

Alleys May Help Fix Groundwater



PHOTO: ZACK HUFFMAN

by Zack Huffman
 Courant News Writer

The proliferation of so-called “green alleys” could prove to be a key component to mitigating the low groundwater conditions found throughout the Back Bay, while reducing water pollution.

“The largest section of open

space that we have is our alleys, if you add up square footage,” said Brian Swett, the city’s chief of environment and energy. “Thinking about this alley differently was absolutely critical. We were able to make significant accomplishments in groundwater infiltration.”

The Boston Architectural

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College (BAC) recently cut the ribbon on its new green alley just off of Hereford Street between Boylston and Newbury Streets.

The ceremony marked the end of the three-month preliminary monitoring phase of the new drainage system.

Public alley #444 features porous asphalt to allow water to seep into the ground, as well as an irrigation system that prevents rain from the roofs of the surrounding buildings from entering the storm drain system, which feeds into the Charles River.

Before recharging the water into the ground, a layer of sand and stone filters out pollutants that might have otherwise been directed to the storm drain system had it not been diverted.

Aside from improving groundwater conditions, the green alley has also been integrated into a green energy system in the BAC's facilities. Deep geothermal wells use heat from the earth's core and channel it into a system that circulates heat through the buildings that abut the alley.

The project was partially funded through

grants, including \$1.6 million from the US Department of Energy for the geothermal wells, \$667,000 from the Massachusetts Department of Environmental Protection and \$80,000 from the City of Boston.

Prior to the ribbon cutting, Linnean Solutions monitored the new irrigation system for three months and found that, at the site, roughly 87,000 gallons of water were diverted from the storm drain system and redirected into the groundwater table.

That amount of water was measured as the quantity kept out of storm drains, because it was easier to measure than it would be to calculate the difference in the water table.

"I suspect it will take some significant time until we see an increase," said Elliott Laffer, executive director of the Boston Groundwater Trust. "The water spreads out until it runs into a spot with a higher level. It takes time to build up. It will also take a lot of rain, which we haven't had a lot of."

Laffer compared the project to one in which the Boston Water and Sewer Commission rebuilt a storm drain system in the Fenway with perforated pipes to recharge the water table.

"It took two years before we saw any benefit," he said.