MASSACHUSETTS CLEAN WATER TRUST

The City of Haverhill

HOW HAVERHILL'S AMP GRANT ALLOWED THE CITY TO IDENTIFY AND COMMUNICATE THE NEED FOR STORMWATER AND WASTEWATER UPGRADES

Community Profile

Utility
City of Haverhill Department of Public Works (DPW)

Systems
Stormwater and Wastewater

Total Project Cost
$250,000

2020 AMP Grant
$150,000

Utility Profile

- Serves approximately **68,000** people
- **200** miles of sewer collection system piping
- **16** water pump stations and **37** sewer lift stations
- **120** miles of stormwater gravity pipes (ranging from 6 to 60-inches)
- **700** stormwater outfalls
- **9,677** sewer and stormwater manholes

Prior to 2020, the City of Haverhill did not have **any** stormwater or wastewater asset management system and lacked a risk-based approach to repair and replacement. The City's incomplete picture of its systems meant that it could only perform emergency repairs when an asset failed instead of pursuing a proactive approach. Recognizing the inefficiency of this system, the City applied for an Asset Management Planning (AMP) Grant from the Massachusetts Clean Water Trust in 2020.

Activity Summary

- Updated and improved the City's existing Geographic Information System **(GIS)** data through inventory and location of assets
- Connected GIS to **Computerized Maintenance Management System**
- Performed a **criticality analysis** on drinking water distribution, stormwater collection, and wastewater collection systems
- Planned for future short-term, immediate-term, and long-term **capital improvement projects** for horizontal assets
- Determined **long-term funding strategies** to ensure high-level performance and pipe integrity

Case Study - Haverhill

Grappling with a Lack of Data

The City's strategy of emergency repairs meant that maintenance work was often very time-consuming and expensive, on top of the disruptions these failures caused to the system. James Conte, the Project Manager for the 2020 Haverhill AMP Grant, expressed that he was taken aback by the lack of data that the City had available, noting that most were stored only on physical records that were not entered into any kind of database.

Cityworks for Technical Upgrades

Haverhill developed a stormwater and wastewater Asset Management Plan in conjunction with the engineering firm Woodard & Curran. The City also made multiple technical upgrades after receiving the AMP Grant, including integrating Cityworks, a Computerized Maintenance Management System that tracks CCTV work, scheduling, and maintenance with already existing GIS. They also incorporated Esri mobile field mapping and GPS units to do spatial corrections in the field, with the City now using a combination of these technologies to conduct work. These technical upgrades allow the City to assess the criticality of major stormwater and wastewater infrastructure to determine which components are likely to fail and need to be addressed with utmost importance.

A Push to Get Ahead of Emergency Repairs

Mr. Conte noted the financial impact of the City's AMP Grant, saying that it has given Haverhill the ability to fix things before they need emergency repair. This has allowed the city to stay ahead of failures that can cause disruptions and cost millions to fix. Further, this risk-based approach has allowed the DPW the ability to more effectively communicate the need for investments in infrastructure rehabilitation and maintenance to the City.