Project Descriptions for November 3, 2021

Board of Trustees Meeting

Asset Management Planning Commitments

Canton CW-21-19
The Town of Canton is advancing its asset management program to the next phase with a strong focus on sewer assets and water treatment facilities. The Town has a specific goal of understanding the costs of water production at each of its two facilities. This phase of the asset management program will also be focused on further realizing the capabilities of the Town's asset management software, Cityworks, for vertical assets (facilities), and to extend the capabilities of the software through an investment in GraniteNet, which will better support the Town's condition assessment programs.

Methuen CW-21-20
The City of Methuen owns a vast drainage system along the Merrimack and Spicket Rivers. The City is prone to storm-related flooding and has ranked flooding as residents' second highest hazard concern. Culverts were identified as vulnerable infrastructure due to age and inadequate size for today's storms. Due to financial and staffing constraints, the City has fallen behind with stormwater program compliance. Drainage system operation and maintenance has improved, but the City does not have a drainage system capital improvement plan. The goals of the proposed asset management plan (AMP) are to create a risk-based AMP, a capital improvement planning methodology, and estimate the cost of asset maintenance in the future years.

North Attleborough CW-21-27
The Town of North Attleborough seeks to expand upon horizontal asset mapping efforts to develop a comprehensive asset management plan (AMP) that includes vertical assets at water and sewer pump station, flow metering stations, and the Town's water treatment plants. Goals of the proposed North Attleborough Water and Sewer AMP are as follows: create defendable risk-based AMP methodology to guide decision-making and help prioritize infrastructure rehabilitation, replacement and maintenance activities to meet level of service goals; develop an inventory of assets; perform condition assessments; replace logbooks with GIS-based record forms; determine operational, replacement and maintenance costs; and, capture institutional knowledge from personnel nearing retirement.

Southampton DW-21-07
The Southampton Water Department seeks to expand the existing asset management program. Project objectives are to:
1) Improve the existing asset inventory by verifying existing features, adding new asset types, and performing field data collection;
2) perform a criticality/risk analysis, then create prioritized inspection/replacement schedules and a work order tracking system; and,
3) create a written Asset Management Program Plan describing how to use and maintain the Asset Management System.

The System will be deployed through a web-based GIS platform that allows a user to click on any system asset to view its attributes, calculated risk, and tracking information. A series of "to do" lists will be displayed by a companion dashboard.

Community Septic Management Program Commitment

Concord CW-21-18
Community Septic Management Program

Clean Water Commitments

Millbury CW-21-21
The Town of Millbury's Sewer System Rehabilitation project will remove I/I and address structural defects. This project will implement the recommendations from the Sewer System Evaluation Survey (SSES) to remove cost-effective I/I and rehabilitate sewer pipes and manhole with structural defects. The project includes chemically root treating 2,417 feet of sewer; cleaning, inspecting, testing, and sealing 5,340 feet of sewer; installing 60 linear feet of structural short liner; installing 8,830 linear feet of structural cured-in-place pipe; performing 2 spot repairs; testing and grouting 18 service connections; installing 7 lateral liner; chemically root treating 17 manholes; cementitious lining of 1,350 vertical feet of manholes; and, other related tasks.

Nahant CW-20-13
The project will involve construction of sewer pipeline repairs and replacements within the Town to improve water tightness, eliminate I/I influences and replace broken and collapsed sections of the sewer collection system. Sewer manhole, force main and pump station repairs and upgrades are also included in the town wide improvement program. Phase 1 will address high priority defects identified by a comprehensive town wide assessment and CCTV program.

Whitman CW-21-17
The Town of Whitman's project involves the full-length replacement of the 16,000 LF sewer force main from the Auburn Street Pump Station in the Town of Whitman to a gravity sewer terminus manhole located on Southfield Drive in the City of Brockton.

Drinking Water Commitments

Blackstone DW-20-20
The Town of Blackstone will construct a new water treatment facility and water mains to connect to the existing distribution system. The new water treatment plant will include a Green sand Plus TM filtration system to improve the drinking water quality by reducing high manganese concentrations.

East Brookfield DW-21-09
The Town of Brookfield's project includes the preliminary planning and investigations required for the design of a new sole Water Storage Tank (WST) and sole Water Treatment Plant (WTP) to meet the requirements of the Administrative Consent Order issued by MassDEP. Tasks for the WTP will include preliminary site analysis, treatment pilot for iron and manganese removal, and conceptual floor plan designs. A new water storage tank is necessary to maintain minimum pressure throughout the system and provide more usable storage. Tasks for the tank will include preliminary site analysis, tank style analysis, and hydraulic evaluation. Additionally, a Unidirectional Flushing Program will be developed using the Town's hydraulic model to improve water quality in the distribution system.

New Bedford DW-21-12
The City of New Bedford is due to update their Unidirectional Flushing (UDF) program to completely and efficiently flush their entire water distribution system to remove sediment, debris and tuberculation that accumulate over time on the interior of water mains.

Asset Management Planning Grant Agreements

Canton CWA-21-19
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Community Septic Management Program Agreement

Concord CWT-21-18
Community Septic Management Program

Clean Water Agreements

Brockton CWP-18-42-A
This biological nutrient removal (BNR) project is necessary to enable the Brockton Advanced Water Reclamation Facility (AWRF) to comply with its NPDES permit requirement to achieve effluent total nitrogen (TN) of 450 lbs/day seasonally, equivalent to 3 mg/L on an 18-MGD average flow basis. The improvements anticipated are based on the demonstrated results and findings of a full-scale pilot process train that has been operational for almost two full nitrogen-removal seasons. This project will involve upgrading the AWRF's other six aeration basins to the Bardenpho configuration and making other AWRF improvements as necessary to support the process upgrade.

Dudley CWP-20-14
The Town of Dudley completed an Infiltration/Inflow (I/I) Analysis and is performing a Sewer System Evaluation Survey (SSES). The SSES fieldwork will be the basis of the design of construction projects to remove the identified sources of excessive I/I. These projects could remove as much as 184,400 GPD of infiltration and 169,600 gallons of inflow during the 1-year, 6-hour design storm. These projects will protect public health and the environment by reducing the occurrence of sanitary sewer overflows.

Nahant CW-20-13
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Nantucket CW-20-42
The Sea Street Pumping Station pumps flow from the Town of Nantucket's collection system to the Surfside Wastewater Treatment Plant through one of two force mains. There is a 20-inch ductile iron force main (constructed in the 1980s) and a cast iron force main rehabilitated with 16-inch polyethylene pipe (PE pipe installed in the 1980s). On January 4, 2018 the rehabilitated pipe suffered a failure leading to an SSO and discharge of at least 2 million gallons of untreated sewage into the Nantucket Harbor. Since the force main break, the Town has determined that due to the age and condition of the existing force mains, a new pipeline should be constructed to mitigate the risk of future SSO's and provide needed system resilience.

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