

## **Project Descriptions for November 2, 2022**

### **Board of Trustees Meeting**

#### **Asset Management Planning Commitments**

##### **Abington-Rockland Joint Water Works DW-22-39**

Abington Rockland Joint Water Works (ARJWW) seeks to continue its Asset Management efforts. ARJWW's main goal is to upload its existing vertical asset information to the existing cloud-based platform UtilityCloud. ARJWW's intention is to store and organize the existing information in a way that can be accessed and updated electronically in the field while striving to capture institutional knowledge.

##### **Arlington CW-22-51**

The Town of Arlington seeks to create a program that provides information regarding the timing, location, and projected cost of repairs, replacements and /or rehabilitation for water, wastewater, and stormwater assets.

##### **Blandford DW-22-29**

The Town of Blandford seeks to develop a comprehensive capital improvement plan as required from a recent Administrative Consent Order that is focused on the distribution system piping, storage, and pumping facilities. The plan will provide solutions to maintain high levels of system reliability, water quality, and financially sound decision making for town residents. The objective of this capital improvement plan is to collaboratively review existing data and maps to develop a report that identifies strengths and weaknesses of the existing water supply and storage, treatment, distribution, and future prioritized capital infrastructure needs that meet State and Federal drinking water regulations. The plan will also assist in developing water rate projections. Plant and DBP evaluations have already begun.

##### **Erving CW-22-42**

The Town of Erving seeks to develop a comprehensive Asset Management Plan (AMP) for the Town's three sewer systems that service Erving, Farley, and Erving, to proactively maintain and expand the risk and resiliency efforts of the sewer systems. This AMP will provide the Town with a comprehensive list of sewer assets and thorough understanding of the conditions and vulnerabilities of the sewer systems to assist in future budgeting efforts.

##### **Longmeadow CW-22-26**

The Town of Longmeadow seeks to perform a condition assessment of the stormwater system. This Asset Management Plan would provide the Town with an understanding of the condition and vulnerabilities of the drainage system and would establish a proactive maintenance, repair, and replacement program that would help with budgeting needs.

**Methuen CW-22-45**

The City of Methuen seeks to implement an Asset Management Program that focuses on: inventory and assessment of the current state of the wastewater system assets; evaluation of level of service in terms of quality, quantity, reliability, and environmental standards; identification of assets critical to sustaining system performance; minimum life cycle costs for critical assets; and a long-term funding strategy to ensure high-level performance and pipe integrity.

**Northfield CW-22-47**

The Town of Northfield seeks to develop a comprehensive Asset Management Plan to establish a proactive approach to maintaining its wastewater assets. Project objectives are: 1) determine an appropriate level of service for the Town's sewer collection system; 2) improve the existing GIS by importing institutional knowledge from Town staff and record plans into a permanent inventory; 3) perform condition assessments of the Town's sewer collection system; 4) conduct LCC and criticality analyses; 5) develop a written asset management report; and, 6) conduct a funding analysis to plan for future asset management costs.

**Stow CW-22-25**

The Town of Stow plans to perform a stormwater infrastructure assessment to locate and identify undersized and aging culverts and to prioritize culverts in need of repairs or areas subject to flooding. This project will evaluate factors such as size, material, condition, estimated capacity, flooding potential, etc. Culverts needing improvements will receive a priority ranking including recommendations of replacement, rehabilitation, detailed structural inspection, downstream impact, and environmental benefits. Town conservation areas will be evaluated to help mitigate potential impacts from flooding by providing natural overflow storage and nature-based solutions.

**Templeton DW-22-19**

The Templeton Municipal Light & Water Plant (TMLWP) seeks to develop a comprehensive Asset Management Plan (AMP) for the TMLWP's water system to establish a proactive maintenance style and to build upon their risk and resiliency efforts. The AMP will help the TMLWP provide desired level of service at the lowest possible cost. The goals of the AMP are to create a defensible risk-based AMP and capital improvement planning methodology, develop inventory and perform condition assessments at water facilities, estimate the cost of maintenance and renewal in future years, and develop existing GIS data to help manage TMLWP assets.

**Westminster CW-22-24**

The Town of Westminster's Department of Public Works seeks to: 1) expand and complete an asset inventory for each system; and 2) create a framework to perform and track inspections of key assets. This inventory and inspection framework represents an important first step for the Town and can be built upon by future efforts to develop a formalized Asset Management Program Plan for each system.

## **Clean Water Commitments**

### **MWRA CW-22-05**

Contract No. 7110 HVAC Equipment Replacement - Replacement of various Heating, Ventilation and Cooling units through the treatment plant. Replacements include fan coil units, air handling units, chiller systems, the WWTP central HVAC control system, and 29 existing fume hoods in the Laboratory. Contract Nos. 7059/7420 Switchgear and NMPS MCC Replacements - Replacement of various electrical low voltage distribution equipment that provides power to critical pumping stations and laboratory processes. Contract No. 7051 Fire Alarm Replacement - Replacement of the central fire detection and alarm system throughout the treatment plant. This project will ensure that the plant continues to meet its discharge permit requirements by replacing obsolete equipment and systems. Some of the contracts are expected to result in decreased required maintenance and/or lower operating costs. All equipment is at the end of its useful life.

### **MWRA CW-22-06**

The Nut Island Headworks is a preliminary treatment facility serving 22 communities that provides screening and degritting of wastewater prior to the wastewater receiving primary and secondary treatment and disinfection at MWRA's Deer Island Treatment Facility. This project replaces the odor control and HVAC systems at the Nut Island Headworks to maintain reliable operation of the systems, to meet requirements of the MADEP Air Quality Permit and to maintain an environment within the facility that is safe for workers and suitable for equipment. The project will also replace other equipment at the headworks that is approaching the end of its lifecycle to ensure reliable operation of this critical wastewater treatment facility.

### **MWRA CW-22-07**

MWRA Contract 7463 Cottage Farm CSO Facility Improvements is one of the critical wastewater system improvements projects that MWRA has identified for 2016. The Cottage Farm CSO Improvements Project addresses critical needs for system rehabilitation, reliability and optimization of the MWRA wastewater collection system.

### **MWRA CW-22-08**

The Massachusetts Water Resources Authority's project is needed to correct deficiencies noted during the first Primary & Secondary Clarifier project. Project will include the replacement of systems such as: influent gates that are not providing adequate isolation; effluent launders and aeration systems that are in need of repair/replacement; and, concrete corrosion in primary clarifiers above the water line that require repair and coating to prevent future corrosion. The sludge removal system in primary tanks and aeration/recirculation systems in secondary tanks need to be rehabilitated as well. The Authority will not be able to meet its discharge permit without this upgrade.

**MWRA CW-22-09**

The Massachusetts Water Resources (MWRA) seeks the replacement of the existing 30-inch ductile iron cement lined pipe, approximately thirty feet in length, connecting the City of Chelsea's CHE008 regulator (RE-081) to the MWRA's Chelsea Branch Sewer at Structure C (Structure C) with a new 48-inch pipe. The work includes modifications to RE-081 and Structure C to accommodate for the pipe increase, installation of a steel baffle and the demolition of an existing weir wall in Structure C. The pipe size increase is predicted by MWRA's calibrated hydraulic model to result in CHE008 with one discharge at 0.07 MG, coming very close to meeting the CSO Long-Term Control Plan (LTCP) goal of zero discharges.

**Drinking Water Commitments****Amherst DW-22-15**

The Town of Amherst seeks to replace the Centennial Water Treatment facility. The Town has five groundwater production wells and four surface water reservoirs that supply an average of 3 million gallons per day (MGD) of safe drinking water to the residents and businesses, as well as Amherst and Hampshire Colleges, UMass, and parts of Pelham, Belchertown, and Hadley.

**Braintree DW-22-51**

The proposed Tri-Town Regional Water Treatment Plant (TTRWTP) project would create a regional facility to replace the existing Braintree WTP and Randolph/Holbrook WTP. The new regional facility would eliminate redundancies of having two individual plants and their associated capital and operation and maintenance costs. The new Tri-Town WTP will help protect public health by reducing bacteria, carcinogenic compounds, and disinfectant byproducts present in the current systems. The water treatment process would be as follows:

- Polymer and PACL addition for coagulation of raw water
- Dissolved air floatation (DAF) for removal of larger, coagulated solids
- Granular activated carbon (GAC) filtration for removal of per- and polyfluoroalkyl substances (PFAS) and smaller, finer solids
- Chlorine addition for disinfection and pH adjustment for corrosion control

The new TTRWTP will incorporate improved treatment technology in order to provide high quality finished water and to maintain distribution system residuals. The regional facility, with design capacity of 12.5 MGD, would meet all current and anticipated drinking water standards, and would also improve the aesthetic quality of drinking water for Braintree, Randolph, and Holbrook.

**Holbrook DW-22-53**

The proposed Tri-Town Regional Water Treatment Plant (TTRWTP) project would create a regional facility to replace the existing Braintree WTP and Randolph/Holbrook WTP. The new regional facility would eliminate redundancies of having two individual plants and their associated capital and operation and maintenance costs. The new Tri-Town WTP will help protect public health by reducing bacteria, carcinogenic compounds, and disinfectant byproducts present in the current systems. The water treatment process would be as follows:

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**MWRA DW-20-33**

This construction project will replace approximately 10,500 feet of 48-inch PCCP water main, Section 89, in Stoneham, Winchester, and Woburn, the abandonment of Section 29 in Stoneham, and the replacement of valves and appurtenances for approximately 9000 feet of 36-inch Ductile Iron water main in Woburn. Replacement of the older PCCP pipeline in Section 89 (identified as having a significant risk of catastrophic failure) will ensure that this service area has a redundant means of water supply.

**MWRA DW-22-07**

This project includes the Southern Extra High service area that has been identified as being deficient in distribution storage and lacking redundant distribution pipelines. Correction of these deficiencies has been assigned a Priority One under MWRA's 2006 and 2013 Water System Master Plans due to the potential critical threat to public health that could result from a failure in this single transmission main.

**MWRA DW-22-08**

The Weston Aqueduct Supply Main 3 (WASM 3) is an existing 10-mile, 56-inch to 60-inch diameter, steel water main that supplies the communities of Waltham, Watertown, Belmont, Arlington, Lexington, Bedford and Winchester. In addition, the pipe conveys flow to the MWRA's Intermediate High, Northern High and Northern Extra High pressure systems. The pipe was built in the 1920's and is in need of repair due to frequent leaks and aging valves and appurtenances. It serves as a primary means of backup supply within the MWRA's distribution system in the event of a failure along the City Tunnel and City Tunnel Extension.

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**Asset Management Planning Agreements****Abington-Rockland Joint Water Works DWA-22-39**

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## **Drinking Water Agreements**

**Brockton DWP-22-13**

The City of Brockton's North Main Street water transmission main replacement project will target the 18- to 24-inch unlined cast iron pipe from Manners Court (Woodland Avenue WTP) to East Battles Street where the City has experienced historical water main breaks and water quality issues, and extend the North Main Street water transmission main, on North Main Street, Wilder Street and North Montello Street. The new water transmission main will replace existing 6- and 8-inch diameter unlined cast iron water mains installed in the 1890's. In total, it will replace approximately 3, 900 feet of water main and will connect to the existing transmission main in North Montello Street, creating a better hydraulic loop in this part of the water distribution system.

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