

Groundwater Levels Returning to Normal

By Zach Carmosino

After a rainy spring, Boston's groundwater has returned to a safe level, mitigating damage to city infrastructure.

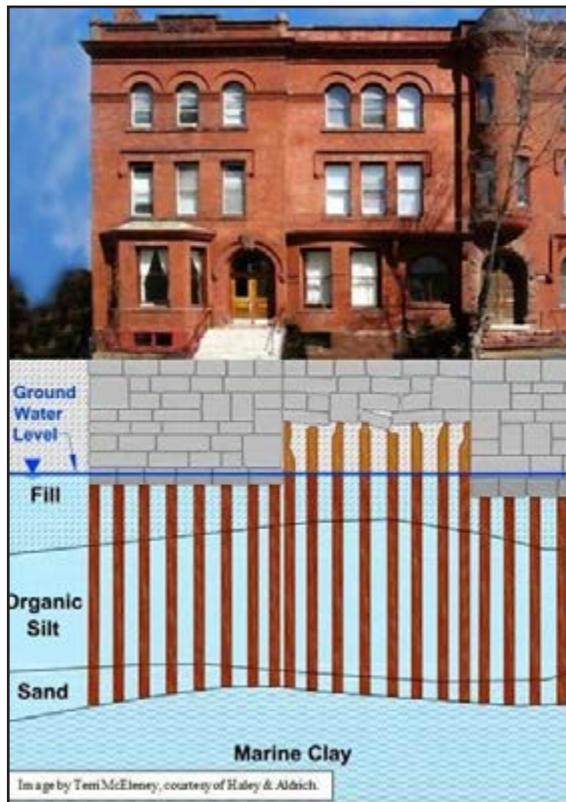
Many of Boston's neighborhoods are built on marshland filled in with sand and gravel, including parts of Back Bay, South End, Fenway, Beacon Hill and Downtown. Many of their buildings are supported by wood pilings designed to be submerged below groundwater levels.

Groundwater levels vary by year, largely dependent on how much rain and snow falls. When levels drop, the pilings are exposed to air and are attacked by microbes that rot the wood, risking damage to the buildings they support.

When pilings rot, the buildings above them settle and cracks often appear. In several cases, buildings became unsafe to occupy. For homeowners, the cost of underpinning a home or restoring its wooden pilings, can cost more than \$250,000, according to Boston Groundwater Trust.

According to Christian Simonelli, executive director of Boston Groundwater Trust, high

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precipitation in Boston over recent months have eased concerns over low groundwater levels brought on by a dry winter.

“We had an above-average spring,” he said. “Overall, the wet spring and the slightly above-average year have helped.”

Construction of roadways and

subway tracks beneath parts of the city created with landfill have caused groundwater levels to lower since these neighborhoods were built. This challenge is especially felt in Back Bay, which is almost entirely built on reclaimed mud flats along the banks of the Charles River.

The city created the Groundwater Conservation Overlay District that regulates this issue, which works to recharge rainwater into the

ground and ensures new construction and renovation projects do not further reduce groundwater.

This summer’s return to higher groundwater levels has eased concerns created by low levels in the recent past. Boston experienced an atypically dry year in 2016, when the city saw an unusually low average of only 30.48 inches of precipitation across the city, according to the Boston Water and Sewer Commission.

Although groundwater levels are up since winter, the city is on pace this year for less rainfall than in 2018. Boston saw an average of 51.78 inches of rainfall across the city last year, according to the Boston Water and Sewer Commission. The city has received only 22.26 inches of rain so far, at pace to reach 37.97 inches over the course of a year.

Simonelli says Boston’s current healthy groundwater

levels are a product of unusually high levels of rainfall last year compensating for relatively low precipitation in this one. That level of rainfall was beneficial in the recovery process for Boston’s groundwater, but he expects a return to normalcy in 2019.

“2018 was so high, I think this year will push it back to normal levels,” Simonelli said.