



Haverhill

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April 27, 2018

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Water Technical Unit (SEW)
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Boston, MA 02114-0032

Massachusetts Department of Environmental Protection
Northeast Regional Office
Bureau of Resource Protection
205B Lowell Street
Wilmington, MA 01887-2941

Subject: City of Haverhill NPDES Permit # MA0101621
Infiltration/Inflow (I/I) Report 2017

In accordance with the City of Haverhill's NPDES Permit # MA0101621, Part I.F.3, we are providing this summary report of all actions take to minimize I/I during calendar year 2017. Please note the headings below are taken from the NPDES permit.

Inspection and Maintenance Activities Conducted and Corrective Actions Taken in 2017

The following activities were conducted in 2017.

- In response to increased flow to the wastewater treatment plant, crews investigated and found inflow from the Merrimack River entering sewer manhole SMH-6151. To prevent river water from entering in the future, the cover was welded closed.
- Inspected all sewer manholes along the river bank looking for potential river inflow.
- Completed technical memorandum to provide cost estimates for further inspection and rehabilitation of the sewer collection system.
- Monitored influent flow to the wastewater treatment plant for increase due to inflow and responded accordingly.
- In accordance with the Consent Decree, the City submitted a sewer system rehab and repair plan. The first phase of the plan includes improvements in sewershed areas 14 and 23 which were identified as areas with high I/I.

Expenditures for any I/I related maintenance activities corrective actions taken

Expenditures for I/I activities are part of the wastewater operation and maintenance budget and are not tracked separately.

Annual Average and Maximum Month I/I

The Annual Average I/I was 5.98 MGD for the entire collection system including combined and separate sewer areas. The Maximum Monthly I/I for 2017 was 11.0 MGD and occurred in April. Rainfall for the month of April was 4.20 inches compared to the historical average of 3.70 inches for the month of April (1895 to present). The Base Sanitary Flow was estimated using water usage records and sewer population.

Infiltration/inflow related corrective actions taken as a result of unauthorized discharges reported pursuant to 314 CMR 3.19(20) and reported pursuant to the Unauthorized Discharges section of this permit.

No I/I related corrective actions were taken in 2017 as a result of Unauthorized Discharges.

CCTV inspection of sewer lines that experienced a sanitary sewer overflow was added to the procedures for follow-up on sanitary sewer overflows. To date these inspections have not shown any evidence that I/I may have caused a sanitary sewer overflow.

The City continues to develop an approach to include the CCTV pipe inspections (of sewer lines that experienced sanitary sewer overflows) into the GIS.

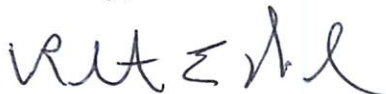
Areas Identified for I/I-Related Investigation/Action in 2018

The following activities are planned for 2018.

- Submit I/I Analysis report to DEP as required by 314 CMR 12.04 (2)(a) 1.
- Continue to develop a repair and rehab plan for the sewer collection system.
- Start the next phase of CCTV inspection.
- Start engineering for the design phase of the sewer system rehab and repair program.
- Continue installing "Mission SCADA Alarms" so that pumping stations can be queried for rain events to observe if there is any increase pumping rates. For example, attached is a screen capture for the Clydedale Avenue pumping station showing pump runtimes and rainfall. There does not appear to be an increase in routine during rain events.

If you require additional information, please contact Paul Jessel at (978) 374-2382 or via email at pjessel@haverhillwater.com.

Sincerely,



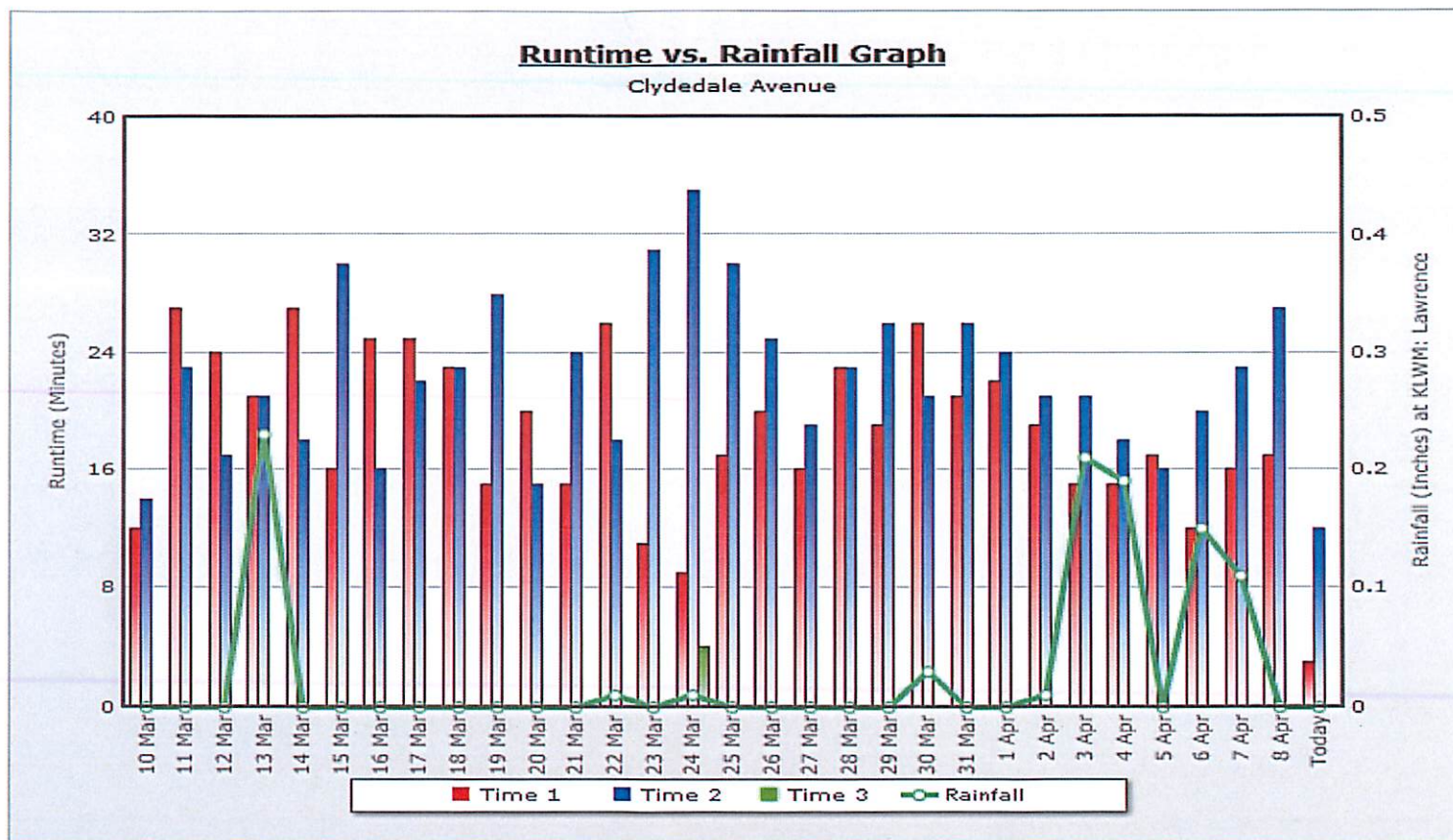
Robert E. Ward
Deputy DPW Director

Attachment (1)

cc: Paul Jessel, Collection System Supervisor, pjessel@haverhillwater.com
Fred Haffty WWTP Facility Manager, fhaffty@haverhillwater.com

City of Haverhill NPDES Permit #MA0101621
Infiltration Inflow Report 2017

Attachment (1)



Prepared Monday, April 9, 2018 11:30:13 AM.
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