

BOSTON GROUNDWATER TRUST (BGwT)
BOARD MEETING
January 19th, 2017

The Board of Trustees of the Boston Groundwater Trust held its meeting in the Patriots Room at the Lenox Hotel located at 710 Boylston Street. The Executive Director electronically distributed meeting notice and agenda to the City Clerk at Boston City Hall in accordance with the provisions of the Commonwealth of Massachusetts' Open Meeting Law. Mr. Mitchell, co-chair, called the meeting to order at 4:07 pm. The following trustees were present:

Mr. Tim Mitchell, Neighborhood Association of the Back Bay
Mr. Greg Galer, the Boston Preservation Alliance
Mr. John Hemenway, Beacon Hill Civic Association
Ms. Janine Commerford, Greater Boston Real Estate Board
Mr. Peter Shilland, Ellis Neighborhood Association

Also present:

Mr. Christian Simonelli, Executive Director; Mr. John Sullivan, Chief Engineer of the Boston Water & Sewer Commission; Ms. Sue Prindle, Neighborhood Association of the Back Bay; Mr. Carl Spector, Commissioner of the Environment Department; Patrick Lyons (Legislative Aide for Representative Aaron Michlewitz); Susan Corwin, resident from 87 Saint Botolph Street

1. Adoption of the minutes of the November 19th, 2016 Meeting

Minutes were previously emailed to Board members for review. Mr. Simonelli noted two typographical errors to be corrected on page 2. Discussion followed. Mr. Hemenway, Trustee, moved to adopt the minutes. Mr. Shilland, Trustee, seconded the motion. Mr. Galer, Trustee, abstained.

Voted: To accept the minutes of the November 19th, 2016 meeting.

2. Financial Report

Mr. Hemenway reviewed the BGwT's financial reports and noted that the Balance Sheet detail line items for interest receivable and accrued expenses were identical for 2016 and 2015. Mr. Simonelli noted that the Trust's accountant Raphael & Raphael had yet to book adjusted journal entries due to software issues on their end but they will by the end of the week. Mr. Hemenway requested that balance sheets ending 12/31/16 and 1/30/17 be made available to Board at the March meeting. Discussion followed.

3. 2016 SEP-IRA Contribution

Mr. Mitchell, co-chair, reviewed the Trust's annual contribution to the Trust employee SEP-IRA account. He noted that the budgeted amount was \$4,500 and based on the 2016 W-2 a 5% contribution would require \$3,987.50. Discussion followed.

Ms. Galer, Trustee, moved to adopt the 5 % contribution. Ms. Commerford, Trustee, seconded the motion.

Voted: To approve the annual 5% contribution to the Trust employee SEP-IRA.

4. Presentation by John Sullivan, Chief Engineer from the Boston Water & Sewer Commission (BWSC)

Mr. Mitchell and Mr. Simonelli introduced Mr. John Sullivan. Mr. Sullivan covered the following points during his presentation to the Board:

- A background of Boston's water & sewer system and early construction methods
- Overview of BWSC's responsibilities
- Plans to look proactively for groundwater infiltration in their infrastructure
- BWSC is considering expanding its maintenance of sewer laterals beyond its current practice. BWSC currently owns and maintains the lateral only between the sewer main and the property line. The property owner owns and is responsible for maintaining laterals from the property line into the building. BWSC is exploring taking over maintenance for the entire lateral.
- Plans to increasing green infrastructure throughout the City
- Plans to rehab deep combined sewer overflows in the Back Bay
- Noted that he believes that all underdrains beneath BWSC sewer pipes have been plugged
- West side interceptor from TD Garden to Dartmouth Street has been rehabbed
- Infiltration discovered in sewer at the corner of Fairfield & Beacon Streets in the Back Bay
 - Sewer scheduled to be repaired within the next 6 months at a cost of approx. \$850K
- Infiltration discovered at Clarendon & Gray Streets in the South End. Additional inspections and subsequent repairs will be made.
- Nothing new at the Commercial and Richmond Streets in the North End but they will continue to investigate.
- Alley No. 430 sewer repair and recharge will start this Spring
- With the assistance of the Trust, will resume developing Groundwater contour maps based on Trust readings.

Mr. Sullivan took questions both during and after the presentation. Refer to the attached presentation for additional details.

5. Executive Director's Report

BGwT Executive Director Mr. Christian Simonelli distributed his report. Discussion followed. Refer to the attached *Executive Director's Report: January 19th, 2017* for a complete list of activities.

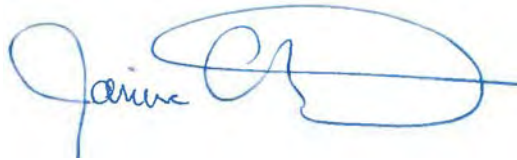
6. Other Business

- Mr. Mitchell noted that Mr. Simonelli will be contacting Trustees to meet with them on an individual basis to review the efforts of the Trust. He encouraged all Board members to think about potential presentation topics for future Board meetings.
- Mr. Simonelli noted that minor progress been made on the LightWell project since the last meeting, and that he will provide a more detailed update for the March Board meeting.

The meeting adjourned at 6:03 p.m.

NEXT MEETING: March 16th, 2017 @ 4:00 pm at the Lenox Hotel.
Notes submitted by Christian Simonelli, BGwT Executive Director, on 1/20/2017.

Approved February 8 2017



J. Commerford

EXECUTIVE DIRECTOR'S REPORT
January 19th, 2017

1. **Readings** – I have hired a new part-time well reader and he started our first set of readings for 2017.
2. **Meetings** –
 - a. I met with City Council President Michelle Wu (12/1) and provided an update on the Trust's efforts. President Wu is scheduled to attend our March Board Meeting.
 - b. I met with Terry Yin (1/10) from Midtown Home Health Services, Inc. to discuss finding a new Trustee for our vacant Chinatown Neighborhood Association seat.
 - c. I met with Caitlin Duffy and Natalie Littion (12/5) from Representative Jay Livingstone's office to review the drafting of potential legislation for the City-State Groundwater Working Group.
 - d. I attended the scoping sessions for the 212 Stuart Street (12/19) and 370-390 Harrison Avenue (1/11) projects.
 - e. I met with the new Back Bay neighborhood liaison Yissel Guerrero (1/10) to review the groundwater issue and GCOD zoning.
 - f. I spoke & met with residents & developers throughout the GCOD to discuss ZBA procedures and advised them on what they need to provide us to satisfy the zoning.
3. **MBTA** - Approximately 46.5 gpm is being injected into recharge wells in the area. In addition to our manual monitoring we have 4 wells in the area with dataloggers recording a water level every 60 min. Levels in the Appleton & Tremont Streets area have been lower than what was projected. In October BWSC has relined a sewer at the corner of Appleton & Tremont Streets. Although it took some time, the Logger data in the well at the corner of Appleton and Tremont started to slowly rise in December and did come up close to 2'. However, it has since dropped back to its low level. We will continue look for a solution and datalog this well.
4. **DCR** – The Storrow Drive Tunnel pump station system was not operating as anticipated. Discharge in the east pump showed it was not operating properly. This pump was replaced and the check valves for both pumps we also replaced. I have 3 dataloggers installed in the wells to monitor the levels in between manual readings. Internally within the next 6 months the DCR will look at underpass repairs and start to form a plan for what's next. Recharge will be part of the plan and will be looked for possible upgrade.
5. **BWSC** BWSC provided an update on the items listed below:
 - a. Performed dye tracer tests in our wells. Dye was discovered in sewer line adjacent to our observation well at the southwest corner of Beacon & Fairfield Street. Sewer line flow was bypassed and line was videoed. The video is being reviewed.
 - b. Site visit of 330 Beacon Street was conducted on (10/6) with the Trust and ISD. 2 sumps were discovered in the parking garage and basement. According to the building manger these sumps are used as oil/water separator systems for the garage. BWSC conducted dye tests in adjacent observation wells and no dye showed up in the sumps.
 - c. Along Clarendon, Gray, & Appleton Streets there were no signs of infiltration. CCTV inspection is scheduled.
 - d. Entry into the North End buildings along Commercial Street is being coordinated with ISD. BWSC will accompany ISD personnel to inspect buildings and check for sump pumps.
 - e. TV inspection at the corner of Richmond and Commercial revealed no infiltration. BWSC will continue to investigate.
 - f. In the Stuart Street area between Berkeley and Dartmouth Streets steam lines are causing an issue for inspections. BWSC is coordinating with Veolia to help in accessing lines.
 - g. Alley No. 430 is on schedule for spring 2017 construction. Recharge will installed as part of the repairs.

6. **MWRA** - Inspected the Boston Marginal Conduit (BMC) (approx. 4,000ft.) at the beginning of September. Minor signs of infiltration at four spots were discovered during the inspection. Those four spots will be repaired. Additional inspections will be conducted before repairs are made.
7. **MassDOT** - Additional inspection and repairs of the 24" portion of the Prudential Tunnel drain line is scheduled for later this month. So far wells in the area have shown a slight increase in response to the previous repairs that were made last January.
8. **Veolia Energy** - Two current projects proposed in the Back Bay may use their condensate for ground water recharge. The concept has been well received by the projects.
9. **Website** - I have posted articles and interviews about the recent drought and its potential effect on wood piles to our website. The most recent items are posted under the "*Latest News*" tab on our homepage. As always, I would appreciate any feedback you may have.



Boston Groundwater Trust

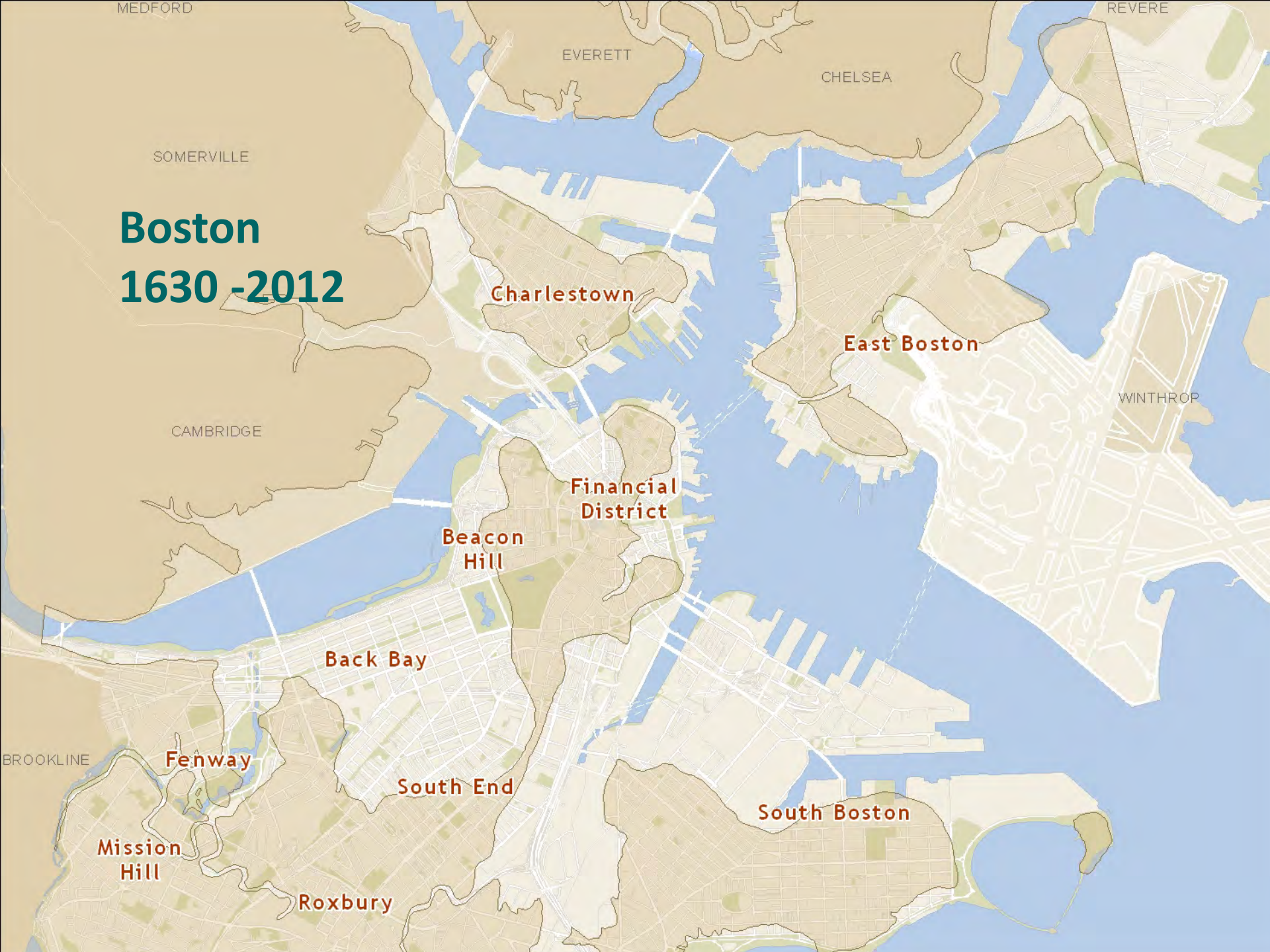
Maintaining Deep Infrastructure
in a Complex Environment

John P Sullivan P.E.
Chief Engineer
January 19, 2017

Agenda

- 1) Background of System
- 2) BWSC Responsibilities
- 3) Current Hot Spots and Proposed Actions
- 4) Discussion and Future Actions

Boston 1630 -2012





FANEUIL VALLEY BROOK OUTLET.
12 FT. 8 IN. X 11 FT.



7 FT. 6 IN. DIAM.

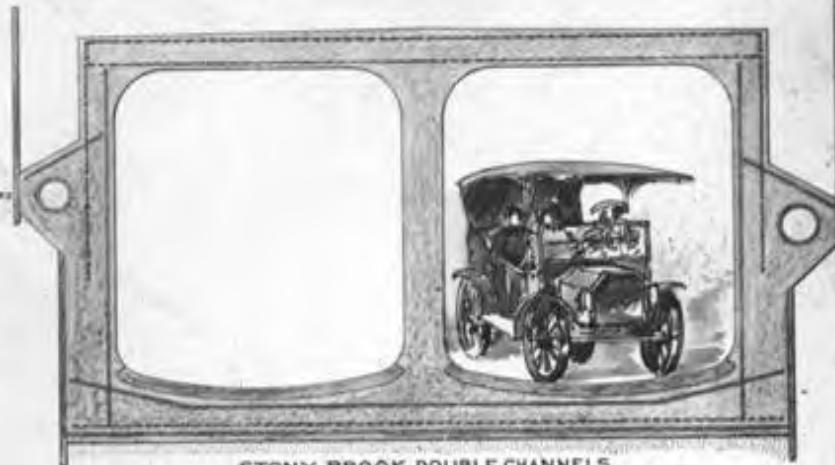


30 IN. X 36 IN.



MANHOLE.

CONCRETE
BRICK



STONY BROOK DOUBLE CHANNELS.
8 FT. 3 IN. X 9 FT. 6 IN.



6 FT. 6 IN. DIAM.



24 IN. DIAM.



3 FT. 9 IN. X 3 FT. 9 IN.



2 FT. 5 IN. X 3 FT. 8 IN.

BRICK STRUCTURES.

CONCRETE STRUCTURES.

MODERN SEWER STRUCTURES.

TRENCH MACHINE

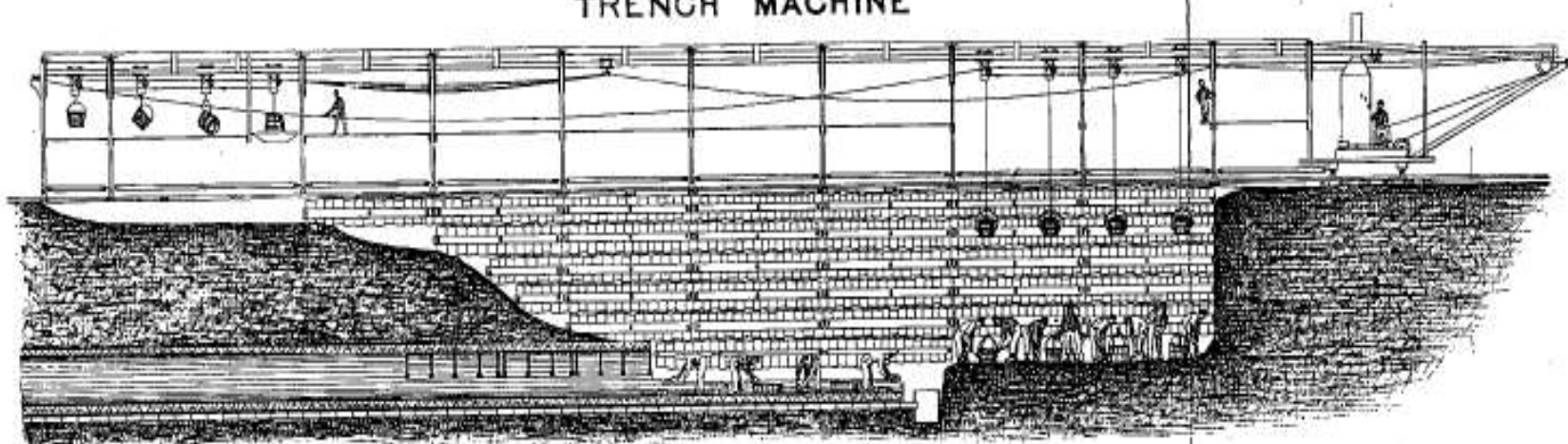
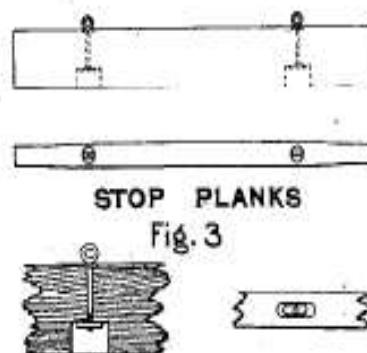


Fig. 1

MT. VERNON ST. 1883.



Fig. 2

CITY OF BOSTON
MAIN DRAINAGE

STOP PLANKS

Fig. 3

DIAGRAM MACHINE

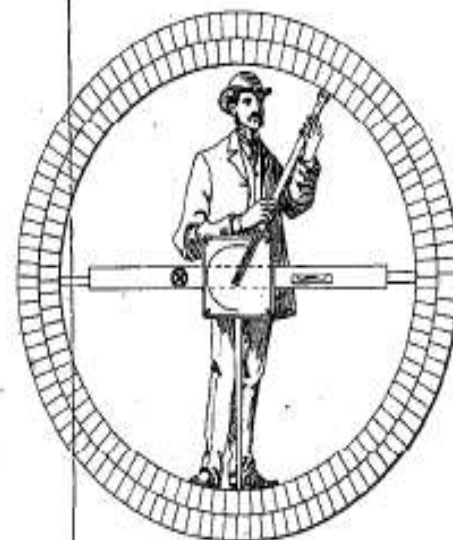


Fig. 4



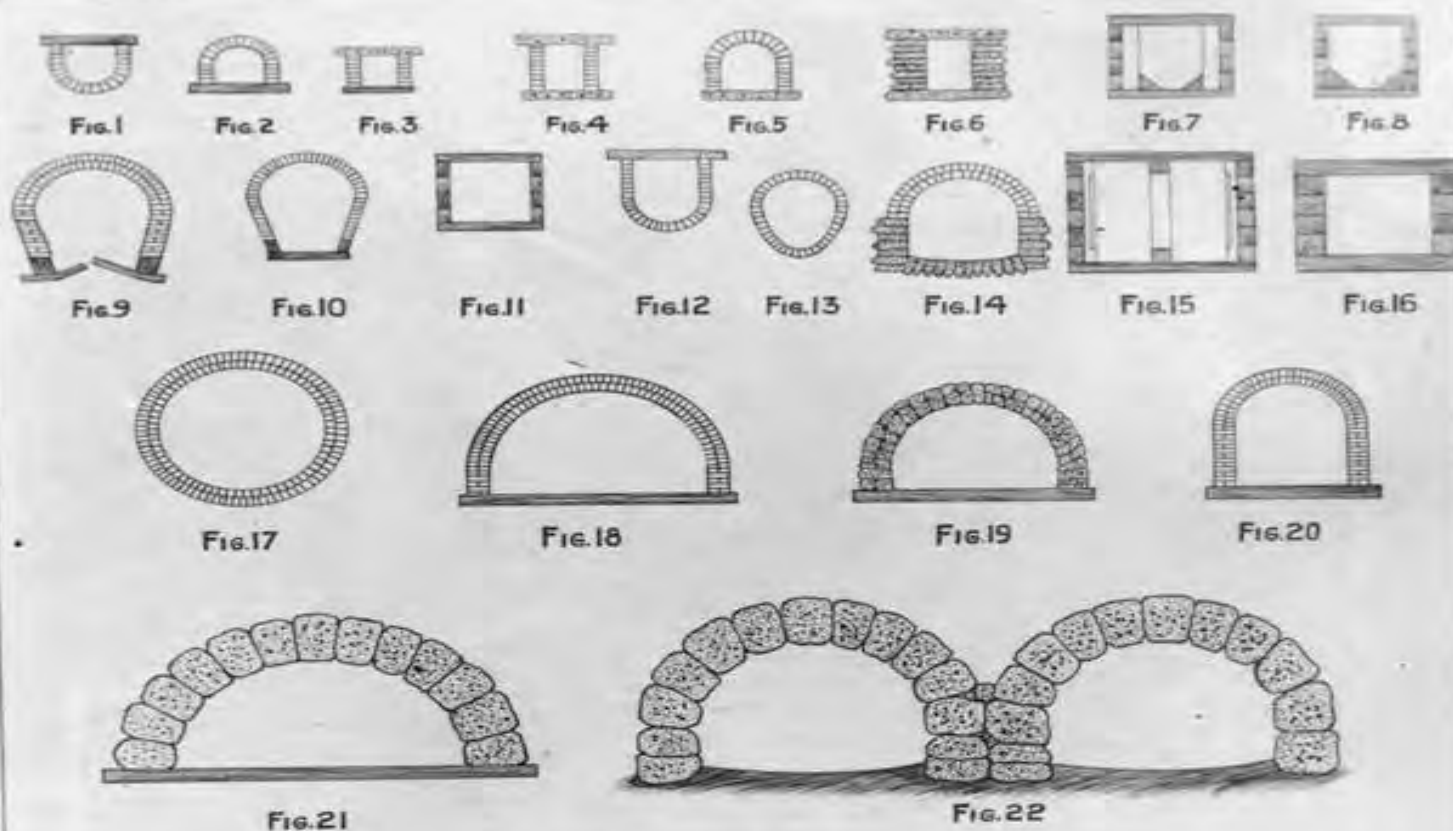
EAST BOSTON LOW LEVEL SEWER ACROSS TIDAL BASIN



A. STREET. DRIVING CONCRETE PILES
UNDER SUMMER ST. BRIDGE

Improvements made during the late 1800's and early 1900's





OLD TYPES OF BOSTON CITY SEWERS



HOUSE DRAINS

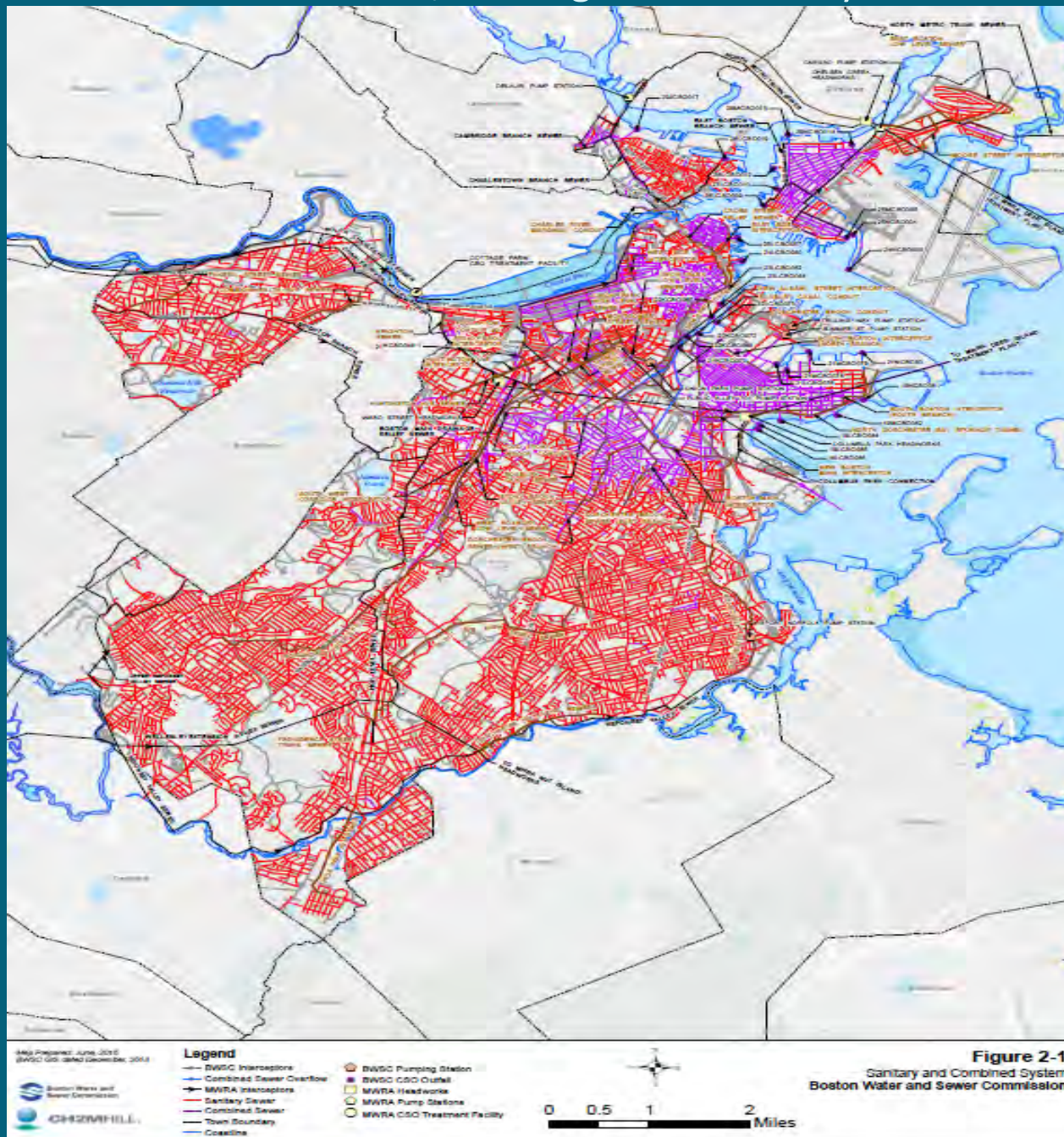




MWRA WASTEWATER SYSTEM



BWSC Wastewater/Drainage Collection System



BWSC Collection System


- 1448 miles of sewer and drain pipes
 - (249 miles combined, 612 miles sanitary, 587 miles stormdrain)
- Sewers range from 8 inch to 108 inch
- Drains range from 12 inch to 240 x 186 inch
- 5 stormwater pump stations
- 4 sanitary pump stations
- 417 outfalls
- 46,376 manholes

Enabling Act of BWSC

- (q) consistent with the constitution and laws of the commonwealth, the commission shall have such other powers, including all powers pertaining to the water works system and the sewer works system held by the municipality not inconsistent herewith, as may be necessary for or incident to carrying out the foregoing powers and the accomplishment of the purposes of this chapter; provided, however, that nothing in this chapter shall impose any duty on the commission to maintain groundwater levels within or without the boundaries of the municipality.¹²

¹² M.G.L. C. 40N, § 8, para. (q). Added by St.1992, c.343, § 2. Adopted by Board of Commissioners of the Boston Water and Sewer Commission, March 16, 1993.

Boston Groundwater Trust (BGwT):
Recharge Locations Installed Though GCOD Zoning
★ **428 Recharge Locations**

 **Preserving
Boston's
Historic
Foundations**
As of September 2nd, 2016

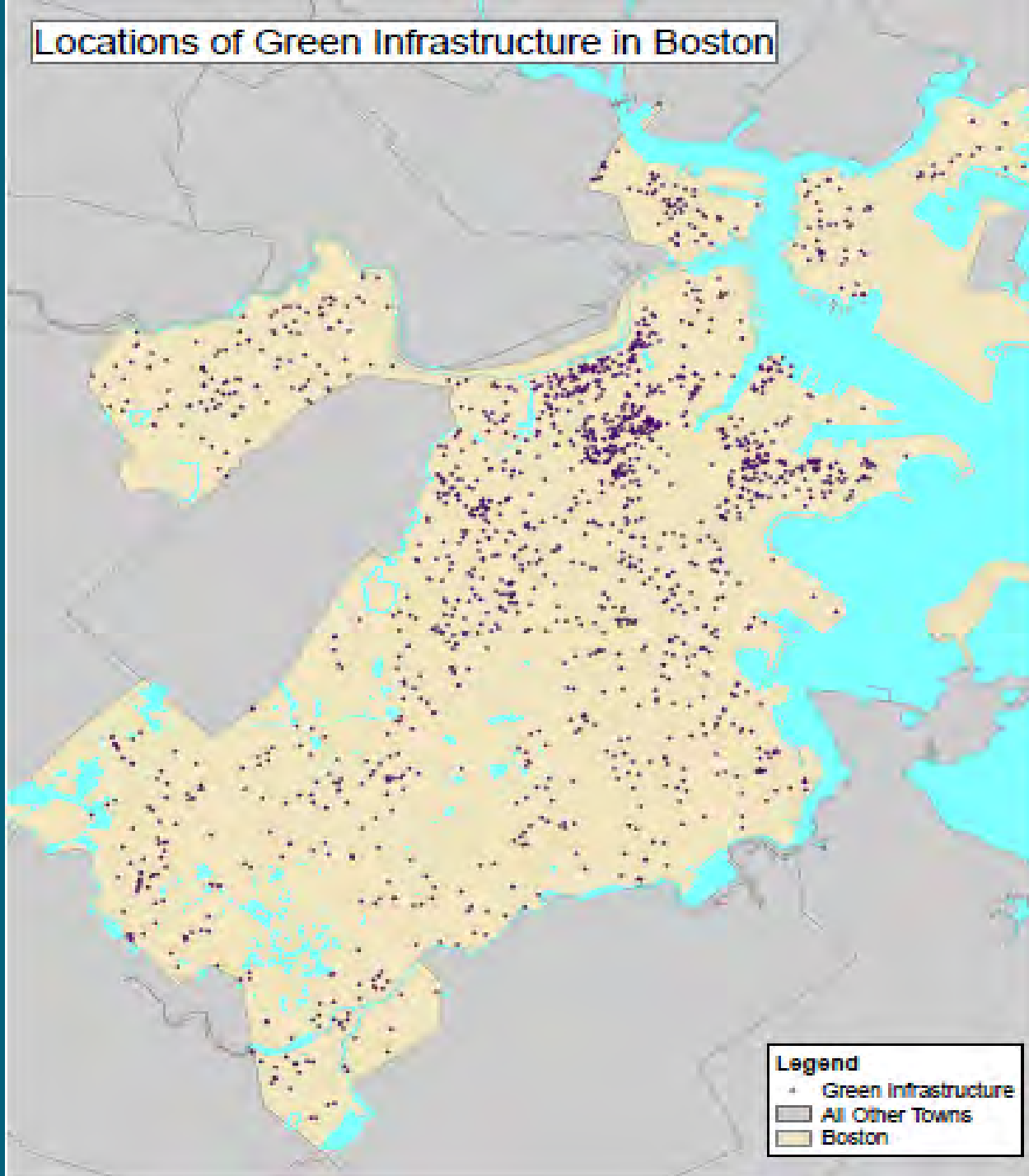


Retain Stormwater

Stormwater Retainage

- 10) It is required that the project proponent assesses the use of methods to retain stormwater on the site. BWSC will not approve connections to its storm system or combined system without an assessment of on-site retainage. At a minimum must infiltrate the first inch of stormwater times the impervious area on site.

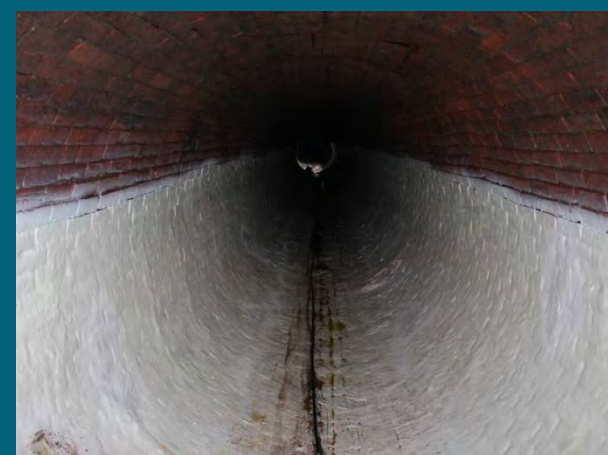
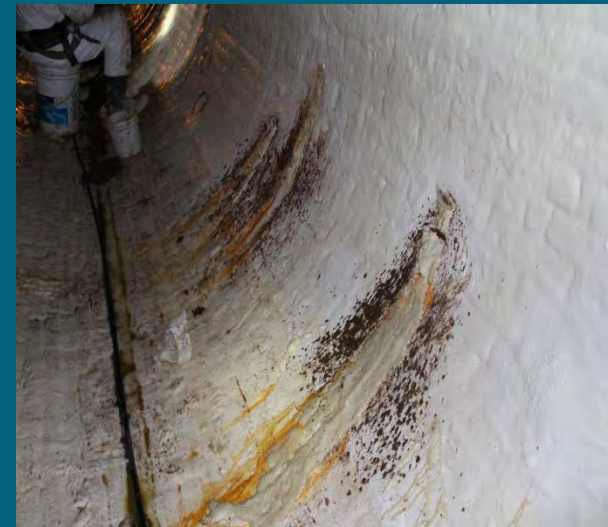
Locations of Green Infrastructure in Boston



Dye Testing/Pole Camera



Repairs Dartmouth at Beacon



Rehabilitation of West Side Interceptor – Charles Street



Photo 2. Pre-Inspection showing obstruction.

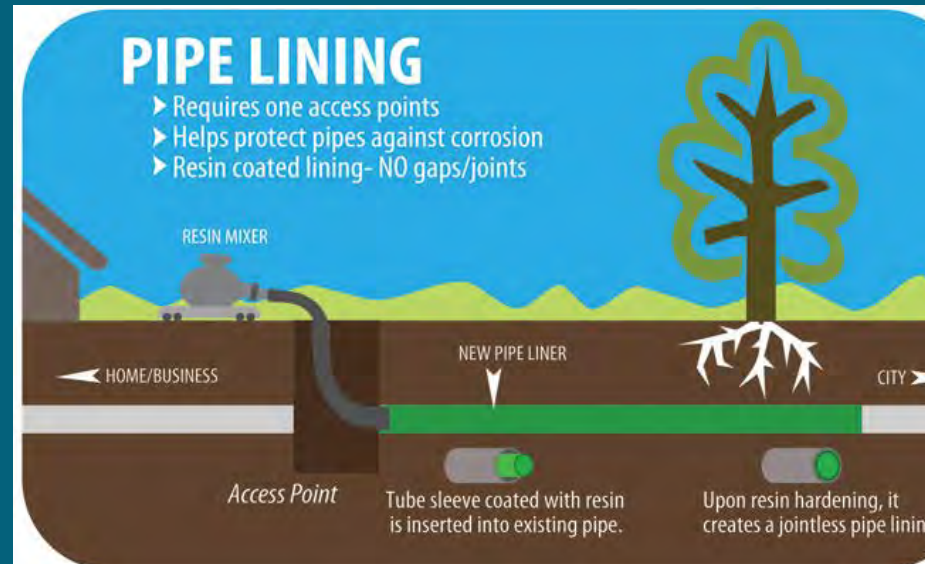


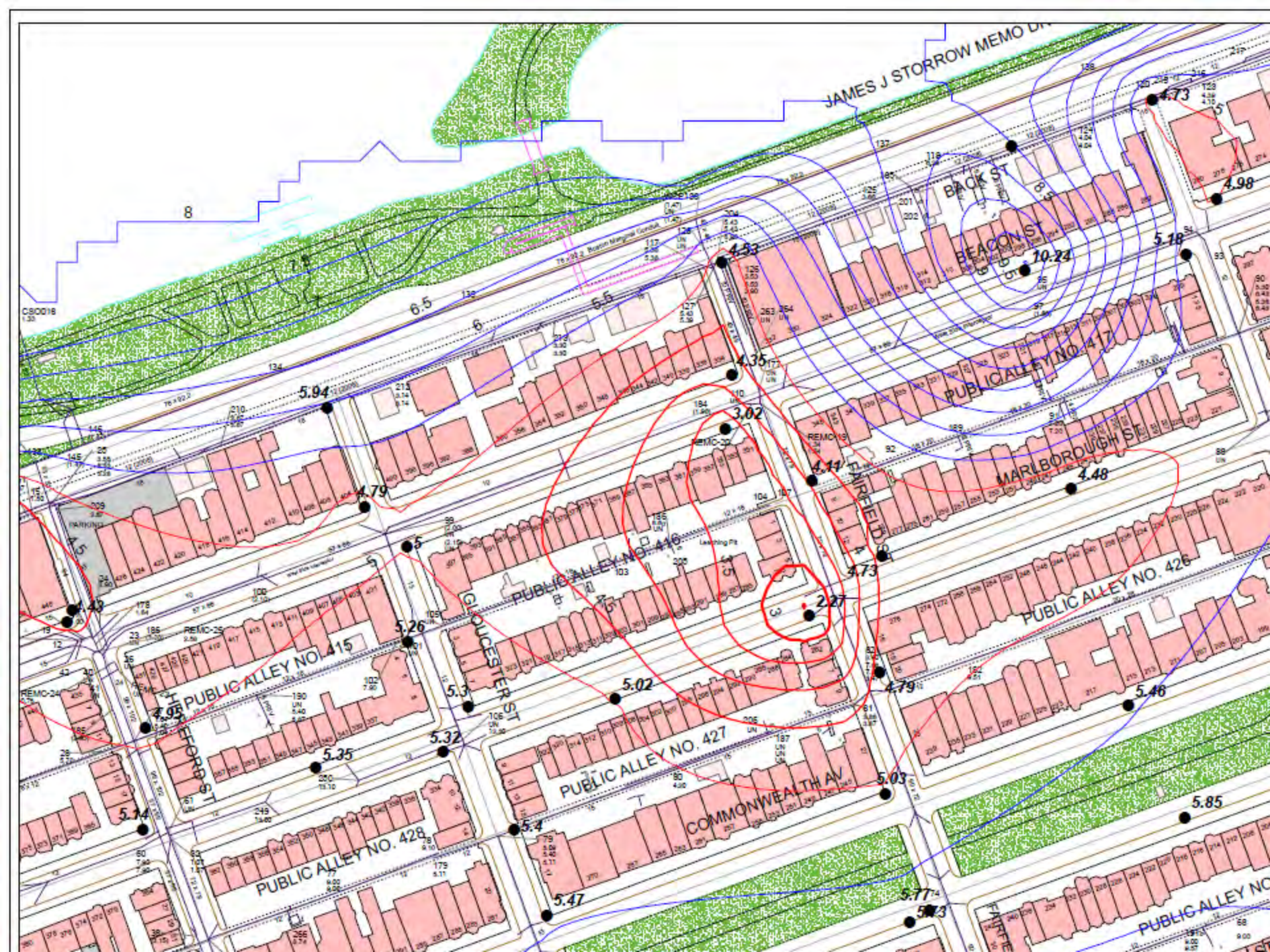
Photo 5. Final Application of GeoKrete liner at Obstruction in Photo 2.

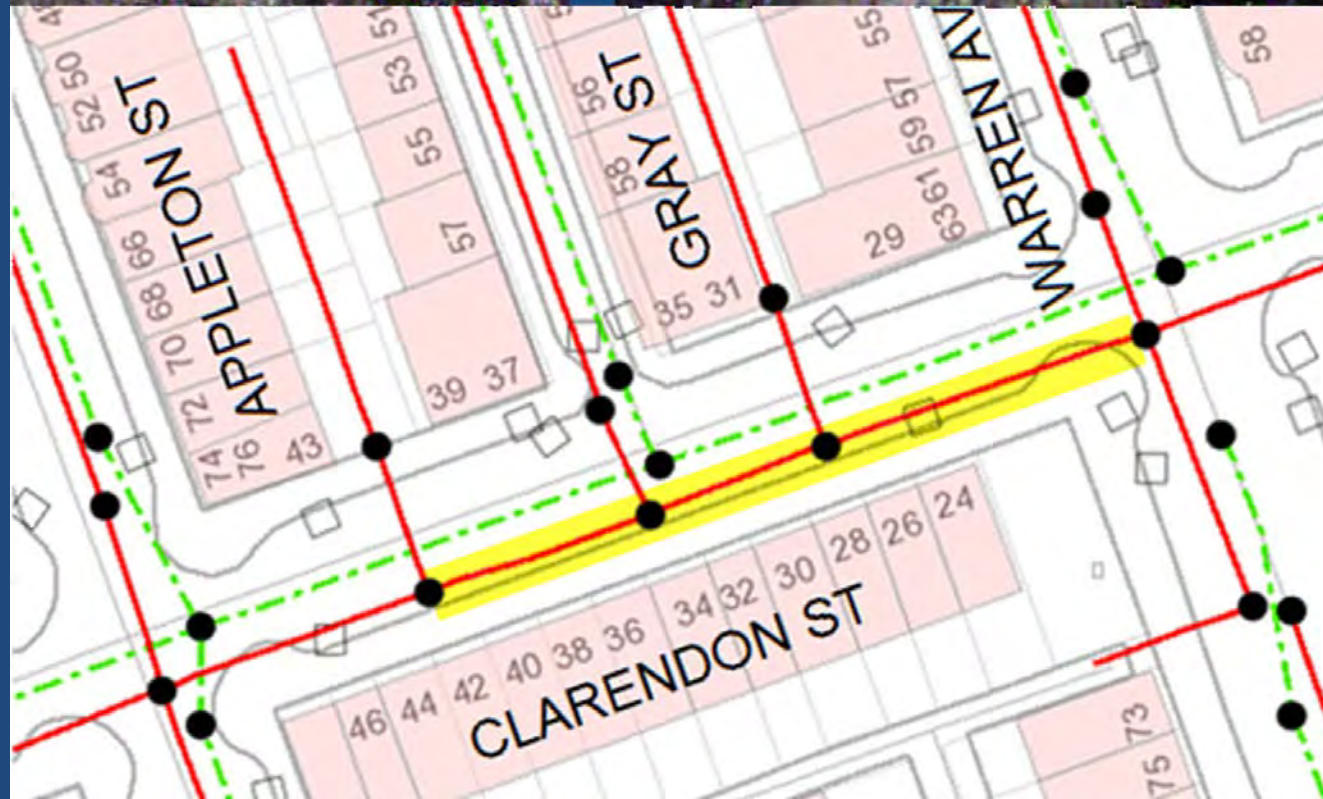


Photo 3. Example of active infiltration

Pipe Lining on Smaller lines







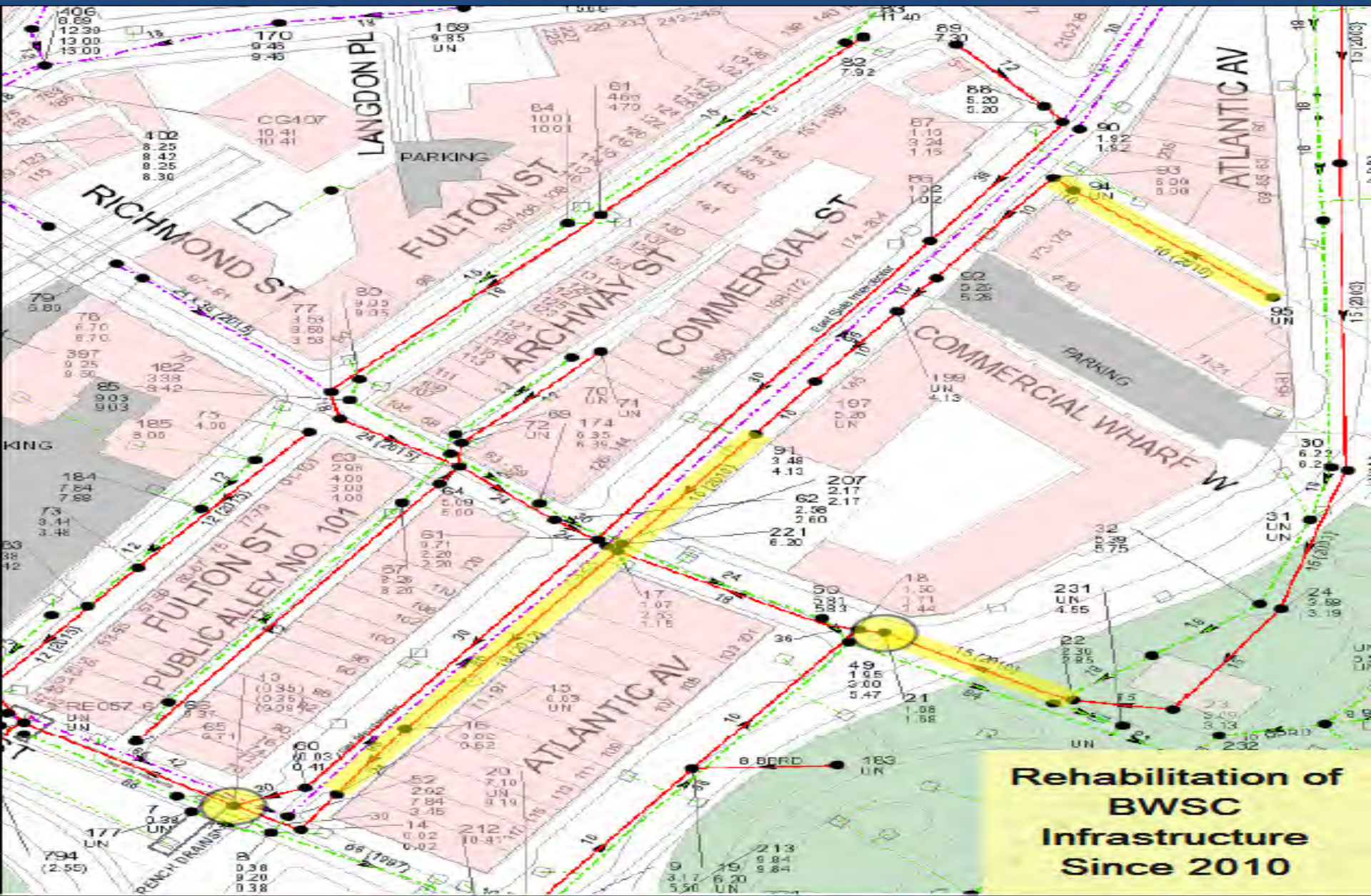
Repairs in Appleton @ Tremont



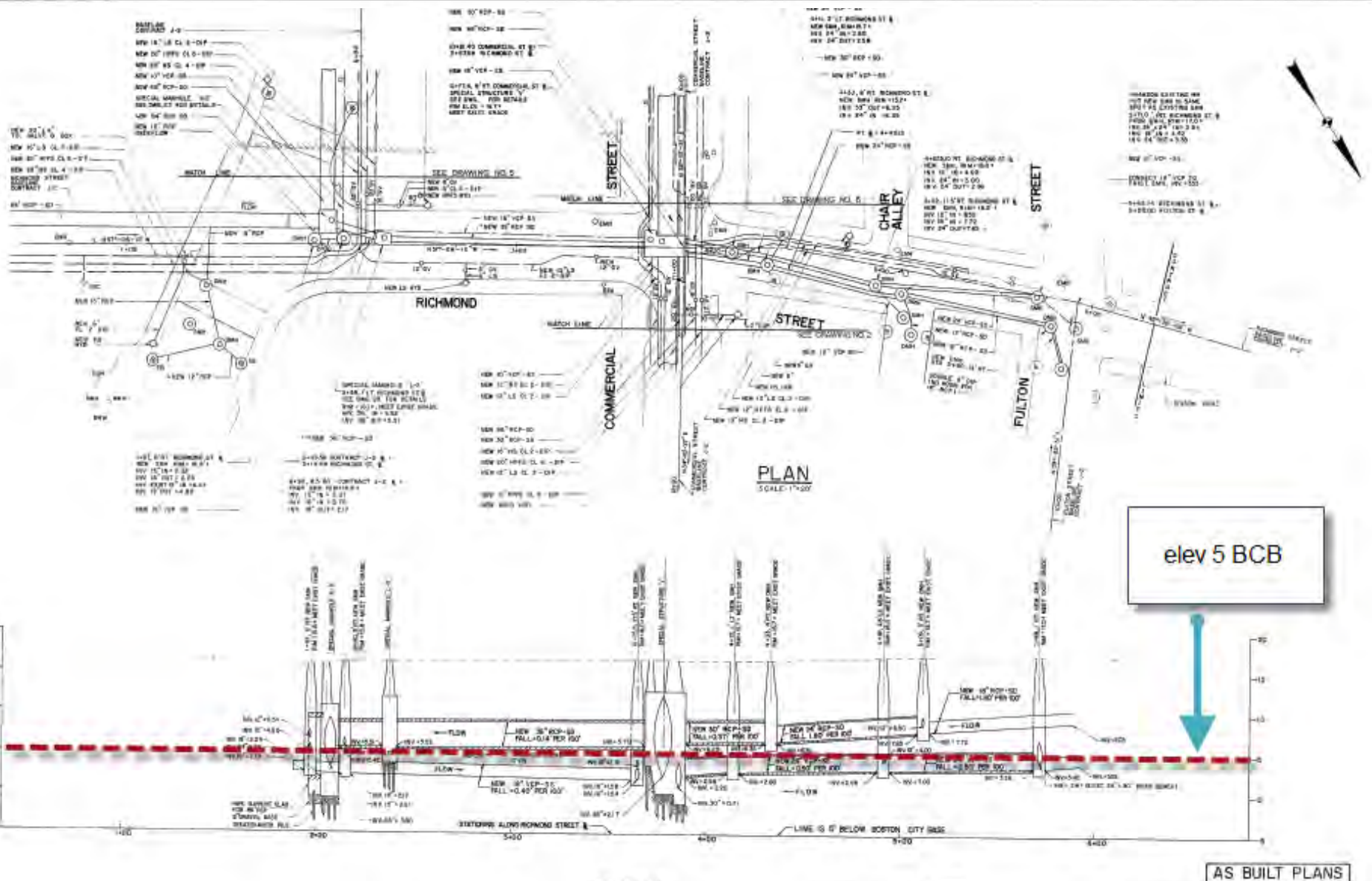
On Tremont St., adjacent to 1 Appleton St. AND 22J-2023



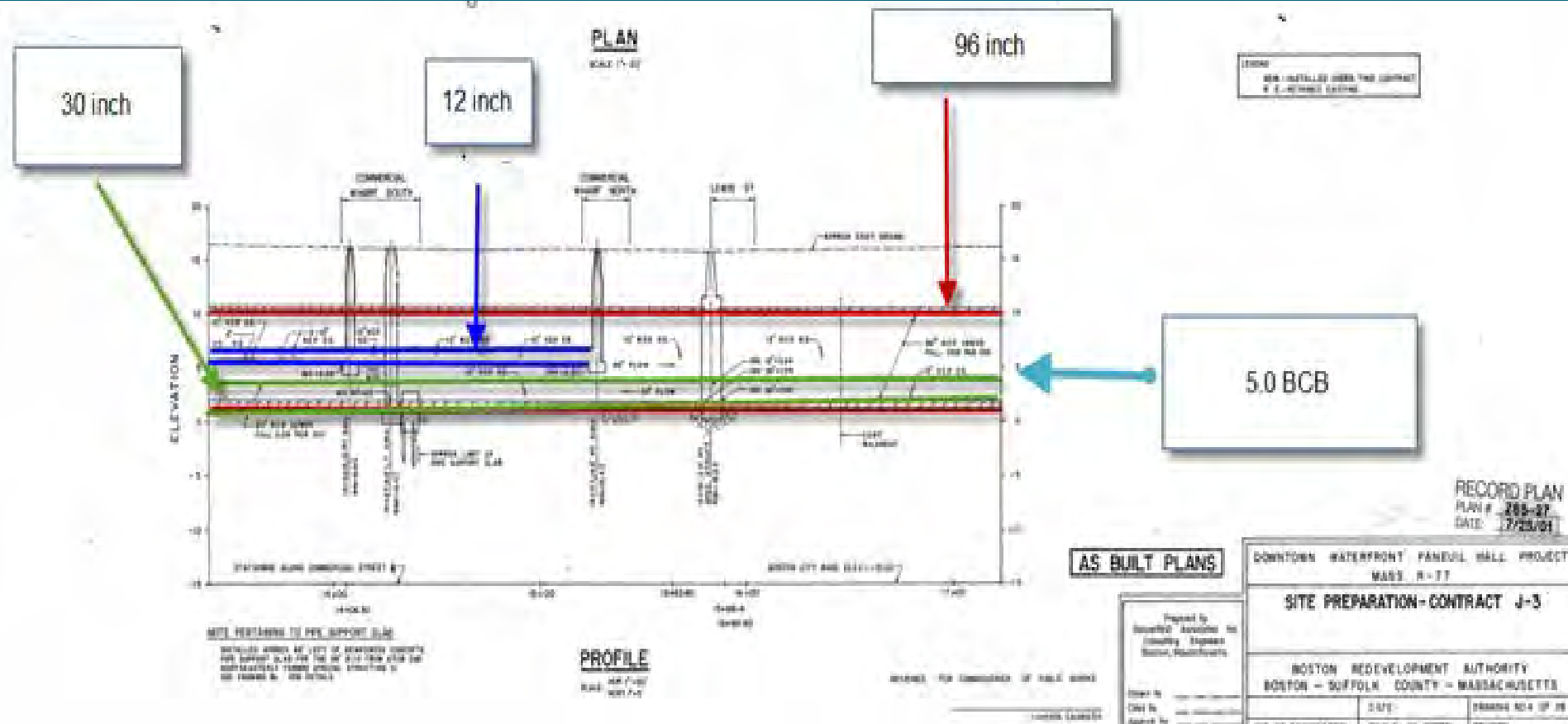
Commercial @ Richmond



Commercial at Richmond



Profile on Commercial Street



Rainfall Data



Boston Water and Sewer Commission

980 Harrison Ave. Boston, MA 02119

Thomas M. Menino, Mayor Vincent G. Manning, Executive Director

About BWSC

Customer Service

Community Outreach

Projects

Doing Business

Regulations

March 12, 2012

GO

Community Outreach Rainfall Data Daily Detail Rainfall

Quick Links

Customer Service

Change of Ownership
Your Account
Lien Certificate
FAQs

Forms and Permits

General Service Application
Hydrant Meter
Dewatering
New Construction

Programs

Sewer Lateral
Leak Up To Owner
Lead Service Replacement
Currents Newsletter

Hours of Operation
Location & Directions
Proposals and Bids
Departments
Report a Problem
Water Quality Report

Daily Detail Rainfall

Main Page

Yearly

Monthly

Daily

Daily Detail

5 Day

Returns 5 minute intervals for selected date and site.

Rain Gauge Map

Collection Site

☒ Union Park PS

☐ Roslindale

☐ Dorch-Adams

☐ Allston

☐ Charlestown

☐ Longwood

☐ Hyde Park

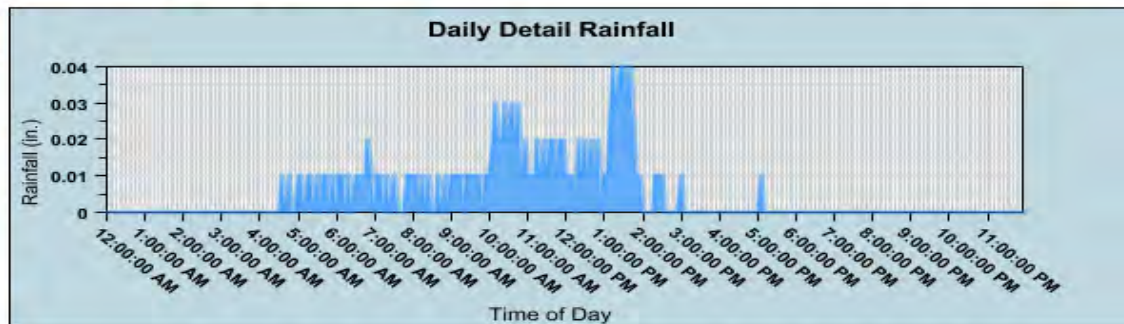
☐ Dorch-Talbot

Enter Date: 01/12/2012



Submit

Download 5 minute detail.



Union Park PS

Records: 288

Daily Total: 1.36

CUSTOMER LOGIN

Account Number

Access Number

Login

Need help logging in?

PUBLIC NOTICES

VIDEO CONTEST for Only Tap Water Delivers

CUSTOMER ALERT: Water Line Repair Notice

Customer Safety Alert

DID YOU KNOW?

Trash and sewage from boating pollutes our rivers and ocean. Empty waste holding tanks at pump-out facilities and properly maintain marine sanitation device hoses to prevent clogging and unnecessary odor.

RELATED LINKS

Discussion

