EASTHAMPTON WATER / SEWER RATE EVALUATION
WHY ARE WE HERE TONIGHT?

Condition of Infrastructure Systems
- Wastewater
- Water
- Stormwater

3-Year Capital Improvements Costs

Cost Impacts and Rate Evaluation
- Water and Sewer User Rates
- Alternative Stormwater Utility – Purpose and Impacts
IMPROVEMENTS HISTORY AND FAILURES

Wastewater Treatment Plant

Water Treatment Plant

Stormwater Outfall Pipe
WASTEWATER SYSTEM

Sewer System
1. Treatment Facility
2. Outfalls
18. Pump Stations
88. Miles of Sewers
HISTORY OF WASTEWATER SYSTEM

Wastewater Treatment Facility
- Originally constructed in 1949

Wastewater Pump Stations (18)
- 11 were constructed in the 1960s/1970s
- 2 were installed in the 1980s
- 3 were installed in the 2000s
- 2 were installed in the 2010s

Wastewater Collection System (88 miles)
- 25% is greater than 100 years old
- 80% is greater than 40 years old
- Most recent sewer extension in Southern Section in 2007
RECENT WASTEWATER SYSTEM FAILURES

Wastewater Treatment Plant (WWTP)
- WWTP inlet mechanical screen failed
- WWTP plant water pipe break
- WWTP east aeration tank weirs are inoperable
- WWTP CT River sewer outfall pipe failure

Wastewater Collection System
- Cherry Street sewer segment collapsed
- Maple Street sewer failing, causing sinkholes
- Pump failure at Daley Field Pump Station
- Lownds Avenue Ejector Station compressors are failing
WATER SYSTEM

Water System
1  Treatment Facility
1  Well Field
4  Wells
3  Water Tanks
130  Miles of Water Pipe
HISTORY OF WATER SYSTEM

Water Treatment Facility
- Constructed in 1995

Wells and Pumping Facilities
- Hendrick St.-Wellfield constructed in 1908; pump station constructed in 1995
- Pines Well constructed in 1961; pump station replaced in 2003
- Nonotuck pump station constructed in 1963; upgrades in 1995
- Maloney pump station constructed in 1976
- Brook St. pump station constructed in 1995

Storage Tanks
- MT Tom-Constructed in 1933 (out of service)
- Drury Lane-Constructed in 1989, roof rehabilitation in 2010
- Peaceful Valley-Constructed in 2001

Water Distribution System
- Similar age to wastewater collection system (portions>100 years old)
RECENT WATER SYSTEM FAILURES

Water Treatment Plant and Pumping Stations
- Hendrick Street well water pump and drive failure
- Nonotuck well water pump failure

Water Distribution System
- Ferry Street water main breaks
  (1/2 dozen times over the last 10 years)
- Mechanic Street water main breaks
  (4 breaks per year)
- Pleasant Street water main break
- Franklin Street water main break
STORMWATER SYSTEM

Stormwater System
2,874 Catch basins
191 Outfalls
71 Miles Drain Pipe
80 Miles Roads
54 Culverts
HISTORY OF STORMWATER SYSTEM

Stormwater Collection System
- Similar age to wastewater collection system (portions are over 100 years old)

Stormwater Treatment Units, Sedimentation Control Devices, and Sedimentation Basins
- Date back to the 1980s
RECENT STORMWATER SYSTEM FAILURES

Stormwater Collection System

- Industrial Drive drain headwall failure
- Cherry Street drain headwall failure
- Strong Street drain failures
- 48-inch diameter culvert and headwall failure adjacent to the Manhan River (at sewer outfall pipe)
COMPLYING WITH MS4 REGULATIONS

Work Completed
- Outfall Mapping
- Draft Stormwater Management Plan (SWMP)
- Draft of Notice of Intent
- Operations & Maintenance Plan
- Illicit Discharge Elimination Program
- Revisions to Stormwater Ordinance
- Mapped Existing Structural BMPs

Work to be Completed
- Dry Weather Monitoring of all Outfalls
- Sampling (if flowing during dry weather)
IS THE CITY FACING MANDATES?

• **Two Types of Mandates**
  - Comply with Existing Permits and Regulatory Limits
  - New State and Federal Regulations

• **Wastewater**
  - Existing NPDES Permit (*need to maintain facilities*)
  - No New Regulations

• **Water**
  - Existing NPDES Permit (*need to maintain facilities*)
  - No New Regulations

• **Stormwater**
  - New MS4 Regulations (monitoring and sampling)
## CAPITAL IMPROVEMENTS PLAN (3 YEAR)

<table>
<thead>
<tr>
<th></th>
<th>FY21</th>
<th>FY22</th>
<th>FY23</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>$387,000</td>
<td>$354,000</td>
<td>$424,000</td>
<td>$1,165,000</td>
</tr>
<tr>
<td>Sewer</td>
<td>$112,000</td>
<td>$315,000</td>
<td>$689,000</td>
<td>$1,116,000</td>
</tr>
<tr>
<td>Stormwater</td>
<td>$0</td>
<td>$204,000</td>
<td>$204,000</td>
<td>$408,000</td>
</tr>
<tr>
<td>Total</td>
<td>$499,000</td>
<td>$873,000</td>
<td>$1,317,000</td>
<td>$2,689,000</td>
</tr>
</tbody>
</table>

5 Year Capital Needs = $21.9M (see fact sheet)
EXISTING WATER AND SEWER ENTERPRISE FUNDS

- Users are charged a small flat rate
- Remaining costs are based on Water Usage
- Sewer Fund includes Stormwater services
# PROPOSED RATES (CURRENT ENTERPRISE SYSTEM)

## Water

<table>
<thead>
<tr>
<th>Rates</th>
<th>FY20</th>
<th>FY21</th>
<th>FY22</th>
<th>FY23</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Fee</td>
<td>$4.50</td>
<td>$4.50</td>
<td>$4.90</td>
<td>$5.20</td>
</tr>
<tr>
<td>Usage</td>
<td>$3.15</td>
<td>$3.25</td>
<td>$3.40</td>
<td>$3.60</td>
</tr>
</tbody>
</table>

Base Fee is a flat rate, usage is the cost per 100 cubic feet of water used.

## Sewer (includes Stormwater)

<table>
<thead>
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</thead>
<tbody>
<tr>
<td>Base Fee</td>
<td>$8.50</td>
<td>$10.20</td>
<td>$12.00</td>
<td>$14.20</td>
</tr>
<tr>
<td>Usage</td>
<td>$4.60</td>
<td>$5.50</td>
<td>$6.50</td>
<td>$7.70</td>
</tr>
</tbody>
</table>
AVERAGE RESIDENTIAL WATER USAGE

• Typical Single Family Water Usage
  - Average of all residents 146 gallons per day (gpd)
  - Average quarterly usage = 1,756 CF/QTR
  - Average of a random sampling of households = 1,741 CF/QTR

• Water Usage for Single Family = 1,800 CF/QTR
## ANNUAL CUSTOMER COST IMPACTS (EXISTING ENTERPRISE FUNDS)

**Single Family Customer**  
*(1800 Cubic Feet Quarterly Usage)*

<table>
<thead>
<tr>
<th>Utility</th>
<th>FY20</th>
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<th>FY22</th>
<th>FY23</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>$245</td>
<td>$252</td>
<td>$264</td>
<td>$280</td>
</tr>
<tr>
<td>Sewer</td>
<td>$365</td>
<td>$437</td>
<td>$516</td>
<td>$611</td>
</tr>
<tr>
<td>Stormwater</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Total</td>
<td>$610</td>
<td>$689</td>
<td>$780</td>
<td>$891</td>
</tr>
<tr>
<td><strong>Annual Increase</strong></td>
<td>$0</td>
<td>$79</td>
<td>$91</td>
<td>$111</td>
</tr>
</tbody>
</table>
## ANNUAL CUSTOMER COST IMPACTS

(EXISTING ENTERPRISE FUNDS)

### Multi-Family/Commercial Customer

(4500 Cubic Feet Quarterly Usage)

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<tbody>
<tr>
<td>Water</td>
<td>$585</td>
<td>$603</td>
<td>$632</td>
<td>$669</td>
</tr>
<tr>
<td>Sewer</td>
<td>$862</td>
<td>$1,031</td>
<td>$1,218</td>
<td>$1,443</td>
</tr>
<tr>
<td>Stormwater</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Total</td>
<td>$1,447</td>
<td>$1,634</td>
<td>$1,850</td>
<td>$2,112</td>
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<tr>
<td><strong>Annual Increase</strong></td>
<td>$0</td>
<td>$187</td>
<td>$216</td>
<td>$262</td>
</tr>
</tbody>
</table>
ALTERNATIVE – NEW STORMWATER FUND

- Separate Stormwater into a separate enterprise fund
- Stormwater fees are billed based on impervious area of user
- Multi-family/Commercial = Charged proportionally to single family
## PROPOSED RATES
(WITH NEW STORMWATER ENTERPRISE FUND)

### Water

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Base Fee is a flat rate, usage is the cost per 100 cubic feet of water used.

### Sewer (excludes Stormwater)

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<tr>
<td>Usage</td>
<td>$4.60</td>
<td>$4.70</td>
<td>$4.80</td>
<td>$5.00</td>
</tr>
</tbody>
</table>
STORMWATER IMPROVEMENT COSTS

• Fees are based on impervious area of user (roof and driveway/parking lot)

• Average single family = 3,240 SF Impervious

• Single family resident flat rate = $124/year (ERU)

• Multi-family/Commercial = Charged proportionally to single family

• Example of Larger User
  - Area is 32,400 (10 times a single family)
  - Fee = $124 x 10 = $1,240
ANNUAL CUSTOMER COST IMPACTS
(WITH NEW STORMWATER ENTERPRISE FUND)

Single Family Customer
(1800 Cubic Feet Quarterly Usage)

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<tr>
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<tbody>
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<td>Water</td>
<td>$245</td>
<td>$252</td>
<td>$264</td>
<td>$280</td>
</tr>
<tr>
<td>Sewer</td>
<td>$365</td>
<td>$372</td>
<td>$381</td>
<td>$398</td>
</tr>
<tr>
<td>Stormwater</td>
<td>$0</td>
<td>$60</td>
<td>$124</td>
<td>$124</td>
</tr>
<tr>
<td>Total</td>
<td>$610</td>
<td>$684</td>
<td>$769</td>
<td>$802</td>
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<tr>
<td>Annual Increase</td>
<td>$0</td>
<td>$74</td>
<td>$85</td>
<td>$33</td>
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</tbody>
</table>
**ANNUAL CUSTOMER COST IMPACTS**
(WITH NEW STORMWATER ENTERPRISE FUND)

**Multi-Family/Commercial Customer**
(4500 Cubic Feet Quarterly Usage)

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<td>$669</td>
</tr>
<tr>
<td>Sewer</td>
<td>$862</td>
<td>$880</td>
<td>$900</td>
<td>$938</td>
</tr>
<tr>
<td>Stormwater</td>
<td>$0</td>
<td>$620</td>
<td>$1,240</td>
<td>$1,240</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$1,447</td>
<td>$2,103</td>
<td>$2,772</td>
<td>$2,847</td>
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<tr>
<td><strong>Annual Increase</strong></td>
<td>$0</td>
<td>$656</td>
<td>$669</td>
<td>$75</td>
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## REPRESENTATIVE RESIDENTIAL USER FEES

<table>
<thead>
<tr>
<th>Community</th>
<th>Connections</th>
<th>MGD</th>
<th>MHI</th>
<th>Poverty Rate</th>
<th>Annual Cost</th>
<th>Sewer</th>
<th>Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHICOPEE (FY18)</td>
<td>16,156</td>
<td>15.50</td>
<td>$ 49,005</td>
<td>14.5%</td>
<td>$ 846</td>
<td>$ 505</td>
<td>$ 341</td>
</tr>
<tr>
<td>EASTHAMPTON (FY21)</td>
<td>5,799</td>
<td>3.80</td>
<td>$ 58,522</td>
<td>10.6%</td>
<td>$ 689</td>
<td>$ 437</td>
<td>$ 252</td>
</tr>
<tr>
<td>GREENFIELD (FY18)</td>
<td>5,686</td>
<td>3.40</td>
<td>$ 48,724</td>
<td>13.1%</td>
<td>$ 513</td>
<td>$ 313</td>
<td>$ 200</td>
</tr>
<tr>
<td>HOLYOKE (FY18)</td>
<td>8,072</td>
<td>17.5</td>
<td>$ 38,829</td>
<td>28.6%</td>
<td>$ 526</td>
<td>$ 283</td>
<td>$ 243</td>
</tr>
<tr>
<td>PALMER (FY18)</td>
<td>2,437</td>
<td>5.60</td>
<td>$ 55,343</td>
<td>13.0%</td>
<td>$ 763</td>
<td>$ 276</td>
<td>$ 487</td>
</tr>
<tr>
<td>SOUTHBRIDGE (FY18)</td>
<td>4,434</td>
<td>3.77</td>
<td>$ 48,762</td>
<td>16.4%</td>
<td>$ 973</td>
<td>$ 548</td>
<td>$ 425</td>
</tr>
</tbody>
</table>

Based on 1800 Cubic Feet per Quarter
QUESTIONS?