



Metropolitan Water Tunnel Program Potential Water Supply Impacts

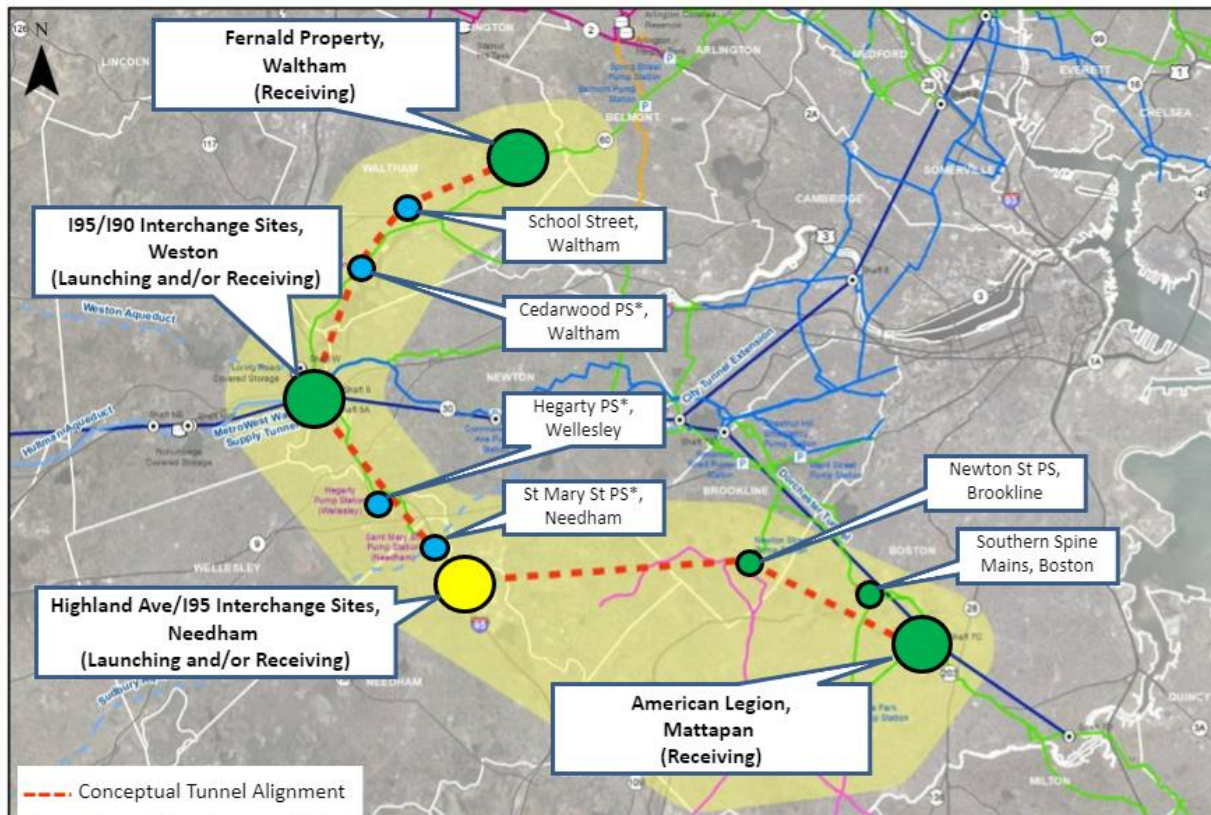
Through the Metropolitan Water Tunnel Program, the Massachusetts Water Resources Authority (MWRA) will construct two new water supply tunnels that will allow our aging existing water tunnel system to be rehabilitated without interrupting service. Implementing the Program will support the continued safety and redundancy of our water supply.

Most of the construction will take place deep below the surface, as the tunnel boring machine (TBM) excavates through rock up to 400 feet underground. However, several **shafts** will connect the tunnel to the surface.

Launching and **receiving shafts** allow the TBM to enter and exit the tunnel, while **connection shafts** provide important connections from the new tunnels to our existing water transmission system and to the local communities that we serve.

In accordance with the Massachusetts Environmental Policy Act (MEPA), MWRA carefully evaluated the potential impacts of this project to the environment. This *Fact Sheet* provides a description of the evaluation of potential impacts to water supply and water resources. Consideration of water resources, including public and private wells, irrigation sources, and surface water bodies, was given to the alignment of the tunnels and will be a major factor during tunnel construction.

A conceptual map of the tunnel alignment is shown below.



PS – pumping station

* Non-MWRA pumping station

What has happened to date?

MWRA considered potential impacts to water resources when identifying the proposed areas of construction. As much as possible, the shafts were located outside of water supply areas and groundwater protection zones. (To learn more about site selection, please see the *Shaft Site Selection Fact Sheet*.)

MWRA assessed the water resources located near the launching, receiving, and connection sites and along the length of the tunnel, specifically:

- **Groundwater resources**, including public drinking water wells and publicly available information on private wells; and,
- **Surface water bodies**, such as rivers, lakes, streams, wetlands and ponds.

There are no active public water supply wells or surface water supplies near the launching, receiving, or connection shaft sites.

Two water bodies, the Stony Brook Reservoir and Rosemary Brook, are used for public water supply for the City of Cambridge and the Town of Wellesley, respectively. MWRA is developing plans for alternative water supply during construction, if needed. Other water resources within the Program area, including the Charles River, Clematis Brook, Lyman Pond, Scarboro Pond, and Lake Hibiscus, are used for recreation only and therefore do not require alternative water supply measures mitigation strategy.

What will happen during construction?

During construction, MWRA will make sure that groundwater wells will be protected from impacts associated with construction. A pre-construction survey and inventory of the wells in the project area will be conducted to determine any impacts to these resources during construction.

As the TBM moves forward, the excavation in the rock might draw down groundwater levels temporarily. Grouting of water-bearing rock features in advance of the TBM excavation is a proactive step that would reduce groundwater inflows and minimize impacts of groundwater drawdown.

What will happen after construction?

The tunnels will be lined with concrete or steel, so no permanent impacts to water resources would be anticipated after tunnel construction is complete or while the tunnel is operational in the future. The contractor will conduct a post-construction survey of the wells in the Program area to confirm that there are no long-term impacts.

Impact Management Commitments

MWRA has developed a Water Supply Contingency Plan that outlines specific mitigation measures in the unlikely event of an impact to groundwater, specifically focused on any unexpected impacts to drinking water or irrigation water. For any such impact, MWRA would provide users with an alternative water supply until any impacted water supply source can be restored.

For more information about the Metropolitan Water Tunnel Program please visit www.mwra.com/mwtp.html or contact our Communications Team at tunnels.info@mwra.com

