



# Sewer Works

## Newsletter of the Hull Sewer Department Spring 2020

### Operations Message

As this Newsletter is being prepared, we are all amid the COVID-19 pandemic outbreak. Certainly, our life and the manner in which things are done have changed, however, work activities continue to function, albeit in limited and different ways. Safety protocols specific to the pandemic are practiced daily by all staff, our contract operators, and all the construction crews to ensure we protect our own safety and the safety of the public. We take part in weekly Coronavirus Task Force meetings with all town departments. We participate in weekly Department of Environmental Protection (DEP) wastewater operator calls to share the latest information, safety and work considerations, learning about what others are doing, concerns, and to what extent the state and federal agencies can support wastewater systems in providing personal protective equipment, chemical supplies, staffing and other considerations to support the essential operations of wastewater systems. The Town has become a member of Massachusetts WARN (Water/Wastewater Agency Response Network) which is a form of mutual aid, similar to police and fire departments, to support local area wastewater facilities that face threatened or specific damages from natural or human-caused events to provide emergency assistance in the form of personnel, equipment, materials or other services as necessary. An interesting sidebar associated with the outbreak, is that some public health experts are using wastewater as an indicator to track the coronavirus to predict potential outbreaks and track communities to determine when it may be safe to ease social distancing rules. We have applied to be a participating utility, however due to the overwhelming interest around the world (only two facilities in Massachusetts were selected), we were placed on a waiting list until additional testing capacity opens.

John J. Struzziery, P.E., Director of Wastewater Operations

#### Project Updates:

Nantasket Avenue Interceptor Sewer: All of the main line interceptor sewer liner rehabilitation is complete. Manholes are mostly complete with a new cementitious and epoxy lining system that will provide added corrosion protection and service life. We have expanded the scope of the project to include all manholes rehabilitated 15 years ago, to get the same epoxy lining, so that the entire system from Water Street to the treatment facility is updated at this time. We have also inspected the previously installed liner systems in the pipeline and those are all performing as intended. The last major piece of work includes another change that was added to include lining of the last section of 36-inch diameter pipe at the treatment facility. This work was originally intended to be part of another project and was added once we determined there were numerous benefits including time and cost savings to complete the work under this contract. All work is planned to be complete by the end of May.

Atlantic Avenue Sewer Improvements: Work is progressing with installation of new sewer, manholes, and service connections along Atlantic Avenue between Montana

#### Hull Sewer Department COVID-19 Safety Protocol:

The Sewer Department is open for business during the COVID-19 pandemic however please note that our office and treatment facility are both CLOSED TO THE PUBLIC. To contact the Sewer Department please use phone or email:

Office Phone: 781-925-1207

Email: [sewer@town.hull.ma.us](mailto:sewer@town.hull.ma.us)

Sewer Permits: Licensed Sewer Installers must coordinate permits and tie cards with staff by contacting the office. **No office visits.**

Sewer Backups: Contact the office if you are experiencing a sewer backup. Staff will inspect the sewer main in the street to confirm flow and advise as appropriate. **Staff will not enter your home or business.** Backups on private property are the responsibility of the property owner and should be resolved by engaging a drain cleaning contractor or plumber.

Grinder Pump Alarms: Contact the office. If Town-owned pumping systems cannot be maintained outside the property, then **staff will only enter the property abiding strict PPE and disinfection protocol.**

Real Estate Inspections: Realtors or sellers should email pictures or video of property basement confirming no illicit sewer connections (e.g. sump pumps) as well as the current water meter readings for the final sewer bill. Follow up inspections may be performed later, and the buyer will be responsible for any sewer connection not in compliance.

New Construction Inspections: Coordinate with our office.

Second Meter Seals: Will be postponed until after the pandemic.

• • •

#### CONTRACTOR Safety Protocol:

Construction contractors are essential workers under state orders and as such, must follow requirements set by the state. These include zero tolerance for sick workers reporting for duty, social distancing and other requirements. The Sewer Department requires its contractors to follow these state guidelines and monitors daily compliance.

• • •

**CONSTRUCTION PROJECTS:** Check status of construction projects and updates on our web page

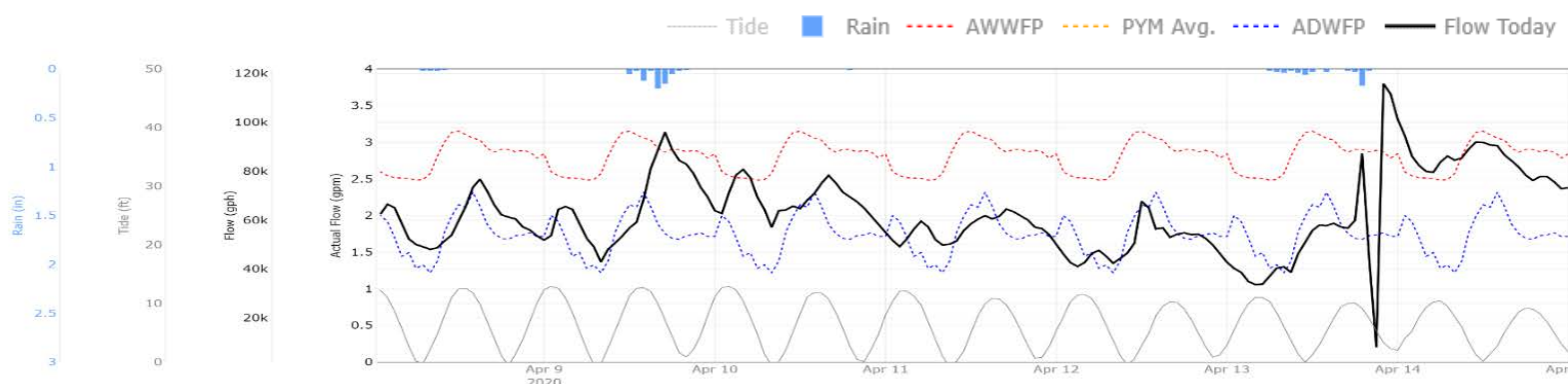
<https://www.town.hull.ma.us/sewer-department>

Avenue and Driftway. Work is being hampered due to weather, unmarked utilities, high groundwater conditions, and unknown service connections that are encountered while excavating and replacing the old sewer with the new sewer. In addition to some service lateral lining, joint grouting, and other incidental work, all older manholes along Atlantic Avenue will be rehabilitated with a cementitious lining. Included in the project is installation of a new manhole and liner on the end of the 14-inch diameter force main (pressure pipe) along Nantasket Avenue at Water Street. All trenches along Atlantic Avenue will be paved as the final item of work which is expected to be completed by the end of June.

Coordination with Roadway Program: Most of the sewers and storm drains within the roadways scheduled to be paved this year have been inspected and condition assessments made to determine what areas require sewer and/or drain repairs. Some of these repairs have been made already by DPW crews and other contractors, while other work is being included as part of a separate project in advance of the paving.

### Grants Update:

- CZM Facilities & Resiliency Design: We have completed and submitted the 30 percent design report to CZM. This provides the basis for advancing the design to include natural earthen berms along the public facing areas of the facility, a structural wall along the backside to keep flood waters from encroaching the property on the backside, and driveway flood gates, all as a means to provide greater resiliency during major storm events and to allow the facility to recover faster when such an event affects the Town. Over the coming months, the design will be advanced such that an Environmental Notification Form (ENF) will be submitted to the state that will determine the need for other permits that get triggered as a result of this project. We will be seeking an additional grant from CZM to continue the design and other permitting.



- CEC: An Artificial Intelligence platform is being implemented to analyze and forecast treatment facility flow and load data, which will be used to improve energy efficiency in our operations. We recently launched our Collection System module which is helping us identify infiltration and inflow to the sewer as well as forecast pumping requirements based on weather and tidal data. *See image above.* This plot shows the real time flow into the treatment facility as well as the rainfall, tide, and what the AI platform predicts should be the average dry weather and wet weather flows. Note the peaks at each high tide cycle which indicate infiltration, and the peaks at each rain event which indicate high inflow from rain and storm surge. The dropped data point on April 14<sup>th</sup> is when we temporarily lost power before the automatic transfer to generator power.
- FEMA: FEMA is continuing to review our project that will relocate critical electrical equipment and controls to the second floor of the administration building to maintain treatment system functionality during a significant storm event.

**Sewerology:** This Newsletter we focus on a smaller portion of our collection system known as the low-pressure system. In these areas, sewers were constructed using individual home grinder pumps and smaller diameter pressure sewers at a shallow depth to avoid more costly and deeper conventional gravity sewer system. Although these are reliable systems, similar care is needed to not dispose of debris that could clog the pumps and be aware of their operation and limitations. See below for some guidance on these systems.

### For those connected to the Town sewer system by way of a Low-Pressure Grinder Pump

- In case of a power failure the pump will not work nor will the alarm sound. You will need to limit your water use.
- The high-water alarm light may come back on after power is restored. This is normal if water use has contributed to a high level in the pump chamber. Sometimes the condition will resolve itself; if not, it may require a tripped electrical breaker in the main panel to be reset.
- On rare occasions the pump may go into alarm when there is not an actual problem. This commonly occurs when the pump is just about to run, and a large amount of water is in the pump chamber. The pump is designed to pump 9-15 gallons a minute, when the flow from a washing machine or bathtub enters the chamber the level rises and sets off the alarm. The pump should catch up and the alarm should stop on its own. If not, you can silence the alarm by pressing the silence button on the bottom of the alarm panel.
- Never flush wipes (even if labeled flushable), sanitary napkins, tampons or applicators, dental floss, hair, kitty litter or anything down the toilet except the three P's- Paper, Pee and Poo.
- Ensure access is always available to the grinder pump. Keep plant growth and other debris away from the unit and the control panel.