dc clean RIVERS PROJECT
RESTORING OUR RIVERS
PROTECTING OUR DISTRICT

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY
BIANNUAL REPORT OCTOBER 2017

COMBINED SEWER OVERFLOW (CSO) CONTROL ACTIVITIES

CLEAN RIVERS PROJECT NEWS

The largest contract in DC Water history was awarded to build the Northeast Boundary Tunnel

The District of Columbia Water and Sewer Authority (DC Water) Board of Directors approved the design-build contract to construct the Northeast Boundary Tunnel—a large, deep sewer tunnel that will increase the capacity of the existing sewer system in the District, significantly reducing sewer flooding and improving the water quality of the Anacostia River.

Salini Impregilo S.A. Healy Joint Venture was selected for the best value proposal. The $579.9 million bid is for design-build, a contract type adopted by DC Water in recent years. This contract is the largest contract in DC Water's history.

The Northeast Boundary Tunnel is the largest component of DC Water's Clean Rivers Project and will start just south of the RFK Stadium and extend north to Rhode Island Avenue and west to R Street NW. It will have an inside diameter of 23 feet and extend 5.1 miles.

DC Water will also be constructing diversion facilities along the tunnel route to capture flows from the existing sewer system and divert them into the tunnel. The Northeast Boundary Tunnel will connect with the First Street Tunnel to the north and Anacostia River Tunnel to the south to provide a complete gravity system from Northwest DC to Blue Plains Advanced Wastewater Treatment Plant, where all flows captured by the tunnel system will be treated prior to discharge into the Potomac River.

Once the Northeast Boundary Tunnel is put in service, combined sewer overflows to the Anacostia River will be reduced by 98 percent. In addition to controlling combined sewer overflows, the construction of the Northeast Boundary Tunnel will reduce the chronic flooding in several areas in the Northeast section of Washington, D.C.

The current schedule shows the full 13.1-mile Anacostia River Tunnel operational in 2023 which fulfills DC Water's consent decree requirements for the Anacostia River.

For more information on the Northeast Boundary Tunnel Project, please visit: **https://www.dcwater.com/projects/northeast-boundary-tunnel-project-0**

First Green Infrastructure Project in Rock Creek breaks ground

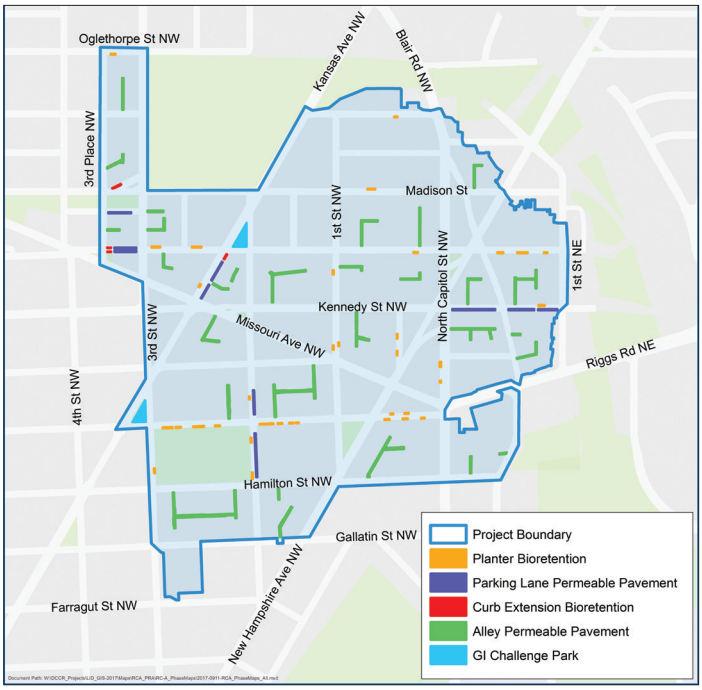
The DC Clean Rivers Project team has begun construction of the first green infrastructure (GI) project for the Rock Creek Sewershed. These green practices are designed to significantly reduce the level of pollution to Rock Creek produced by the discharge of storm water runoff and sanitary sewer flows, known as combined sewer overflows (CSOs) from the combined sewer system during heavy rain and snow events.

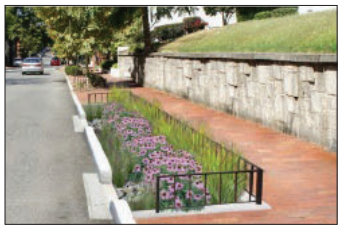
This project involves the construction of innovative green practices that include bioretention (rain gardens) in planter strips and curb extensions, permeable pavement in parking lanes and alleys, and downspout disconnection (including rain barrels). These practices will manage stromwater by taking advantage of the earth's natural processes, such as the air, or for plants to use the water and expire it as vapor. In addition to managing stormwater, GI will contribute to beautifying the streetscape and making it safer and more welcoming for pedestrians, bicyclists and drivers. Other community benefits include creating local green jobs and providing educational opportunities.

The project area extends from Oglethorpe Street NW to Gallatin Street NW and 3rd Place NW to First Street NE. Construction has already begun and is scheduled for completion in 2019. Construction work will be phased throughout the project area to minimize traffic and other impacts to the community. From 2019 to 2020, the GI practices will be monitored and assessed to elevate performance.

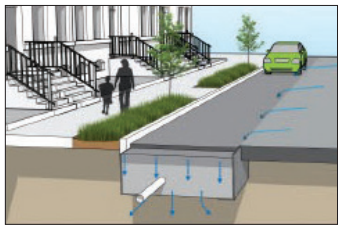
More information can be found at: **www.dcwater.com/projects/rock-creek-green-infrastructure-project**

GI Locations for first project in the Rock Creek Sewershed

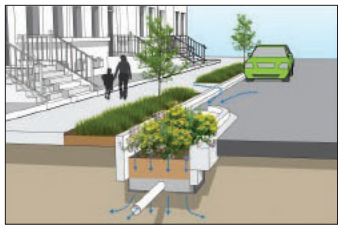




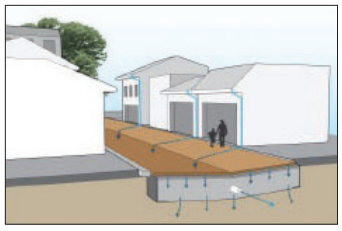
Planter Bioretention
Also known as a rain garden, planter bioretention capture and clean stormwater runoff allowing it to infiltrate into the ground and slow down the excess before entering the combined sewer system.



Parking Lane Permeable Pavement
Parking lane permeable pavement (concrete, pavers or asphalt) allows stormwater runoff to infiltrate through the pavement and slows down the excess before entering the combined sewer system.



Curb Extension Bioretention
Extension of the curb with a bioretention or rain garden that collects stormwater runoff and allows it to infiltrate in the ground. It also serves to calm traffic since it is typically of the width of a parking lane but built in existing no parking spaces.

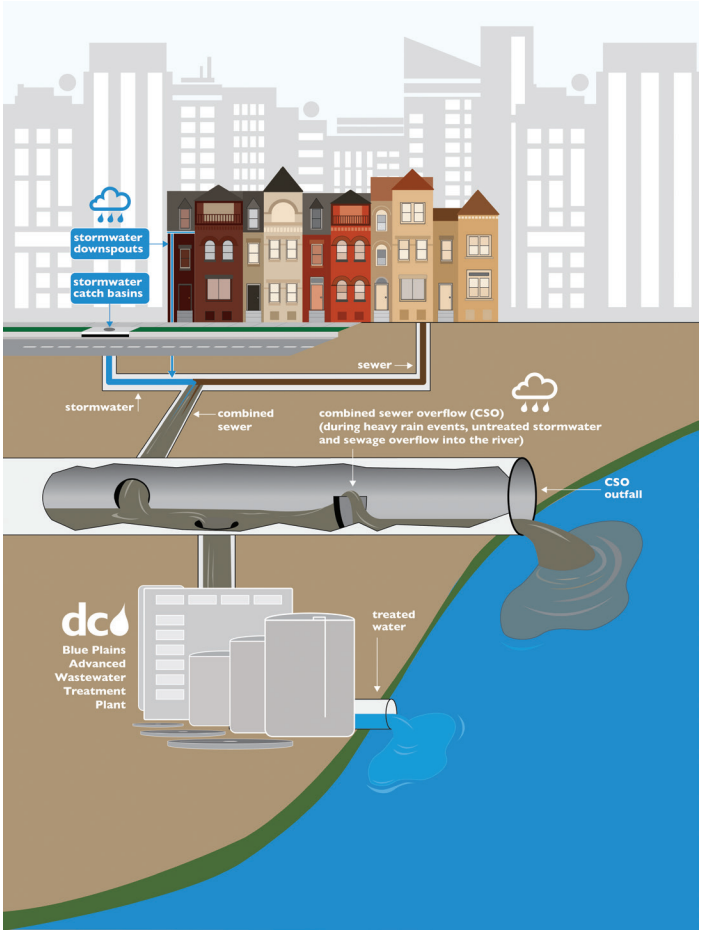


Alley Permeable Pavement
Also known as a green alley. Permeable pavement (concrete, pavers or asphalt) allows stormwater runoff to infiltrate through the pavement and into the ground and slows down the excess before entering the combined sewer system.

FAQs About the Combined Sewer System

What is a Combined Sewer?

A combined sewer is a single pipe that carries both sanitary wastewater and stormwater runoff. Many older cities in the United States are served by combined sewers. In the District, the combined sewer system was designed and built by the U.S. Army Corps of Engineers. Modern practice is to build two pipes in the street—one for stormwater runoff, and one for wastewater from homes and businesses.



What is a CSO and why does it occur?

A CSO is a combined sewer overflow. During dry weather, sewage from homes and businesses is conveyed to the District's wastewater treatment plant at Blue Plains, where the wastewater is treated to remove pollutants before being discharged to the Potomac River. During certain rainfall conditions, the capacity of a combined sewer may be exceeded. When this occurs, the excess flow, a dilute mixture of wastewater and stormwater runoff, is discharged to the Anacostia River, Potomac River, Rock Creek and tributary waters. The Federal Clean Water Act allows CSOs, but the Environmental Protection Agency (EPA) requires communities to develop a plan to address overflows. There are 47 potentially active CSO outfalls listed in DC Water's existing discharge permit from the EPA.

When do CSOs occur?

CSOs occur during wet weather and are more frequent in wet years than dry years. During years with average rainfall, DC Water estimates that combined sewers overflow into the Anacostia and Potomac rivers about 77 times annually, spilling nearly 1.3 billion gallons into the Anacostia and 677 million gallons into the Potomac. Rock Creek averages 32 CSO events and 35 million gallons of overflow a year.

Where are CSO Outfalls?

There are 10 CSO outfall locations on the Potomac River, 14 on the Anacostia River and 23 along Rock Creek and its tributaries. DC Water has posted signs for each outfall location.

What are the possible public health impacts of CSOs?

CSOs may pose a danger to the public because of the rapid flow of water exiting the outfalls and the potentially harmful substances it may contain. The public is advised to stay away from any sewer pipe discharge. CSOs could affect the receiving waters for up to 24 hours during small rainstorms and for up to three days when it rains one inch or more.

What are the environmental impacts of CSOs?

CSOs can adversely affect the quality of rivers and streams by contributing to high bacterial levels and low dissolved oxygen levels, which are harmful to fish and other aquatic life.

What is a Dry Weather Overflow (DWO)?

In dry weather, sanitary wastewater normally flows to the Blue Plains Advanced Wastewater Treatment Plant through pipes with regulators. During wet weather, regulators are designed to let the excess flow discharge directly to a river or creek. If regulators become blocked by debris or trash, wastewater can also overflow during dry weather. This is called a dry weather overflow (DWO). DC Water has an intensive maintenance and inspection program to prevent DWOs from occurring. If you see a CSO outfall discharging during dry weather, call DC Water at (202) 612-3400.

Where can you get more information?

You can learn more by visiting DC Water's website at **dcwater.com/cleanrivers**. You may also contact DC Water's Office of External Affairs at (202) 787-2200.

The complete text of the Long Term Control Plan for Combined Sewer Overflows can also be found on DC Water's web site at **dcwater.com/FinalLTCP**.

dc clean RIVERS PROJECT

dc water is life®

d. dc clean RIVERS PROJECT green alley partnership

AlleyPalooza – DDOT and DC Water; one team working together

DC Water and the District of Columbia are combining two goals into one solution. DC Water's cutting-edge green installations and the District's efforts to repair alleys will both work together to reduce combined sewer overflows to the Potomac River and Rock Creek.

The Solution call for installing permeable pavement in seven alleys in Wards 1,2, and 4. Those neighborhoods were selected because of their location as key drainage point for the Rock Creek and Potomac River Sewersheds and also because the alleys were slated for renovation by the District Department of Transportation (DDOT).

"DC Water is excited to team up with the District government to build green alleys," said **Carlton Ray**, Director of the Clean Rivers project at DC Water. "This green infrastructure will bring benefits to the community and reduce stormwater runoff going into the combined sewer system to help clean Rock Creek and the Potomac River."

In addition to improving the environment by reducing combined sewer overflows and pollutants going into the District's waterways, the Green Alley Partnership saves money and time, and reduces construction disruption by restoring the alleys and implementing green infrastructure at the same time.

The seven locations to receive permeable pavement through the DDOT and DC Water Green Alley Partnership and during Alley Palooza 5 are shown below. More information can be found at: **www.dcwater.com/greenalleys**

100% FSC www.fsc.org
RECYCLED
Paper made from recycled material
FSC® C021348
ecosmart Environmentally Responsible Ink Product Manufacturer tested and recommended

District of Columbia Water and Sewer Authority
5000 Overlook Avenue, SW | Washington, DC 20032

DCWATER.COM

30941-I-0090