



## Montague Sewer Commission Retreat

### Information and Strategy Session Sanitary Sewer Collection System

August 2, 2023

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### Meeting Goals

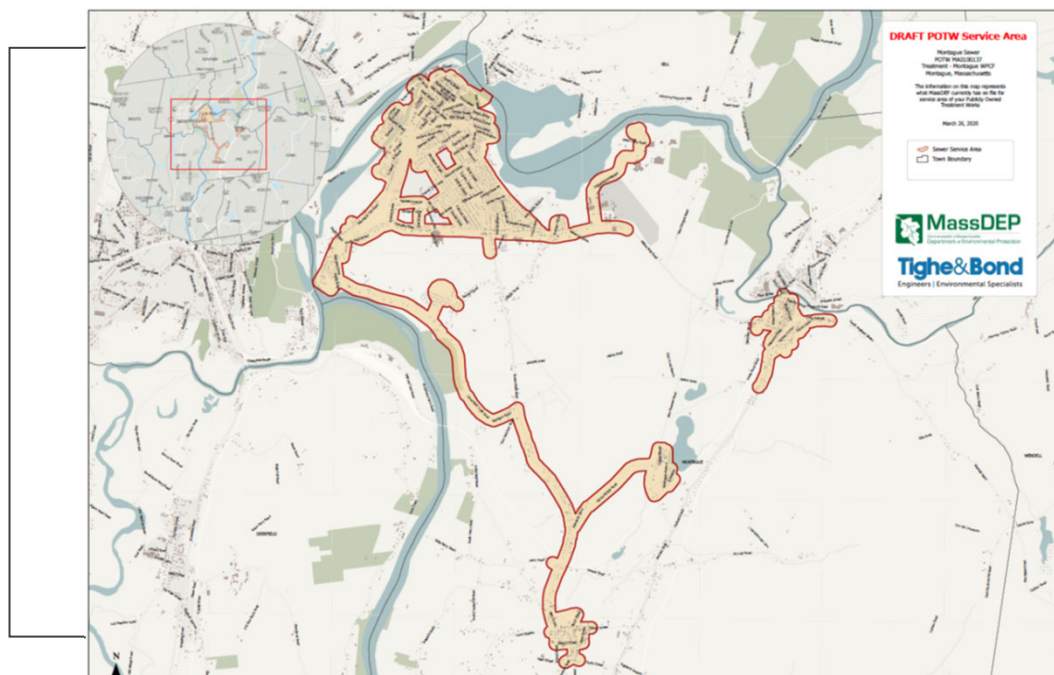
- Enhance Sewer Commission's knowledge of the system
- Sharpen collective understanding of challenges & opportunities
- Develop preliminary strategies to...
  - Meet regulatory requirements for management, operation & reporting
  - Determine how best to acquire expertise to move system forward
  - Assess staffing level adequacy
  - Prioritize capital and design/planning requests
  - Ensure long-term financial capacity to support improvement
- Develop short and medium term action plan

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## Clean Water Facility and Collection System Overview

- Description of Assets
  - Clean Water Facility and Pump Stations
  - Collection System (Sanitary and Stormwater)
  - Combined Sewer and Related Structures
- Evolving Departmental Roles and Responsibilities
- Current Staffing and Cooperation

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## Regulatory Requirements – the NPDES Permit

- Key Requirements of the Existing NPDES Permit
  - Clean Water Facility
  - Collection System and the Nine Minimum Controls (9-MC)
  - Recent Compliance History Relative to the 9-MC
- New NPDES Draft Permit Requirements
  - Expected Timeline
  - New Requirements and Related Concerns
- Key Concerns, Action Plan

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## The NPDES Permit: Nine Minimum Controls

- (1) Proper operation and regular maintenance programs for the sewer system and the combined sewer overflows.
- (2) Maximum use of the collection system for storage.
- (3) Review and modification of the pretreatment program to assure CSO impacts are minimized.
- (4) Maximization of flow to the POTW for treatment.
- (5) Prohibition of dry weather overflows from CSOs.

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## The NPDES Permit: Nine Minimum Controls

- (6) Control of solid and floatable materials in CSOs.
- (7) Pollution prevention programs that focus on contaminant reduction activities.
- (8) Public notification to ensure that the public receives adequate notification of CSO occurrences and impacts.
- (9) Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

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## Regulatory: Draft NPDES Permit

Permit Reports and Annual Reporting

	Due	Reference	Page	Notes
<b>Permit Reports</b>				
WWTF Major Storm and Flood Events Plan	12 months of effective permit date	Part 1.C.1.a	12	
Full Sewer System Operation and Maintenance Plan	24 months of effective permit date	Part 1.C.2	21	Deadline stated in Part 1.C.2.a.3
Preventive Maintenance Program		Part 1.C.2.b	16	Part of the Sewer System O&M Plan
Elements of Sewer System O&M Plan	6 months of effective permit date	Part 1.C.2.e.1	17	Part of the Sewer System O&M Plan
Sewer System Major Storm and Flood Event Plan		Part 1.C.2.e.2	18	Part of the Sewer System O&M Plan
Overflow Emergency Response Plan	24 months of effective permit date	Part 1.C.2.e.3	22	Part of the Sewer System O&M Plan
Public Notification Plan	180 days of effective permit date	Part 1.H.3.g	33	Annual notifications required by March 31 <sup>st</sup>
<b>Annual Reporting</b>				
Annual O&M Report on WWTF Major Storm and Flood Events Plan	March 31 <sup>st</sup>	Part 1.C.3.g	22	Beginning the first March following the submittal
Annual O&M Report on Sewer System O&M Plan	March 31 <sup>st</sup>	Part 1.C.3.h	22	Beginning the first March following the submittal
Annual Report of POTW's Program Activities (Pretreatment Program)	March 1 <sup>st</sup>	Part 1.E.5	28	1 year after approval of POTW Pretreatment Program
Annual Report for Sludge Handling	February 15 <sup>th</sup> specified in CFR Part 503	Part 1.F.8	31	
Annual Report for Nitrogen Removal	February 1 <sup>st</sup>	Part 1.G.1	31	
Certification of Inspections Completed	March 31 <sup>st</sup>	Part 1.H.3.c	32	
Annual Nine Minimum Controls (NMC) Reporting	March 31 <sup>st</sup>	Part 1.H.4	34	
<b>Other</b>				
Public Sewer System Map	30 months of effective permit date	Part 1.C.2.d	16	

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## Regulatory Requirements – Long-Term Control Plan (LTCP)

- Past Progress and Accomplishments (CSO Reduction Results)
- June 2023 LTCP and I/I Study Overview – CSO and I/I Reduction
  - Short-Term Measures and Costs
  - Long-Term Measures and Costs
- Key Concerns, Action Plan

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## Long-Term Control Plan - CSO Reduction Results

2005 - 2021

Year	Greenfield Road		Avenue A		7th & L Streets		Combined Total
	Number of Overflows	Volume (MG)	Number of Overflows	Volume (MG)	Number of Overflows	Volume (MG)	Volume (MG)
2021 <sup>1</sup>	15	0.11	8	0.29	18	0.11	0.52
Total <sup>2</sup>	357	7.57	54	3.51	75	0.63	14.08
Annual Average	24	0.76	5	0.35	6	0.06	1.28
Reduction in Annual Average from 2005 data	23%	78%	79%	85%	38%	95%	-
Reduction in 2020 from 2005 data	68%	95%	90%	98%	50%	95%	-

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## Long-Term Control Plan: Operating Costs

Modified Implementation Schedule – Operations and Maintenance Ongoing Best Practices

Task	Annual O&M Budget <sup>1,2</sup>	Monthly O&M Budget
Using CWF WWCT	\$90,000	\$7,500
Using Avenue A Buffer Line	\$12,000	\$1,000
Routine Cleaning of Catch Basins	\$60,000	\$5,000
Monitoring and Sampling CSO Outfalls	\$12,000	\$1,000
Monitoring and enforcement of industrial loading	\$6,000	\$500
CSO / bypass public notification	\$6,000	\$500
CWF influent pipe SOPs	\$12,000	\$1,000
Maintenance of CWF influent pipes, screen, and channels	\$60,000	\$5,000
<b>Grand Total</b>	<b>\$258,000</b>	<b>\$21,500</b>

Note:

<sup>1</sup> Costs are based on June 2023 (ENR Index 13345). Annual O&M Budget should be increased each year to account for inflation.

<sup>2</sup> Actual costs may fluctuate based on internal (staff, equipment, supplies) versus external (vendors, subcontractors) resources used to complete operations and maintenance tasks.

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## Long-Term Control Plan: Short-Term Measures

**Table 7** Short-Term Recommendations – Budgetary Planning Level Costs

Short-Term Recommendations	Order of Magnitude Cost
Avenue A buffer line improvement project	\$300,000
Evaluate and/or confirm peak capacity of CWF WWCT and primary treatment	\$30,000
Hydraulic modeling	\$100,000
Design and construction of upstream I/I reduction projects (Priority 1 and Priority 2 projects in Turner's Falls)	\$1,200,000
<b>Total</b>	<b>\$1,750,000 (rounded)</b>

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## Long-Term Control Plan: Long-Term Measures

**Table 8 Long-Term Recommendations – Budgetary Planning Level Costs**

Long-Term Recommendations	Order of Magnitude Cost
Sewer Separation Study / 30% Preliminary Design Report <sup>1</sup>	\$1,750,000
Additional I/I and SSES, Field Investigations, Flow Metering	\$300,000
Hydraulic modeling	\$200,000
Design and construction of future upstream I/I reduction projects	\$2,500,000
Sewer Separation Project (Multiple Phases) <sup>2</sup>	\$20M-\$25M
<b>Total</b>	<b>\$25M-\$27M (rounded)</b>

<sup>1</sup>Based on 16,000 LF of sewer separation in Turner's Falls. Includes topographic survey, field investigative work, geotechnical investigations, report development, OPCC development, and 30% drawings.

<sup>2</sup>Based on 16,000 LF of sewer separation in Turner's Falls. OPCC will be developed as part of the Sewer Separation Study / 30% Preliminary Design Report.

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## Capital Planning for Collection System & CWF

- Existing Capital Plans/Projects
- Additional Assessment and Planning Needs
- Regulatory Assistance
- GIS Collection System Mapping, Maintenance & Reporting Tool
  - Implementation Status of New System
  - Building It Out – What's Missing
- Key Concerns, Action Plan

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## Current Planning and Regulatory Assistance Proposals

### Notice of Noncompliance Assistance and Miscellaneous Tasks

#### Proposed Fee

The proposed fee for the proposed tasks is listed below:

Task	Description	Labor Hours	Labor Fee	Expenses	Total Fee
1	CSO Performance	150-160	\$19,600	\$300	\$19,900
2	CSO Monitoring Report	70-80	\$9,600	\$0	\$9,600
3	Annual Collection System O&M Report / I/I Control Plan Annual Report	110-120	\$14,300	\$300	\$14,600
5	2023 Collective System O&M Corrective Action	70-80	\$9,800	\$0	\$9,800
6	Sewer Use Ordinance	50-60	\$7,100	\$300	\$7,400
7	Nine Minimum Controls Report	60-70	\$8,100	\$300	\$8,400
<b>Total</b>			<b>\$68,500</b>	<b>\$1,200</b>	<b>\$69,700</b>

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## Current Planning and Regulatory Assistance Proposals

Capacity Management Operations and Maintenance (CMOM) report (also referred to as an Operations & Maintenance Plan (O&M Plan))

#### Proposed Fee

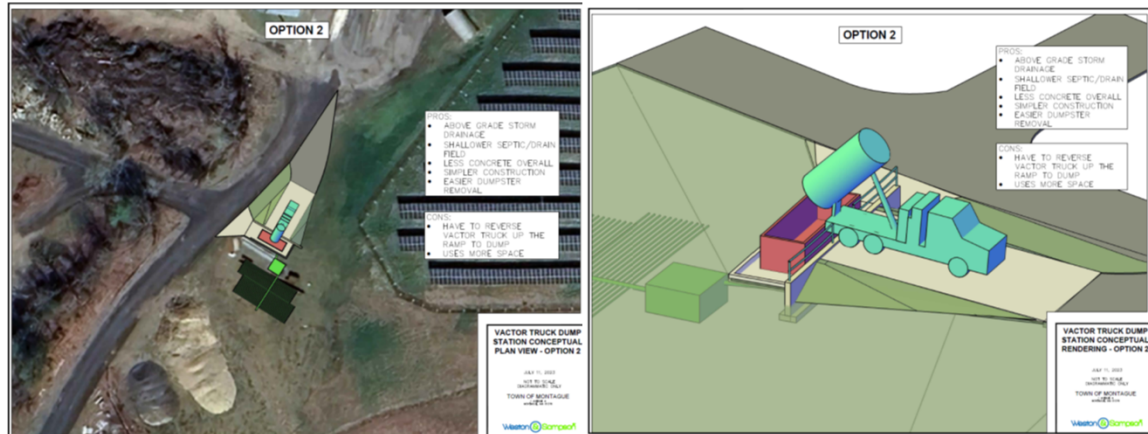
The proposed fee to develop the CMOM Plan is summarized below:

Task	Description	Labor Hours	Labor Fee	Expenses	Total Fee
1	Progress Meetings, Workshops	45-55	\$7,900	\$500	\$8,400
2	Data Collection	25-35	\$3,300	\$250	\$3,550
3	Site visits to Pump Stations, CSO Interceptors and Outfalls, buffer line	35-45	\$5,000	\$500	\$5,500
4	Prepare Draft O&M Plan	110-120	\$14,000	\$100	\$14,100
5	Prepare Final O&M Plan	25-35	\$3,900	\$100	\$4,000
<b>Total</b>		<b>240-290</b>	<b>\$34,100</b>	<b>\$1,450</b>	<b>\$35,550</b>

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## Update on Sludge Drying Pad



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## Staffing & Administrative Infrastructure Requirements

*Include Pump Stations as we Consider these Questions*

- Collection System/CSO Expertise – Do We Need Help?
- Maintenance and Administrative Staffing Capacity
- Information Systems and Operational Plans
- Key Concerns, Action Plan

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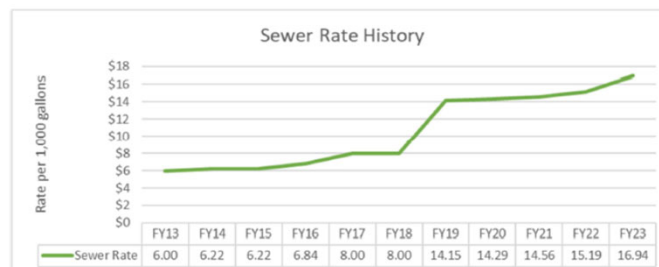
## Financial Capacity

- LTCP Financial Capacity Analysis
- Sewer Revenue Outlook/Rate Analysis
- Sewer Regulations Re Enterprise Funding
- “Competing” CWF/Collection System Funding Needs
- Key Concerns, Action Plan

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## Financial Capacity: Rates and Revenue

Absent substantial revenue growth, which is unlikely, the above projects and related cost estimates will have a substantial impact on sewer user costs. They do not, however, include the costs necessary to perform a more comprehensive upgrade of the CWF, which is outside its design life and will need significant investments in the coming decade. This latter need cannot be discounted,



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## Financial Capacity: Sewer Regs on System Funding

**Sec. 3. Annual Sewer Use Charges.** In addition to the one-time charges listed in Sections 1 and 2 of this Article, an annual fee shall be charged to every user of the municipal sewage works. The fee charged shall be established by the Sewer Commission and shall be such as to produce revenues commensurate with the estimated annual cost of operating and maintaining all wastewater collection and treatment works in Montague and, in addition, the estimated annual charge by the Town of Erving to the Town of Montague for treatment of Montague wastes in Millers Falls Village. Each user fee charged shall be calculated so as to reflect that user's fair share of the operating costs based on volume and strength of wastewater flows as determined by the Sewer Commission.

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## Synthesis and Action Planning

- Priorities and Action Plan
  - Immediate / FY24
  - FY25-28 (Five Year Schedule)
  - Longer-Term (20 Year Schedule)

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