

Since the last update October 2015, the WSS working group met frequently during winter 2016 on revising the SW rate structure. Since May however, WSS met twice (1) to discuss the process ahead that will develop a more detailed plan to meet the new EPA MS4 (water quality) regulations, and (2) August 24 to update the many aspects of the ongoing WSS plans, including the very recently developed plan to eliminate lead contamination from public and private water delivery systems. Overall, WSS work is on schedule, but coordinating underground work (and street work in general) is continually challenged by insufficient police details and sometimes coordination with identifying and repairing leaky gas infrastructure.

## **STORMWATER**

### **SIIP: Stormwater Infrastructure Improvement Program**

**Stormwater Fees:** The 20 year, \$42 million plan adopted in 2015 was funded partially with an increase to \$75/year for residential property beginning FY16, and by adding tiered rates based on impervious surface for non-residential properties beginning FY17. The first major project, which is to rehabilitate the Dedham Street culvert and replace and enlarge main drains near Countryside School, will be complete soon and ahead of schedule.

Field inspection of the culvert on the Zervas site revealed it is in good condition; major culverts on the Cabot site, require replacement of 320LF of 5'x10' box culvert, as anticipated. Engineering is underway and work will be coordinated with the rebuilding of the Cabot School.

In FY15, the Board accepted a **\$620,000 grant** covering 75% of the cost to repair/replace the **Hammond Brook culvert** upstream of Glen Ave., and approved \$155,000 for the city portion. The calculated need to replace the 24" drain with a 60" drain proved physically impossible, so Weston & Sampson re-engineered to repair/reline the existing 24" pipe and provide a second 24" pipe to meet the capacity deficit. Planned April 2016 construction is delayed until FEMA approves the design.

Director of Utilities Ted Jerdee prepared a more detailed revised SIIP for the next five years that will be incorporated into the draft 2017 CIP this coming October. Councilors asked again for a financial plan showing more clearly work that can be bonded over the 20 years, so that we may assess how much work we can do each year given various financing scenarios.

**Second (outdoor) Meters:** 2226 properties have irrigation meters installed as of August 10, 2016. Applicants are now required to pay for the transponder upon registration.

## **WATER SYSTEM**

**Lead Removal Program:** As you know, testing for lead contamination in drinking water was greatly expanded this summer, and monies made available by the Commonwealth will cover some of the needed repairs. Remediation at the Burr School is complete, which included abandoning the

**WATER SYSTEM** (continued)

old service (the inaccessible beneath the building was cast iron with lead joints, though the old portion in the street was new) and installing a complete new copper service. In addition, the city requested and is offered about \$4 million in no interest MWRA loans to assist in replacing private lead water services. The Department hired interns to help research all Newton properties to cull how many may have lead service lines, and issued 636 letters to those property owners. To date the DPU has received 530 returns and 350 signed right of entry forms. Tata & Howard are preparing bid specifications for replacement of all of these lines. The item to accept the grant will be before the Council on Sept. 6. Although property owners own their water service from their foundation to the property line, the City has normally assumed 100% of the cost to replace lead service lines in the public right of way. Funds from the MWRA no interest loans may be made available to private property owners. Once the estimated cost of the project is complete, the Council will determine the cost to the property owner for the replacement of the portion of the water line on their property.

**Unaccounted water (UAW):** Tata and Howard Engineering have performed a draft water audit in accordance with AWWA Standards for 2015 consumption. DPU estimates total annual unaccounted water (UAW) at 25.2%. This number comprises both APPARENT LOSSES (meter inaccuracy, data handling errors, unauthorized consumption) at 7.5%, and REAL LOSSES (water leaks, including surfacing leaks, non-surfacing leaks and background leakage, at 17.7%.

**Audit:** The one remaining item is to test the **Manet Road Reservoir:** This September, Underwater Solutions' is diving within the Reservoir to inspect and test for leaks. As you may recall, due to the complexities of shutting down the reservoir during the peak usage months, the larger test, isolating and testing the Reservoir for leaks was delayed from November 2015 to fall 2016. Cidrone Trucking won the bid, (as well as the bid to replace the water main in Austin Street.)

**Water System Long Range Assessment:** Tata & Howard worked with our DPU to develop a more detailed strategic investment plan to rehabilitate the system (now that work is completed to meet fire flow requirements), partially based upon the 2015 study and "hydraulic analysis" by CDM Engineers. We understand, for example, that pipes manufactured post WWII contribute more significantly to water leakage and so DPU prioritizes leak testing for these pipes. Director Jerdee says this work has given the department a clearer path to prioritize work and they evaluate progress monthly.

**Leak detection:** Citywide leak testing (and subsequent repairs) was increased to twice per year, beginning last spring (next testing is this October).

**Water System Projects Update by Ward:** Main replacements are now complete on both Linwood and Nevada Streets. Main replacements are ongoing on Cherry, Oakland, Church and Maple Terrace (which also required a new gas main).

**SEWER SYSTEM****Sewer Infiltration & Inflow (I&I) Removal by Project Area (PA):**

**PA #1 & 2 construction** is complete; **PA #3 & 4 construction** is ongoing, through February 2017. Added to this work was the new sewer main in Austin Street and sewer repairs to East Quinobequin Road pre-paving. PA#5 engineering is 50% complete and PA #6 investigation is 64% complete.

**Inflow Removal Program** (illegal rainwater drainage connections to the sewer system)

The 7.1.2016 report from environmental engineer Maria Rose, shows 422 identified inflow source connections removed at 486 property locations (**87% compliance**).

**Sewer Fats Oil and Grease (FOG) Removal:**

Several commercial areas where restaurants are contributing excessive amounts of Fats/Oils/Grease (FOG) have caused chronic blockages in the sewer collection system. This is expensive. Areas tested (by Brown & Caldwell) include Chestnut Hill Upper & Lower Mall, Florence Street, and Nonantum. Where contributors identified have been notified. The health department has been notified to include observing proper FOG maintenance procedures in annual inspections. The DPU wants an annual inspection contract to cover 20% of the system each year over five years.

DPW met with the Health Department and ISD about inspection protocols and are developing a program to monitor these areas and enforce the code; we are anxious to have a program in place to reduce the repeated costs to the city of chronic blockages.

***The WSS Working Group*** includes CFO Maureen Lemieux, Commissioner Jim McGonagle, City Engineer Lou Taverna, Director of Public Utilities Ted Jerdee, and Councilors Crossley and Fuller. Also attending by relevant topic are Environmental Engineer Maria Rose, Conservation Commission staff Jennifer Steele, Robert Pishkin and Rob Symanski from DPU Accounting.