Harvesting Rain at Atlantic Wharf

Boston Properties is installing a Rain Water Harvest System at Atlantic Wharf, a 32-story development located on Boston' new Greenway. Downpour conditions have become a significant problem for Boston's sewer systems as tremendous amounts of water overload the system during heavy rain. When it rains, office buildings with their vast surface areas and especially their large roofs are engulfed in water.

Historically, building owners see water as a serious challenge—therefore the standard roof design calls for rain water to be swept immediately down drain pipes and flushed into the city's sewer system. We wanted to capture the rain, clean it, retain it and then utilize it in our building systems. We worked with our design teams and consultants to come up with an innovative solution.

The rooftop at Atlantic Wharf will feature a half-acre green roof that will capture rainwater while a system of vegetated trays retains water while reducing the heat-island effect common to office building roofs. Here is how the Rain Water Harvest System works:

- Rainwater is collected on the roof at 71 drainage points or retained by the green part of the roof.
- From the collection points, the water is carried through a pipeline system totaling over a half mile to a water tank that can store 40,000 gallons.
- The water is cleaned of environmental pollutants through an automatic filtration system.
- The filtered water is pumped to the building's cooling tower system. From the roof, the water is chilled, and then pumped to on-floor air handlers.

We expect Atlantic Wharf's green roof and harvesting the rainwater, along with water efficient fixtures inside the building to save over 12.5 million gallons of water per year—equivalent to 19 Olympic swimming pools.

Boston Properties