



# About MWRA's Metropolitan Water Tunnel Program

Although best known for the successful cleanup of Boston Harbor, the Massachusetts Water Resources Authority (MWRA) also provides safe drinking water to over three million residents and 140,000 businesses in central and eastern Massachusetts. Our water system dates back to the mid-1800s and has been continually expanded and improved upon for over 250 years. Our main water sources – the Quabbin and Wachusett Reservoirs – are located west of Boston in some of the most protected watersheds in Massachusetts. In 2021 our water was voted the “Best of the Best” nationally by the American Water Works Association.

When it was created in 1984, MWRA inherited one of the country's great water systems; however, it had been neglected for decades. We have since invested heavily to modernize the water system, constructing a 17.6-mile water tunnel, a state-of-the-art water treatment plant and seven covered water storage facilities. We have also replaced or rehabilitated nearly 100 miles of water pipelines. In recent years, our focus has been ensuring redundancy to enable us to re-route water during maintenance and in the event of a break so that service is not interrupted. This work included the long overdue repair of the Hultman Aqueduct, new pipelines in parts of the service area that had single points of failure and a new emergency pumping station in Marlborough. Also, we have begun the final design phase for two new water supply tunnels that will allow us to make repairs to our existing water tunnel system.



The MWRA Water System

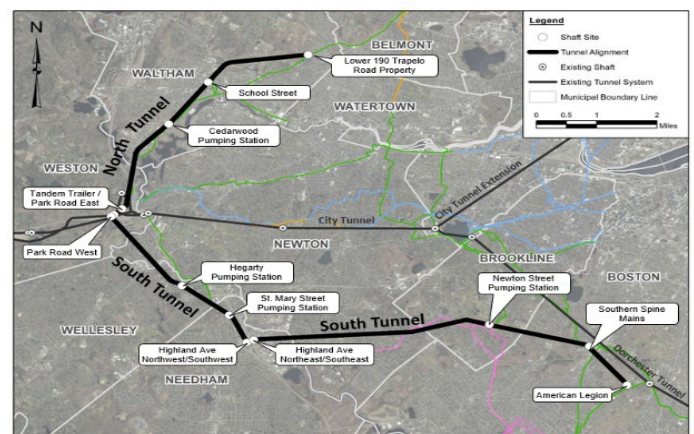
## ABOUT THE METROPOLITAN WATER TUNNEL PROGRAM

Through the Metropolitan Water Tunnel Program, MWRA will construct two new water supply tunnels that will allow our aging existing water tunnel system to be rehabilitated without interrupting service. The Program will provide complete redundancy for the existing Metropolitan Tunnel System, which includes the City Tunnel (1950), City Tunnel Extension (1963) and Dorchester Tunnel (1976). These tunnels deliver 60 percent of the water that travels eastward from the Quabbin Reservoir through a series of tunnels and aqueducts to our state-of-the-art water treatment plant in Marlborough that serves Boston and 44 Eastern Massachusetts communities.

These two new water supply tunnels – one to the North and one to the South of the Metropolitan Boston service area – will allow seamless continuation of water service while the existing Metropolitan Tunnel System is taken offline, inspected and rehabilitated.

## WHERE WILL THE TUNNELS BE LOCATED?

The tunnels will begin in Weston, where they will be connected to the existing water system, with one running north to Waltham and the other running south to the Mattapan neighborhood in Boston. The exact location of the subsurface tunnels will not be finalized until well into the design phase, but shaft sites have been identified. The location of each shaft site was specifically selected to allow for necessary connections to existing water infrastructure as well as to avoid and minimize environmental, social, and community impacts. MWRA will be working closely with the communities to minimize impacts to residences and businesses along the routes.



Tunnel Alignment and Shaft Sites

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## WHY IS THE PROGRAM NECESSARY?

The existing Metropolitan Tunnel System has been in constant use for over 50 years. Today the tunnels, and the related surface piping and valves, cannot be taken off-line for inspection or repairs because they are critical for water transmission to Boston and surrounding communities, and because there is no redundant system to back them up. Without redundancy within this section of our water transmission system, a failure of a key component of the existing Metropolitan Tunnel System could trigger widespread and lengthy boil water orders, significantly reduced water delivery capacity or even the suspension of service until repairs are complete. The economic impact of a major failure of the MWRA's existing Metropolitan Tunnel System is estimated at over \$360 million per day (2024\$). The potential public health, safety and economic impacts of a prolonged water outage for Eastern Massachusetts are immeasurable.



**Tunnel Valves in Need of Repair**

## HOW WILL THE TUNNELS BE CONSTRUCTED?

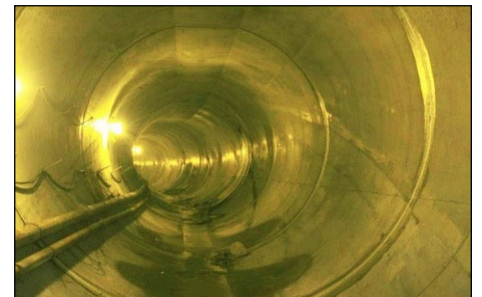
Tunnel Boring Machines (TBMs) will primarily be used to mine two, approximately 10 to 12-foot diameter water tunnels. The tunnel mining work will take place in bedrock at an estimated depth of 200 to 500 feet underground. Once completed, the water will eventually travel through these deep tunnels to shafts, and ultimately connect with new piping to our existing system. Constructing deep rock tunnels instead of surface pipelines dramatically reduces the potential impacts to communities associated with near-surface or open trench construction on city streets.

Once the new tunnels are operational, components of the old tunnels can be taken out of service and inspected, repaired or replaced where necessary. Eventually, portions of the combined redundant tunnel system can be activated or deactivated as needed for maintenance and repair without causing major water service disruptions.

## HOW WILL IT BE PAID FOR?

The MWRA has a core mission to provide reliable, cost-effective and high quality water, and a goal of maintaining sustainable and predictable rate assessments to our member communities. In keeping with this, the expected long-term rate impacts resulting from the Tunnel Program have been evaluated.

The final cost of the Tunnel Program is not yet defined since final design is not complete and construction is still years away, with much work to do in the meantime. However, an estimated \$2.1 billion is being carried in our 2025 Capital Improvement Program Budget. The impacts of the estimated cost are included in MWRA's current rate projections.



**A Completed Water Supply Tunnel**

## WHAT IS THE CURRENT STATUS OF THE PROGRAM?

The Metropolitan Water Tunnel Program has completed the Environmental Impact Study, Preliminary Design and recently entered the Final Design stage. The final design of approximately 15 miles of deep rock water tunnels, shafts, valve chambers, water main pipelines, and other ancillary components will be advanced over the next three (3) years.

A number of design tasks are important drivers to facilitate construction of these new tunnels and the MWRA is working to have these activities completed in time for the planned start of construction, including geotechnical investigations, permitting, land acquisitions, and stakeholder coordination. MWRA expects to release up to three early enabling construction packages in 2026 to prepare the TBM launch sites for work to be completed before the more substantial tunnel construction begins in 2028 and completed by 2040. The Authority remains committed to working closely with the host communities to ensure minimal impact to residents and businesses during design and construction.



Massachusetts Water Resources Authority ♦ 33 Tafts Avenue ♦ Boston, MA ♦ 02128  
(617) 242-6000 ♦ [www.mwra.com](http://www.mwra.com)



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For more information about the Metropolitan Water Tunnel Program please visit [www.mwra.com/mwotp.html](http://www.mwra.com/mwotp.html) or contact our Communications Team at [tunnels.info@mwra.com](mailto:tunnels.info@mwra.com).