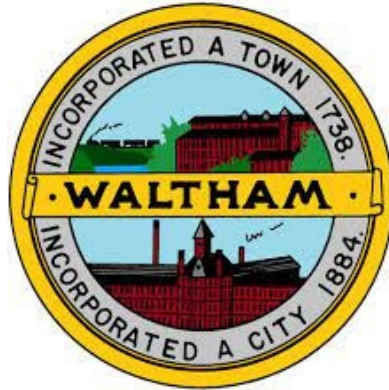




Massachusetts Water Resources Authority



MWRA Section 101 Extension Waltham Water Pipeline Project

March 28, 2023



About The MWRA



About The Water System



We Have One Of The World's Greatest Water Systems

Quabbin Reservoir

Storage: 412 billion gallons

Depth: 150 feet

Length: 17.9 miles

Width: 3 miles



Wachusett Reservoir

Storage: 65 billion gallons

Depth: 129 feet

Length: 8.5 miles

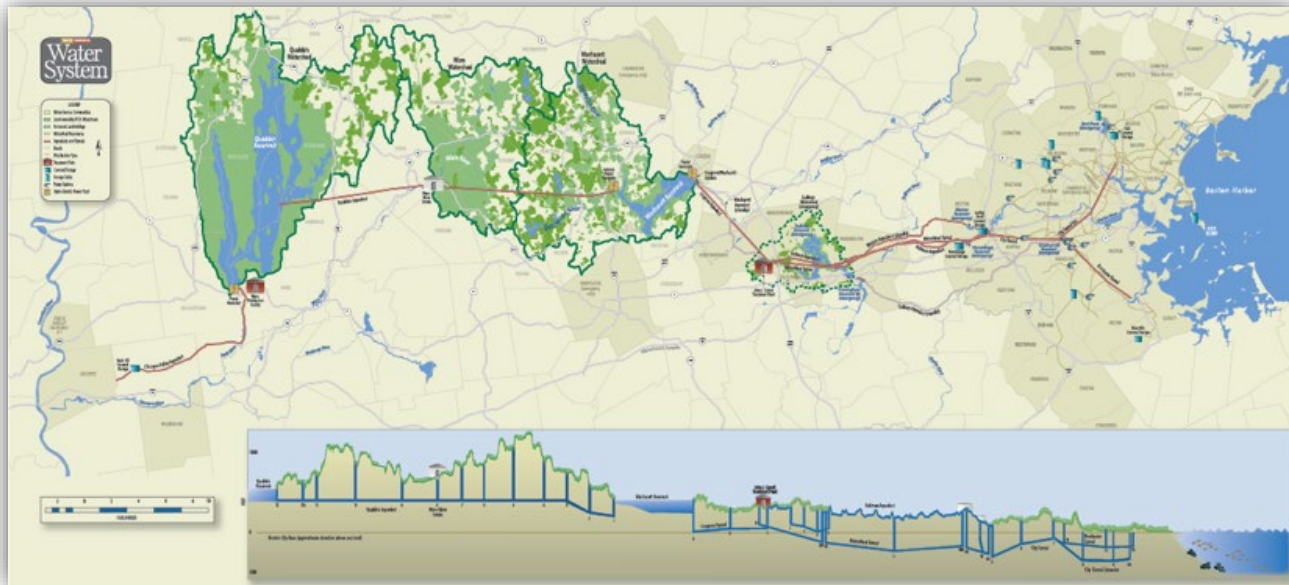
Width: 1 mile





An Civil Engineering Marvel

- 102 miles of active transmission mains and tunnels (43 miles on standby)
- 284 miles of distribution mains with over 4,700 valves
- About 85% of the water is delivered by gravity
- 12 pump stations
- 5 years of storage





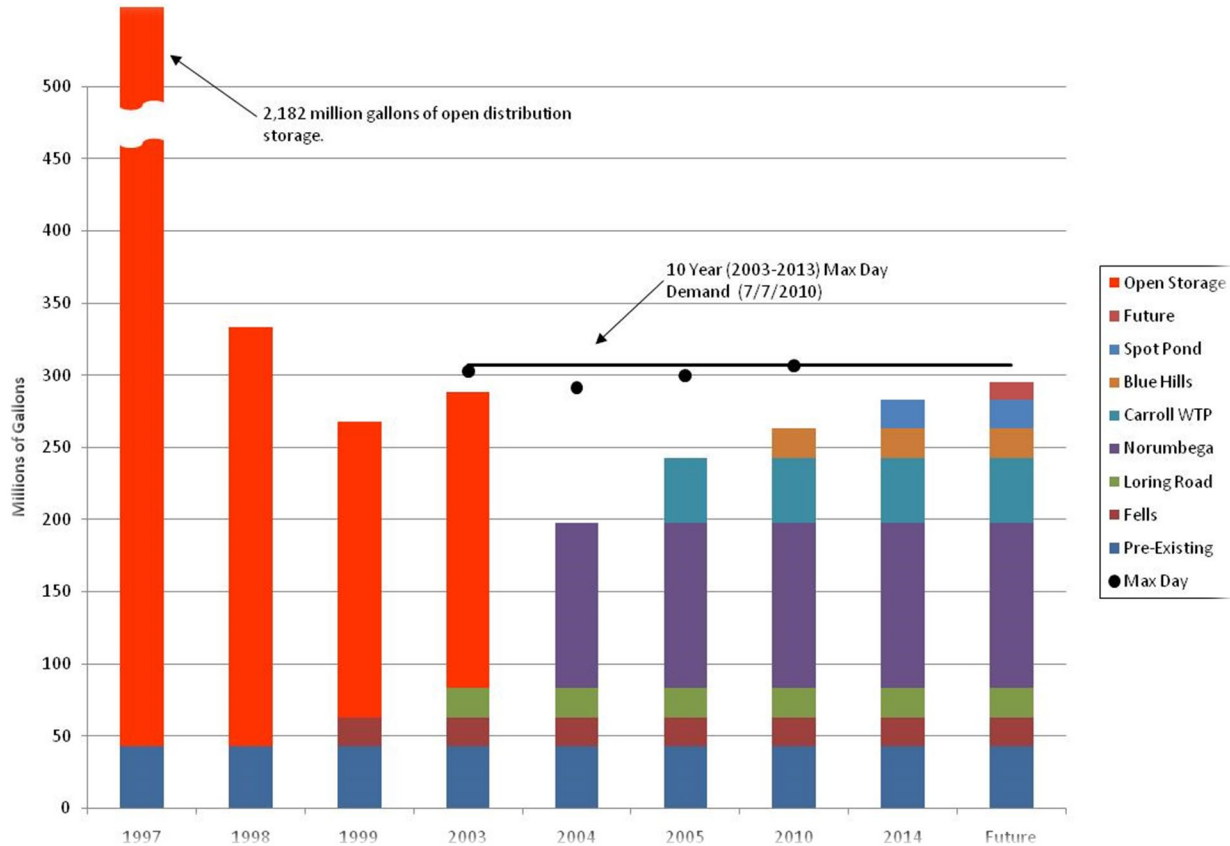
John J. Carroll Water Treatment Plant

- Treatment Processes:
 - Ozonation and UV for primary disinfection
 - Corrosion control
 - Chloramination for secondary disinfection
 - Fluoridation





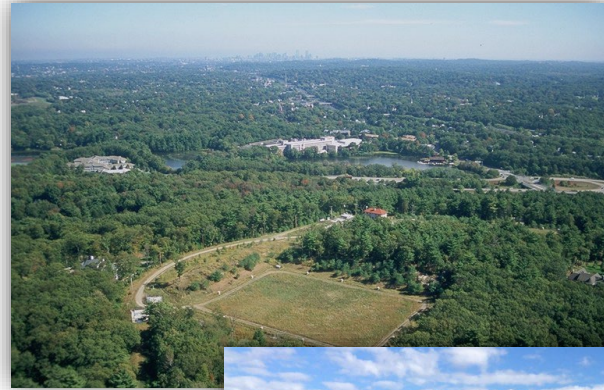
MWRA Metropolitan Area Storage Capacity Over Time





Covered Water Storage Projects

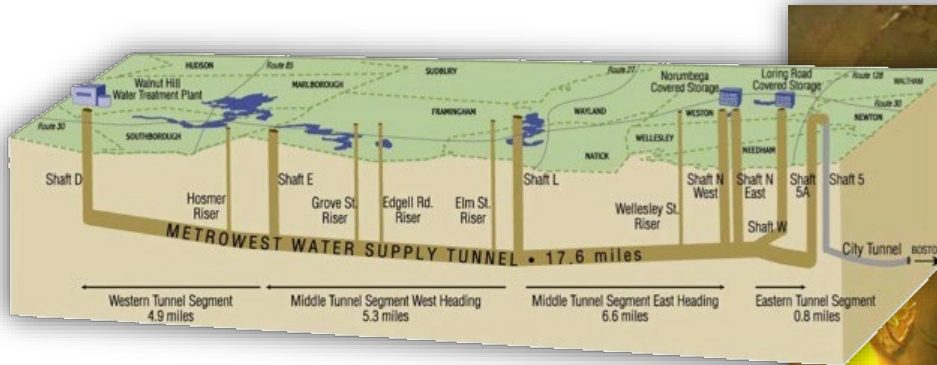
- MWRA has built 7 new covered storage tanks to replace all open reservoirs





MetroWest Water Supply Tunnel

- The MetroWest Water Supply Tunnel was brought on-line in November 2003
- By March 2004, the Tunnel was being fully utilized allowing the shutdown of the Hultman Aqueduct for repair





Water Pipeline Rehabbed Or Replaced

- 81 miles of MWRA-owned pipeline
- 498 miles of community-owned pipeline





State-Of-The-Art Monitoring System



- Monitoring and Event Detection
- FINISHED
- Under Installation
- MWRA Water Communities
- + Monitoring Only
- RAW



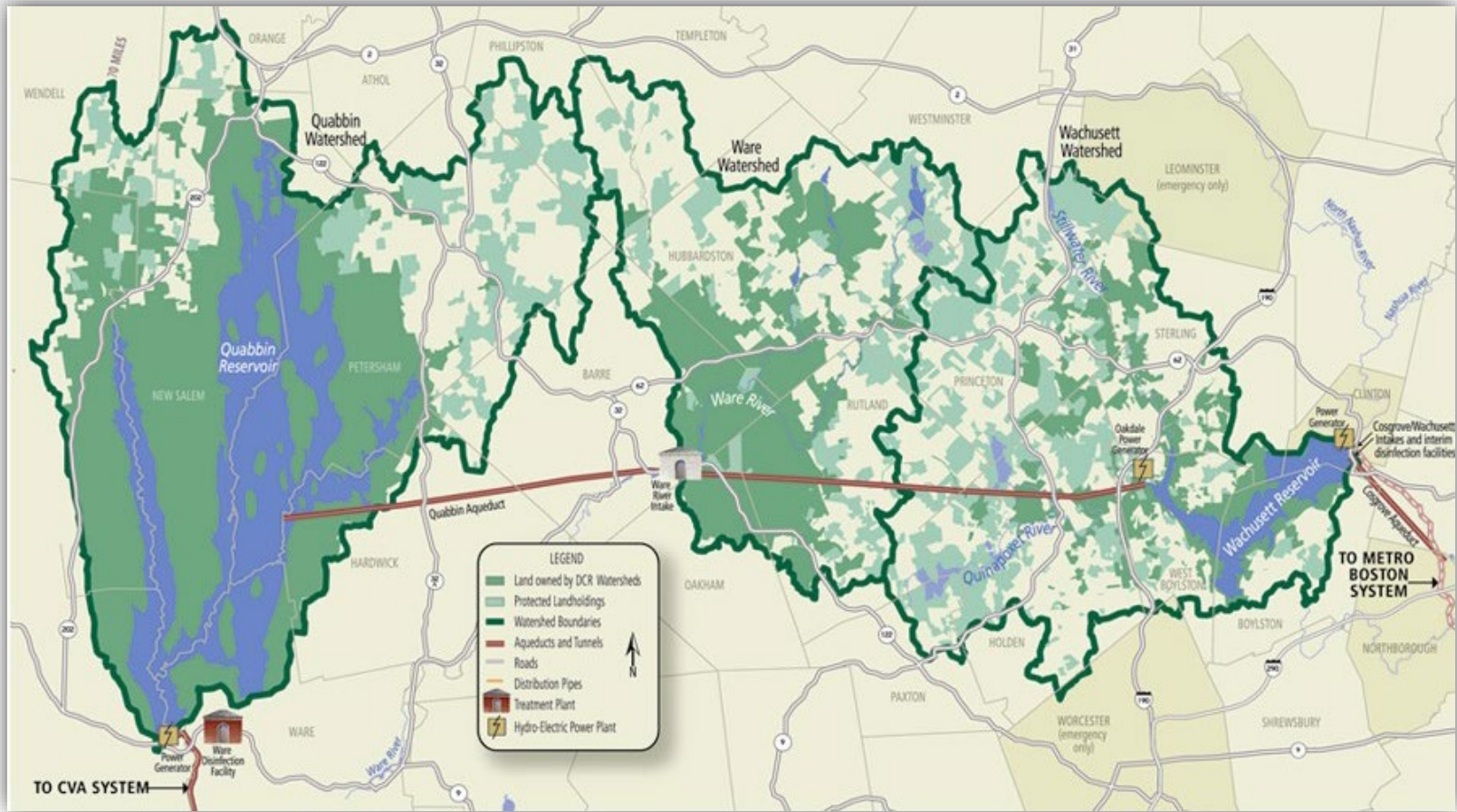
s::can Parameters Monitored At 20 Locations

- pH
- Temperature
- Conductivity
- Turbidity
- Dissolved Organic Carbon
- Total Organic Carbon
- Nitrate-N
- UV 254
- Oxidation-Reduction Potential
- Monochloramine
- Free Chlorine
- Total Dissolved Solids





Watershed Protection





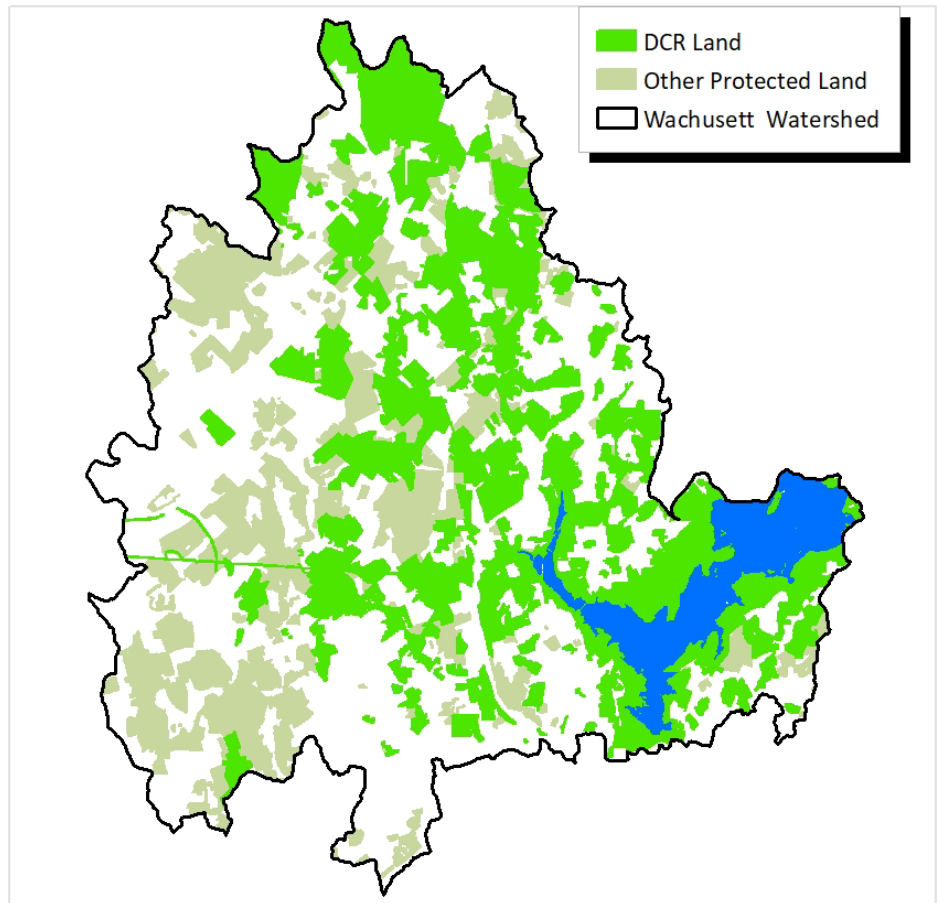
Investments In Watershed Protection

- Since 1985, \$133 million has been invested in land preservation
- So well protected, the Safe Drinking Water Act requires only disinfection

Watershed	% of Watershed
Wachusett Reservoir	56%
Ware River	62%
Quabbin Reservoir	80%

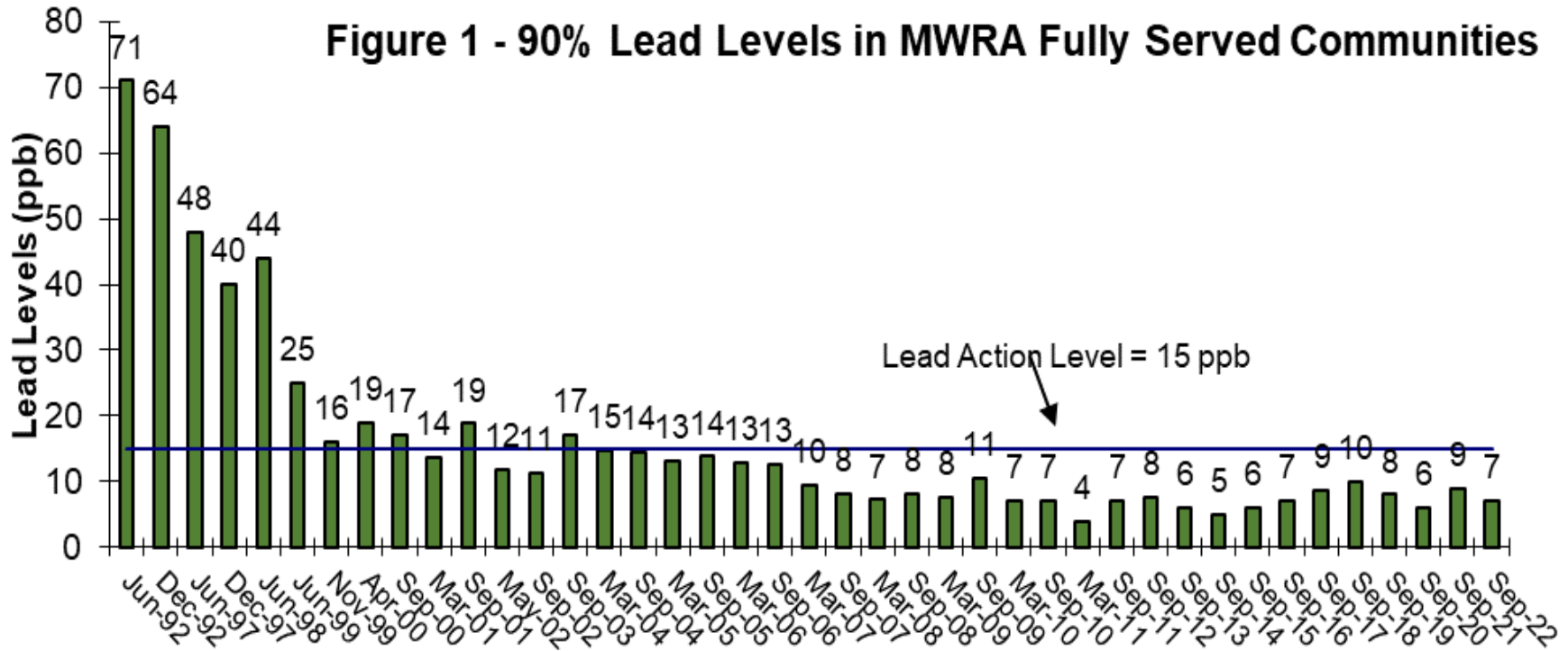


Land Acquisition for Watershed Protection Preserves Forests From Development





Lead Levels In MWRA Communities





No PFAS In MWRA Drinking Water

- PFAS in water system is either not there or too low to detect
- Will meet new EPA standards





Water Demand Has Dropped Dramatically





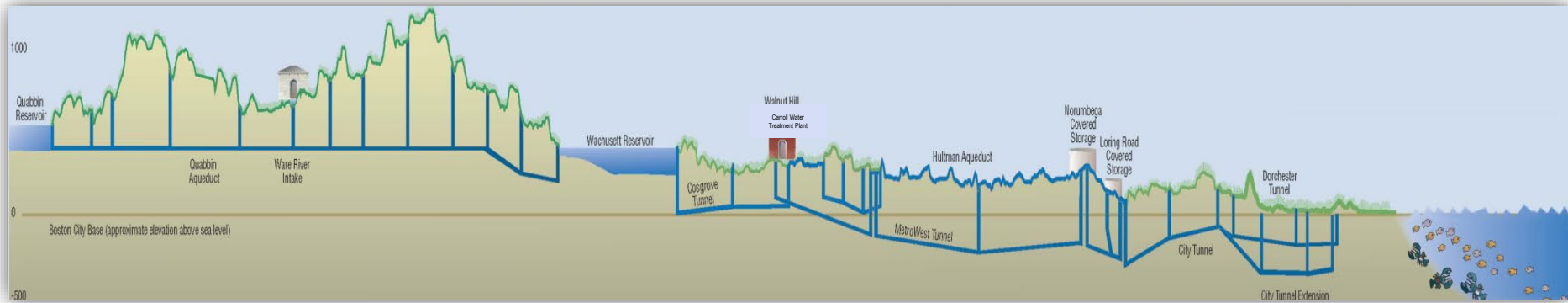
And We Love Being Green!

- Of our \$40 million annual energy budget, more than half comes from renewable sources





About 85% Of The Water Is Delivered By Gravity





"Best Drinking Water" In The Country





MWRA Contract 7457 – Lexington Street, Waltham Totten Pond Rd to Lexington Town Line

Contractor: Baltazar Contractors Inc.

Design Consultant: CDM-Smith/Green International Associates

Bid Amount: \$31,900,000.00

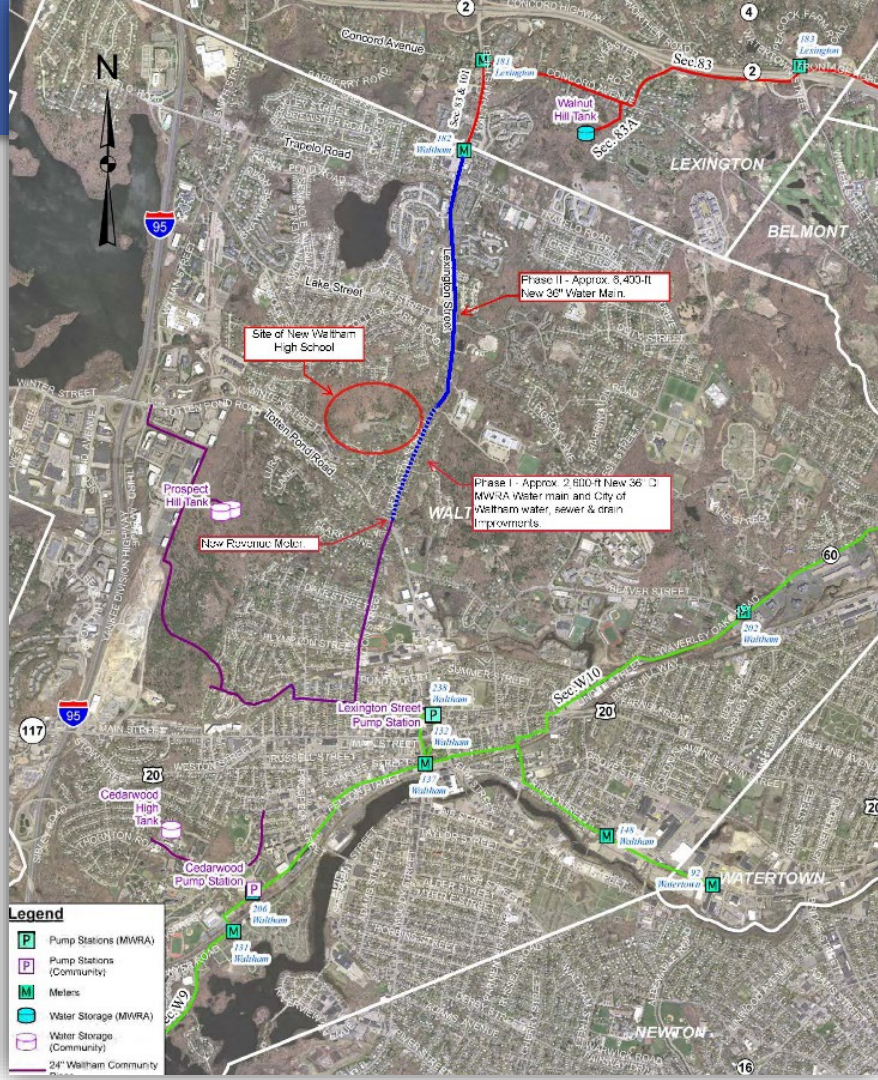
Notice to Proceed: July 12, 2022

Contract End Date: April 7, 2024

(must be extended to complete work)



MWRA Contract 7457





Project Overview – Work Includes

MWRA PIPE:

- Install 9,000 LF of 36” MWRA Main and new MWRA meter vault

WALTHAM PIPE:

Paid for by MWRA (\$4,104,400)

- Remove 2,600’ of Waltham 10” water main and replace with 12” water main
- Remove 2,700’ of 10” sewer and replace with 12” sewer
- Remove and replace 550’ of 15” drain

Paid for by City of Waltham pending MOA (\$4,347,400)

- Remove & replace 2,900’ of Waltham 12” water main
- Remove 870’ of 15” drain and replace with 36” drain
- Install 4 new community meters



Project Goals

- Provide redundancy to the City of Waltham Water Supply
- Improve City of Waltham Water Supply
- The new pipeline will supply the Prospect Hill Service area if Lexington Street Pumping Station or the MWRA WASM 3 Supply Main is offline
- Replacement of City of Waltham 110 -year-old water and sewer piping
- Increasing drain line from new school from 15” to 36” to accommodate drainage from the new high school
- Provide Redundancy to MWRA Northern Extra High service area if needed



Massachusetts Water Resources Authority

Waltham Water Supply

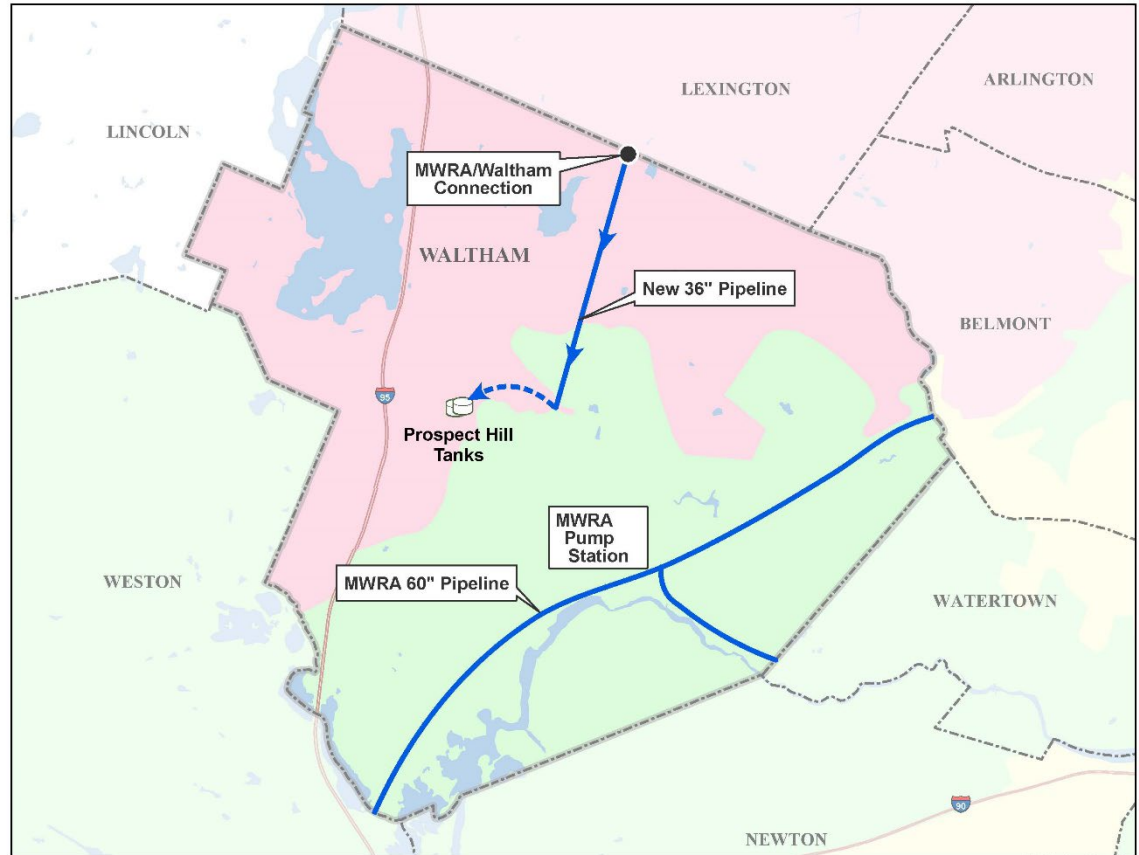
- 100% supplied by MWRA
 - Avg. Day 6.7 mgd
 - Total Max Day Demands 10 mgd

Prospect Hill Service Area

- 2- 4 MG Tanks – Waltham's Prospect Hill Tanks
- Max Day Demands ~ 4 mgd
- Supplied by MWRA Pump Station

New 36-inch Pipeline

- Redundant supply to Prospect Hill Tanks





MWRA WESTON AQUEDUCT SUPPLY MAIN

- Weston Aqueduct Supply Main (WASM3)
- 60" lock-bar steel pipe, approximately 100-years old
- WASM3 supplies 100% of the Waltham's water supply
- History of leaks on WASM3 in Waltham

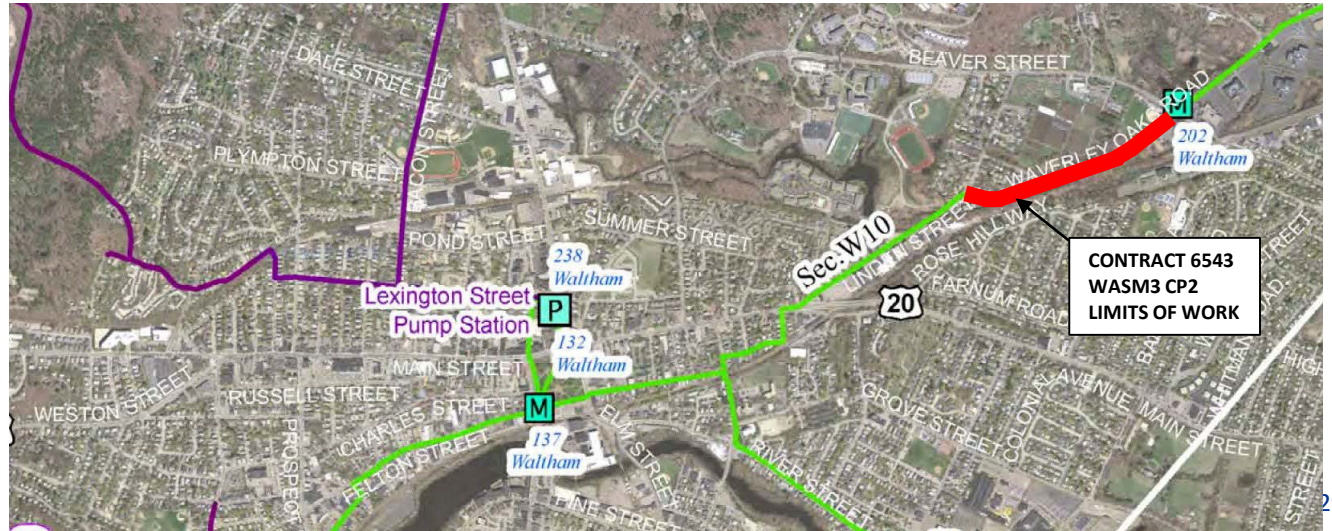




Contract 6543 WASM3 Rehabilitation of Water Main W10 Project

Weston Aqueduct Supply Main (WASM3)

- Contract 6543 will rehabilitation 0.55 miles of WASM3
- Section 101 Improvements provides redundancy if WASM3 is out of service





Phased Construction – Pending City of Waltham Approval

Phase I: Totten Pond Rd. to Jack’s Way - To be completed prior to new high school building construction.

Night work from Totten Pond Rd. to Lincoln St.

April/May 2023-June/July 2023

Day Work Totten Pond Rd to Lincoln St. (minor activities)

March 2023- October 2023

Day Work Lincoln Street to Jack’s Way

April/May 2023- October 2023

Phase II: Jack’s Way to Trapelo Rd. (Waltham Meter 182).

Day Work except of major intersections

October 2023-November 2024

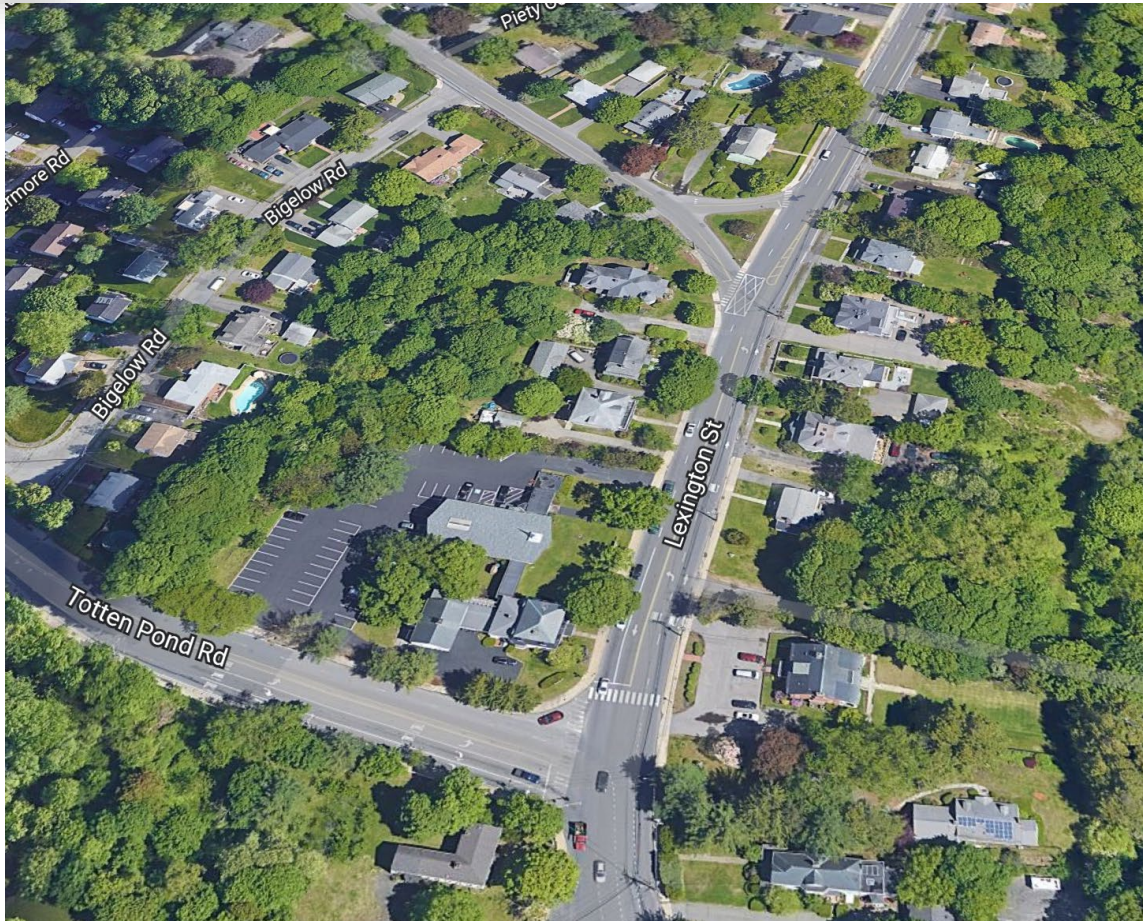
Day Work minor activities

may start this season

- Overnight Work Hours are 8:00pm-6:00am (Sun-Thur)
- Proposed Daytime Work Hours 9am-4pm



Proposed night work from Totten Pond Road Through Lincoln Street Intersection



Overnight Work Hours are
8:00pm-6:00am (Sun-Thur)

Totten Pond Road Night
work estimated at 3 months

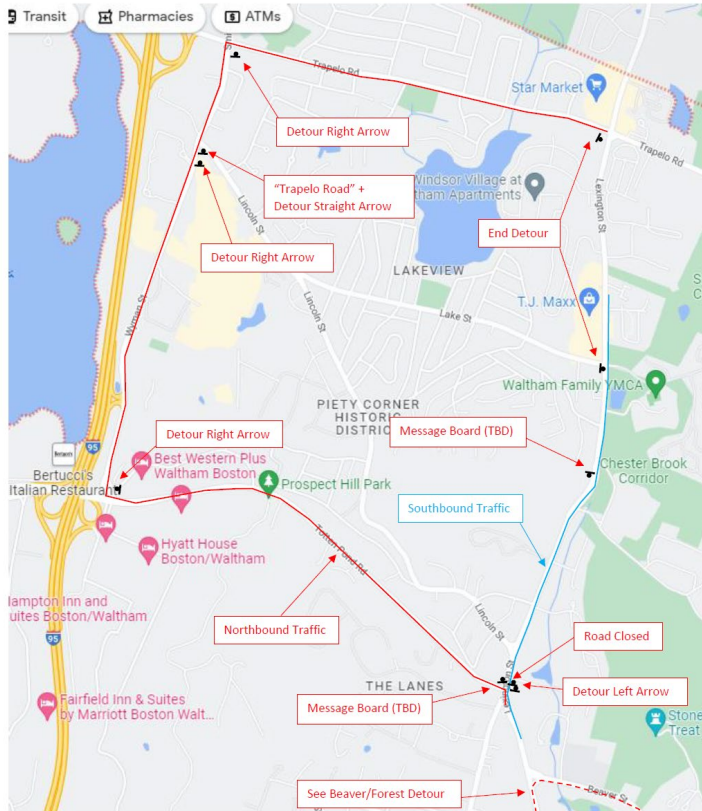
Contractor would saw cut
during day

Police Details on site for
traffic control

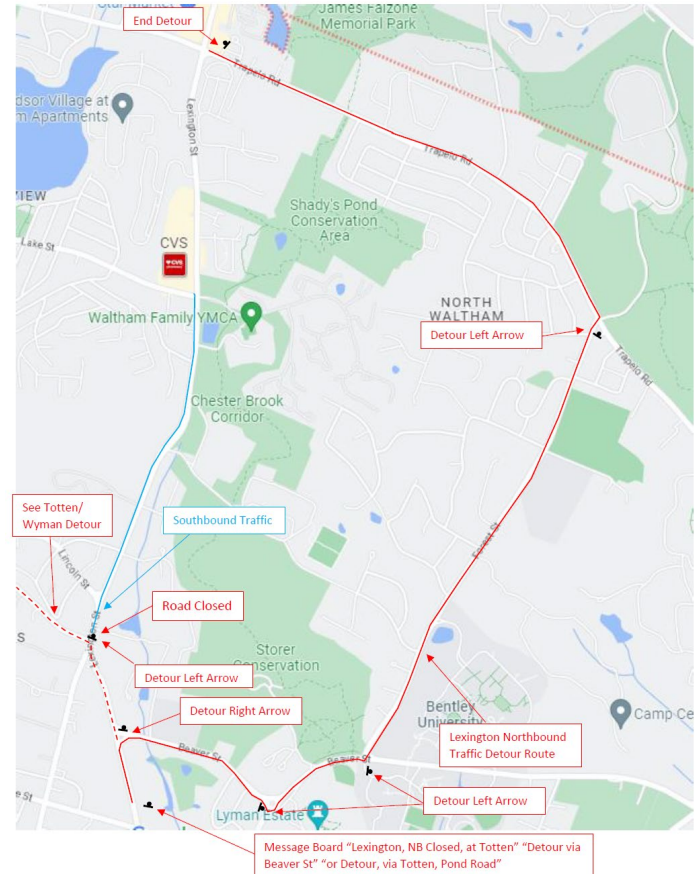


Detours For Night Work From Totten Pond Road - Lincoln Street

Lexington St One-Way Detour at Totten Pond (Totten/Wyman)



Lexington St One-Way Detour at Totten Pond (Beaver/Forest)





Section 101 Extension Waltham – Traffic Control

- Construction Zone Safety Plans are Standard Traffic Management Plans and Allow for bi-directional Two-way Traffic or Alternating Single Traffic
- Proposed Daytime Work Hours 9am-4pm
- Night work at all major intersection
 - Totten Pond Road
 - Lincoln Street
 - Lake Street
 - Lionel Ave (Culvert Crossing)
 - Trapelo Road
- Night Work Hours would be between 8:00pm and 6:00am



Typical 36" Pipe Installation





Typical Vault Installation





MWRA Progress

- Contract Awarded in July 2022
- Material purchased
- Test pits completed to confirm existing utility locations
- Borings completed to pre-characterize soil for disposal
- Existing sewers that are to remain have been cleaned and inspected with sewer cameras
- Existing adjacent sewers that are to remain have been structurally lined
- Meetings held and ongoing coordination with:
 - City Council
 - City Traffic Department
 - School Construction Team
 - City Police Department
 - Public Works/Engineering

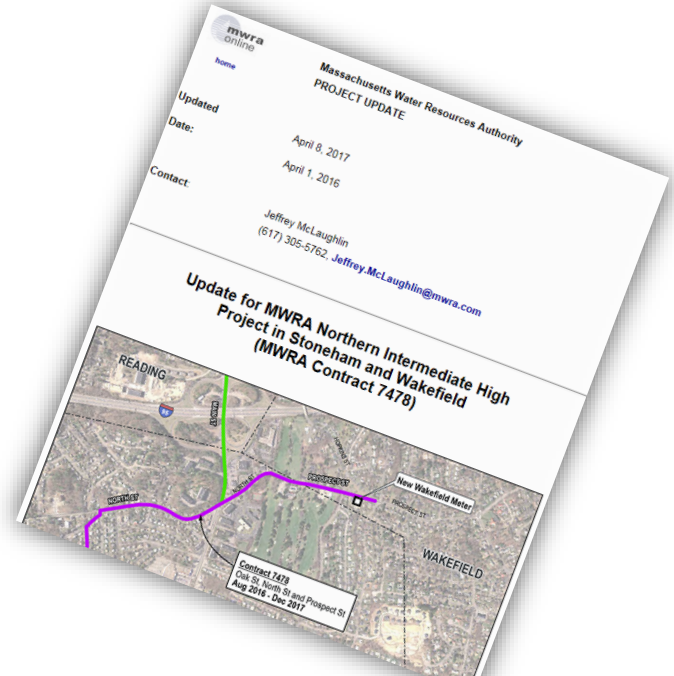


For More Information

Sean Navin: 617-788-1112 sean.navin@mwra.com

Or visit the project page on www.mwra.com

You can also sign-up for project updates delivered to you by text or email via our Everbridge community outreach system





Questions?