

Green City, Clean Waters is Philadelphia's innovative program to clean our rivers and streams. The Philadelphia Water Department uses specially designed green tools to filter and store water through natural processes. These green tools, which often use plants and trees, help stormwater (rain or melting snow) soak into the ground. They are a beautiful and cost effective solution to reduce pollution. This approach will result in greener communities and cleaner rivers that everyone can enjoy.

THE CHALLENGE

During heavy storms, rainwater overwhelms the sewer system, sending pollutants into our creeks and rivers. Many cities control this pollution by storing stormwater in large underground tunnels. To store all of Philly's stormwater we would need to build a tunnel the size of Citizens Bank Park. Think how expensive that would be!

THE SOLUTION

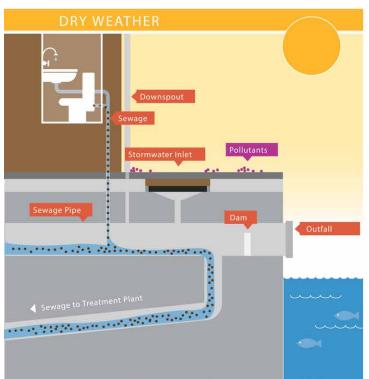
Green City, Clean Waters is an affordable 25-year program that promotes the use of green tools that capture stormwater before it enters sewers. Green means we use plants, trees and stone to manage stormwater in our neighborhoods, which means cleaner rivers for our city.

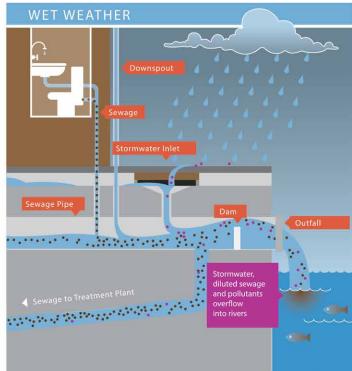
THE BENEFITS

Tools like rain gardens, stormwater tree trenches and porous pavers will build on the strength of our existing pipe system to help remove over 80% of the pollutants entering our creeks and rivers. In addition to improving our waterways, *Green City, Clean Waters* will provide economic, social and other environmental benefits to Philadelphia.

The Challenge: Why We Need to Manage Stormwater

Like many historic cities, Philadelphia faces a stormwater management challenge. Previous generations expanded our city by building over streams and floodplains, eliminating our region's natural ability to soak up stormwater.





COMBINED SEWER SYSTEM IN DRY AND WET WEATHER

Stormwater and Our Sewer System

In place of streams and floodplains they built a vast system of sewer pipes to remove the waste from homes and businesses. As our city has expanded so too has the amount of hard surface (streets, sidewalks & roofs). These hard surfaces prevent stormwater from being absorbed into the ground. This causes stormwater to run off into our sewer system.

Philadelphia has two types of sewer systems — combined and separate. In a separate system, there are two different pipes. One carries sewage to the treatment plant and another carries stormwater to our rivers.

However, in a combined system, a single pipe collects both sewage from homes and businesses, as well as stormwater runoff. When it's dry, this system has plenty of capacity to collect and transport the city's waste to a treatment plant. However, during a rain or snow storm, the large and sudden increase in water can overwhelm our sewer system, causing diluted sewage and pollutants to overflow into our rivers. This is known as a Combined Sewer Overflow or CSO (see above image).

As you can imagine, these overflows are unhealthy and unsanitary. During storms, water gushes out of the combined sewer system. In addition to polluting our rivers, the powerful flow of water damages stream banks and harms aquatic habitat. The U.S. Environmental Protection Agency and the PA Department of Environmental Control carefully regulate what a city like Philadelphia can let flow into its rivers. State and federal laws require that cities develop a plan to reduce CSOs and their impact on the environment. Being a revolutionary city, Philadelphia's answer to this requirement is nothing short of groundbreaking.



Green City, Clean Waters is Philadelphia's innovative answer to stormwater management. Over the next 25 years, the Philadelphia Water Department will invest approximately \$2.4 billion to create the largest green stormwater infrastructure program in the nation. This program will dramatically reduce the amount of pollution entering our waterways.

Why Green?

Traditional methods of stormwater management can be expensive and time consuming to build. Instead, *Green City, Clean Waters* promotes the use of green stormwater infrastructure (GSI), adding resiliency to our existing sewer system on an incremental basis in a cost-effective way. When it rains, stormwater runs off our streets and sidewalks. Green infrastructure captures this water before it enters the sewers. Plants, trees and stone filter the water and allow it to drain naturally into the ground.

IMAGE: WRT



Environmental



Economic



Social



The goal of *Green City, Clean Waters* is to clean our rivers and streams, but the plants and trees in green infrastructure provide many other environmental benefits.

- Philly's green infrastructure will help clean the air we breathe – reducing carbon dioxide and filtering other pollutants like ozone. Imagine absorbing the emissions produced by 3,400 cars each year!
- Trees help shade buildings so people use less energy to cool their homes and businesses.

Investing in green stormwater infrastructure will improve Philadelphia's economy. Not only is *Green City, Clean Waters* the most costeffective way to control water pollution; it also creates jobs and adds value to our properties.

- Building and maintaining green stormwater infrastructure will create local jobs in Philadelphia. Each year up to 250 people could be employed in green jobs.
- Homes near parks and green spaces have higher property values. Implementing Green City, Clean Waters could increase property values by 2-5% in Philadelphia.

Many Philadelphians enjoy access to a wide range of community parks and natural spaces. Improving the quality of our rivers and streams will open up even more places to spend time outdoors.

- Reducing the flow of pollution to our waterways and restoring Philadelphia's creeks will provide renewed spaces to hike, bike and fish.
- Green stormwater infrastructure projects provide an opportunity to partner with other city agencies and communities throughout Philadelphia. When agencies work together, a small project can turn into a larger one – benefiting neighborhoods in all sections of the City.

Get Involved!







There are many ways you can connect with the Philadelphia Water Department to help green our city and improve the health of our rivers and streams. Here are some resources for individuals and communities:

Community Input Form: Use this online form to submit potential locations for green stormwater infrastructure projects. Step by step instructions will help you identify possible projects in your community. www.phillywatersheds.org/cif

Soak it Up! Adoption: Soak it Up! Adoption provides grants to civic organizations to help maintain the beauty and functionality of green stormwater infrastructure in Philadelphia's neighborhoods. www.phillywatersheds.org/adoption

Residential programs: Residential roofs, sidewalks and driveways make up a significant percentage of hard or impervious surfaces in our city. Every homeowner can help transform Philadelphia into a greener city by managing stormwater. Think about these resources:

- o **Rain Check:** PWD will help homeowners choose and pay for a landscaping tool that manages stormwater. Participants can choose from free rain barrels or pay partial costs of installing rain gardens, downspout planters, porous paving or removing pavement. www.phillywatersheds.org/raincheck
- **o DIY:** For more information on tips and projects you can do yourself to manage stormwater runoff at home, check out: www.phillywatersheds.org/residents

Learn more about the Green City, Clean Waters program at: http://www.phillywatersheds.org/ltcpu.

Contact us:

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