

# PHILADELPHIA TAKES A REVOLUTIONARY APPROACH TO STORMWATER



‘Green City, Clean Waters’ will not only reduce water pollution but transform much of the city’s infrastructure, making it something of a sustainable idyll.

The current water system combines stormwater storage and sewerage. During periods of heavy rainfall it overflows, causing sewerage to flow through streets and into the Delaware and Schuylkill Rivers.

The project will replace as much as one-third of the city's existing impervious cover – about 4,000 acres – with natural or porous surfaces that can intercept stormwater, store it, and then release it at a controlled rate.

Proposals include natural water storage and filtering solutions such as rain gardens (native vegetation planted near waterways), kerbside planters and green rooftops.

Porous asphalt, concrete and paving slabs will also be installed in car parks and on streets. Taken together, these technologies should prevent between 5 and 8 billion gallons of wastewater from overflowing each year – that's up to 50% of the total for the area. Other benefits would include the creation of 250 green jobs each year, increased carbon sequestration from the vegetation, and a boost in recreational space.

The project will be funded through a combination of state and federal grants and loans, city water fees (adding \$8 to a resident's typical monthly bill), support from foundations and private investment. Just over half of the surfaces in need of replacement lie on private (non-residential) land, and so the city needs companies to invest in these changes. A number of incentives are being considered, such as on-bill financing (where the utility pays the upfront cost of the changes and the company pays it back on their bill over time), insurance discounts for those with green infrastructure in place, and tax levies.

Philadelphia is not alone in rethinking water management – although the scale of this project is unprecedented. “There’s increasing acceptance by politicians that water cannot be taken for granted”, says Nick Meeten, a specialist in urban water management at Huber Technologies.

In Europe, the city of Malmö in Sweden was one of the first to pioneer the use of green spaces to reduce sewerage overflow, and hosts the world’s first rooftop botanical gardens. Singapore has taken the use of rainwater runoff one step further, treating it for use as drinking water. For Meeten, the treatment and reuse of water is the thing to watch. He highlights membrane technology (low-energy filtration to give high quality water) as one solution “which really enable[s] a big step forward in urban water management”.

Source: <http://thisbigcity.net/philadelphia-revolutionary-approach-stormwater/>