improvement Project**
  - Utility Management Consultant Assistance (· W $20K and · WW $20K)
  - Placeholder to implement recommendations of Revenue Assurance Improvements (· $40 K each W and WW)

- **Personnel**
  - Reallocate more Water Resources Staff Technical Services FTEs to Water and WW (· W $10K, · WW $23K, net neutral with , SW)
  - Add a SW and a WW summer intern/seasonal to Water Resources intern program (· SW and WW $13K)

- **Meet SW engineering need with consulting engineer** · SW $55K SW

- **Safety equipment** (· $17K WW, · $10K W)

- **Biosolids CSWD contract** (· $39K WW)

- **Water Debt Service** (· W $157K)
  - Interest Payments for $2M Series 2018A bond (May 2018) - $92K
    - Full P+I Load due in FY20 = $157K
  - Estimated Interest Payment for $1.8M anticipated Series 2018B (Fall 2018)- $44K
    - Full P+ I Load due in FY20 = $143K
Water Distribution Reinvestment

- Bond – 88% YES
- $2M Series 2018A

<table>
<thead>
<tr>
<th>Street</th>
<th>Rehab Work</th>
<th># of miles</th>
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<tbody>
<tr>
<td>Flynn Avenue - North Main (Pine to Shelburne)</td>
<td>Relining</td>
<td>1.31</td>
</tr>
<tr>
<td>Flynn Avenue - South Main (Pine to Shelburne)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flynn Avenue - Pine to 255 Flynn Ave</td>
<td></td>
<td></td>
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<tr>
<td>Charlotte Street</td>
<td></td>
<td></td>
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<tr>
<td>Hillcrest Drive</td>
<td></td>
<td></td>
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<tr>
<td>Allen Street</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maple Street (S. Willard to S. Prospect)</td>
<td>Replace</td>
<td>0.54</td>
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<tr>
<td>Church Street (Maple to Adams)</td>
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<tr>
<td>Ethan Allen Parkway (N. Ave to Lopes)</td>
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<tr>
<td>Birch Court</td>
<td></td>
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<tr>
<td>Cayuga Court Services</td>
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</tbody>
</table>

Findings:
- Break Rates Have Increased 27% in the Past 6 Years
- 82% of Cast Iron Pipes are Over 50 Years Old and are Experiencing a 46% Increase in Break Rates
- 75% of Burlington’s Pipes are Cast Iron!
Key Drivers (expense side) cont’d.

- Continued focus on capital improvements

![Graph of Water Resources Annual Capital Budget (FY13 - FY19)]

**Note 1:** Included use of cash reserve
Does this "1" belong on the bond-funded piece?
Beth Anderson, 5/13/2018

No
Megan Moir, 5/15/2018

Corrected
Megan Moir, 5/15/2018
Proposed FY19 Water Resources Rates

Average Customer Impacts

- FY19 Total monthly bill = $67.38
- Bill increases over FY18
  - $3.18/month
  - $38.16/year

Monthly bill based on single family home with average water usage (600 cf or 4500 gallons per month)

4.95% increase on overall Water Resources bill due to necessary rate increases in Water and Wastewater

- Some commercial customers may see an increase or decrease in their stormwater bill due to impervious reassessment, not due to any increase in the stormwater rate.

Note: Bill amounts do not include 3.5% Franchise Fee collected on Utility charges per City Charter.
## Water Resources Proposed FY’19 Budgets:

<table>
<thead>
<tr>
<th></th>
<th>FY 17 Budget</th>
<th>FY18 Budget</th>
<th>FY19 Budget</th>
<th>Change from FY18</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stormwater</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revenues</td>
<td>$1,595,751</td>
<td>$1,584,222</td>
<td>$1,945,581</td>
<td>$361,359</td>
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<tr>
<td>Expenses</td>
<td>$1,844,638</td>
<td>$1,605,638</td>
<td>$1,934,471</td>
<td>$328,932</td>
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<tr>
<td>Net to Reserve</td>
<td>($248,887)</td>
<td>($21,416)</td>
<td>$11,110</td>
<td></td>
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</tbody>
</table>

| **Wastewater**       |              |             |             |                  |
| Revenues             | $7,889,750   | $7,825,160  | $7,931,697  | $106,537         |
| Expenses             | $8,062,168   | $8,040,988  | $7,926,265  | ($114,723)       |
| Net to Reserve       | ($172,418)   | ($215,828)  | $5,432      |                  |

| **Water**            |              |             |             |                  |
| Revenues             | $6,509,265   | $6,678,702  | $6,912,914  | $234,212         |
| Expenses             | $7,027,297   | $6,684,661  | $6,880,223  | $195,562         |
| Net to Reserve       | ($136,194)   | ($5,959)    | $32,691     |                  |

<table>
<thead>
<tr>
<th>Fund</th>
<th>Estimated Cash at FY18 End*</th>
<th>Estimated Cash at FY19 End**</th>
<th>O&amp;M Days</th>
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</thead>
<tbody>
<tr>
<td>Stormwater</td>
<td>$290,558</td>
<td>$301,669</td>
<td>108</td>
</tr>
<tr>
<td>Wastewater</td>
<td>$1,524,661</td>
<td>$1,367,391</td>
<td>84</td>
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<tr>
<td>Water</td>
<td>$2,178,899</td>
<td>$2,102,840</td>
<td>143</td>
</tr>
</tbody>
</table>

Estimates based on Auditors calculation of available cash (most conservative)

Notes:
- *Includes estimate of impact of net usage decrease due to billing configuration errors
- **Includes estimated repayment of overbilling
Looking ahead to FY 20 and beyond

**Challenges**

- **Water Debt**
  - Important to maintain or increase Moody’s A1 rating
  - Maintain required 1.25 Debt Coverage Ratio

- **Future Water Resources Borrowing to meet Capital Deficits**
  - **Water:**
    - Water Bond authorization will only replace/rehabilitate ~8-10 miles of our 110 mile distribution system
    - High Service Tanks: At a minimum, Redstone Storage tank maintenance (~$500k) due in FY2021 (likely sooner); UVM tank maintenance ($1M) in FY27
  - **Wastewater:**
    - Replacement of existing treatment system components at WWTPs and pump stations ($8-10M)
    - Collection System capital needs (~$1M/year for 5 years)
    - Lake Champlain TMDL possible plant upgrades
    - Biosolids management
  - **Stormwater**
    - Collection System capital needs (~$1M/year for 5 years)
    - Outfall Repair ($3 M to fix top 11 worst outfalls)
    - Lake Champlain TMDL impervious retrofits
    - Combined Sewer Overflow Management

- **Revenue**
  - Conservation/Water efficiency
  - Lose rest of Hadley Road in FY2020 ($110K)
Looking ahead to Rate Impacts in FY 20 and 21

Challenges

- Projecting possible 4-5% rate increases in FY20 and FY21
Burlington Water Resources Rates since 1989

% Increase in Bill Over Previous Year

Extended period of almost no rate increase

Amount of Typical Residential Bill
(600 cf; single family flat fee for stormwater)

In a 2013 study, Michigan State University Institute of Public Utilities calculated that the average annual percent change (2003 – 2013) in CPI for water/sewer was 5.5%
Looking ahead to FY 20 and beyond

Opportunities

- **Revenue Income Changes in Customer Base and usage**
  - Revenue base for W, WW and SW likely to go up FY20 – FY22 (usage models are conservative) and temper conservation trends and loss of revenue
  - Revenue Assurance Program improvements
    - Possible modest initial investments for robust, accurate, increased revenue streams

- **Financial Planning:**
  - Continue examining alternative rate structures which may reduce impact on residential customer
  - Explore opportunities for full cost recovery (i.e. standby charge for fire services, wastewater surcharges etc.)
  - Focus financial planning efforts on balancing PayGo capital with Debt Financed Capital
    - Financing Plan for additional Water and new Wastewater and Stormwater Capital
  - Strive for predictable and modest increases vs. wide variability of rate increases

- **Financial Capability Assessment (as part of Integrated Planning)**
  - Inform compliance schedules for Lake Champlain TMDL
  - Inform need to develop income sensitive assistance programs

- **Asset Management Investment**
  - Continuing asset management planning
  - Waiting for General Fund to complete asset management assessment currently underway
### Summary

**S Request approval of FY 19 rates**

<table>
<thead>
<tr>
<th>Utility</th>
<th>Proposed FY19 Rate</th>
<th>Monthly Increase for Home Owner</th>
<th>Monthly Cost for the Average Home Owner</th>
<th>Annual Increase for Home Owner</th>
<th>Annual Cost for the Average Home Owner</th>
<th>% Increase</th>
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</thead>
<tbody>
<tr>
<td>Stormwater</td>
<td>$6.60 per month for single family homes/ $2.47 per ISU</td>
<td>$0.00</td>
<td>$6.60</td>
<td>$0.00</td>
<td>$79.20</td>
<td>4.95%</td>
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<tr>
<td>Wastewater</td>
<td>$5.82 per 100 cubic feet</td>
<td>$1.98</td>
<td>$34.92</td>
<td>$23.76</td>
<td>$419.04</td>
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<tr>
<td>Water</td>
<td>$4.31 per 100 cubic feet</td>
<td>$1.20</td>
<td>$25.86</td>
<td>$14.40</td>
<td>$310.32</td>
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<tr>
<td>Total Utility</td>
<td></td>
<td>$3.18</td>
<td>$67.38</td>
<td>$38.16</td>
<td>$808.56</td>
<td>4.95%</td>
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</tbody>
</table>

Does not include 3.5% franchise fee surcharge assessed on bill total per City Charter

**S Stormwater $2.47/ISU (no change from FY18)**

**S Wastewater $5.82/100 cf**

**S Water $4.31/100 cf**
Questions?
SUPPLEMENTARY INFORMATION

National Context of Water Resources Utility Rates
National Context: We Are “Normal”

[Graph showing average annual change in CPI for different categories like Water & sewer (1993), Fuels and utilities (1963), Medical care (1935), and more.]

Exhibit 6. Average percentage change in the Consumer Price Index (CPI) for utilities and other major household expenditures: long-term and 2003-2013. The long-term average is based on the available data. Year (*) indicates start of series.
National Context: We Are “Normal”

  - 2016 National Survey (of Larger Systems) “The average cost of residential drinking water service for a family of four using 100 gallons per person per day rose 4 percent last year [2016], according to Circle of Blue’s annual survey of 30 large U.S. cities. It was the smallest increase since the survey began in 2010.” [Ranging from 4-9% since 2010]

- Economies of Scale are VERY important
  - Small Utilities like Burlington(< 20MGD water sold/Wastewater Treated) typically:
    - “had the highest water rates when compared to large and medium-sized utilities.”
    - More density (vertical) = more water users = more water usage = larger user base to spread cost over (cost per user goes down); more water usage does not immediately equate to more pipes, more Plant personnel etc. (Our water plant in particular and our WWTPs could technically produce/treat more water)