dc clean RIVERS PROJECT
RESTORING OUR RIVERS
PROTECTING OUR DISTRICT

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY
BIANNUAL REPORT APRIL 2017

COMBINED SEWER OVERFLOW (CSO) CONTROL ACTIVITIES

CLEAN RIVERS PROJECT NEWS

Blue Plains Tunnel Project wins "Best of the Best"

DC Water's Blue Plains Tunnel Project was honored by Engineering News-Record (ENR) as the nation's Best of the Best Project of 2016 for creatively and safely completing the $319 million tunnel that will significantly improve the quality of the Anacostia River.

ENR is a national authority on large-scale engineering work. The Blue Plains Tunnel is one of the biggest initiatives DC Water has ever undertaken and was one of 700 projects around the country nominated as part of the selection process.

The 23-foot diameter, 4.5 mile tunnel was dug out by a 400-ft-long, 1,300-ton tunnel boring machine dubbed 'Lady Bird' which at its best mined 150 feet a day. The tunnel was built underneath and adjacent to the Potomac and Anacostia Rivers and was completed at a cost below the contracted amount of $330 million.

"This award is a testament to the hard work, planning and preparation by the team since the day we started the Clean Rivers Project," said George S. Hawkins, CEO and General Manager of DC Water, who also recognized Carlton Ray, Director of the Clean Rivers Project for his leadership, adding, "Finishing a project of this magnitude under the projected budget is nearly unheard of." Hawkins noted that the environmental benefits of the Blue Plains Tunnel will be enjoyed by residents and millions of visitors to the Anacostia River for many years to come.

"Nannie" completes mining the Anacostia River Tunnel

On January 5, 2017, DC Water staff, design consultants, contractors and regional journalists proudly watched as Nannie's massive cutterhead was lifted by a huge crane from the 100-foot-deep shaft at Poplar Point. Nannie, DC Water's third tunnel boring machine (TBM) on the Clean Rivers Project, recently completed her 2.4 mile long tunnel segment for the Anacostia River.

On average, Nannie mined 39 feet per day as she traveled from just south of RFK Stadium to her final destination at Poplar Point. Throughout her journey, Nannie excavated in six foot intervals to create a 23-foot-diameter tunnel. This part of the project was performed through a joint venture of Impregilo Healy Parsons (IHP).

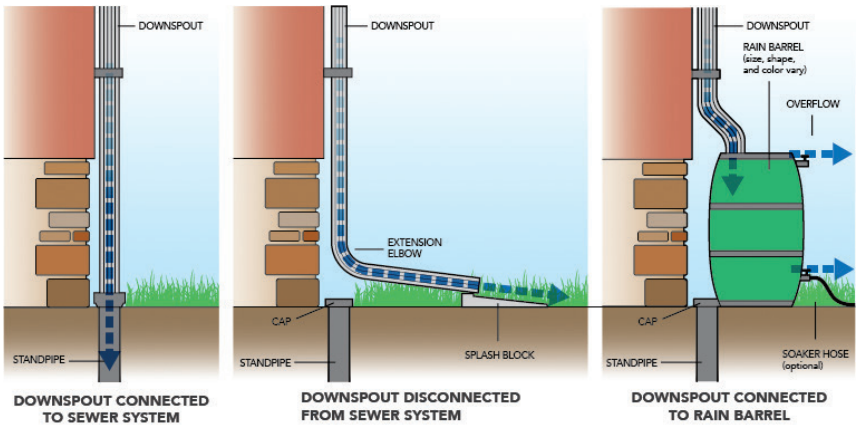
The completion of this Anacostia River Tunnel segment marks another key milestone for DC Water in the first phase of its tunnel system. In addition to the dismantling of Nannie, IHP is completing associated structures to finish the portion of tunnel from RFK south to the Blue Plains Advanced Wastewater Treatment Plant. This portion of the tunnel should become operational next year. With the Anacostia River Tunnel segment and Blue Plains Tunnel segment (mined by former powerhouse Lady Bird) in service, sewer discharges to the Anacostia River will be greatly reduced next year.

Nannie will be cleaned, dismantled and transported to a Baltimore port where she will be shipped to Germany for refurbishment.

DC Water introduces downspout disconnection program

As part of the work for the DC Clean Rivers Project in the Rock Creek and Potomac River sewersheds (areas that drain into Rock Creek and the Potomac), DC Water is piloting a downspout disconnection program in select neighborhoods.

Downspouts connected directly to the combined sewer system contribute to combined sewer overflows (CSOs). Downspout disconnection involves cutting the downspout, attaching an elbow and extension to direct the stormwater to flow away from the house onto the lawn or pervious area or into a rain barrel, and capping the standpipe. Then, runoff from roofs would be diverted away from the sewer system, and directed instead toward lawns, flowers or other surfaces that will absorb water.



The program is voluntary and the homeowner must give approval. This pilot program consists of free downspout disconnection with rain barrels for eligible homes within the GI project areas for Rock Creek and the Potomac River sewersheds. All work will be completed by DC Water-hired contractor, Rock Creek Conservancy.

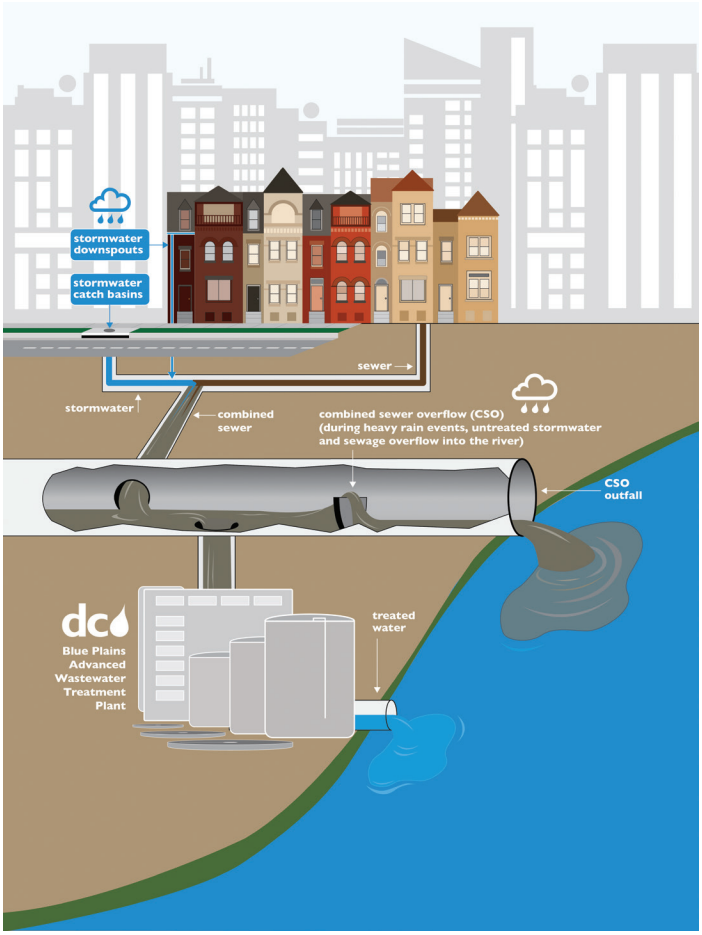
The downspout disconnection program only applies to properties within the project areas with downspouts that are connected to the combined sewer system that meet criteria for disconnection. A property may be eligible if the existing downspout is connected, if there is adequate pervious space for runoff to flow, and if runoff will flow away from the building.

The program will begin this spring with representatives visiting properties within the sewershed areas to assess each property's eligibility. Disconnections and rain barrel installations will take place throughout the summer. To find out if you are eligible for the program, please visit dcwater.com/draintherain.

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 75 times annually, spilling nearly 1.3 billion gallons into the Anacostia and 640 million gallons into the Potomac. Rock Creek averages 30 CSO events and 49 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 Water drives District resident job training program through national certification

Four of the eight graduates from the inaugural class stand in front of the District's Irving Street Green Infrastructure Project. (L-R) Danté Rockett Melton, Latif Celey, Nicholas Toney, Sevynn Sullivan

Green jobs are coming and DC Water is helping drive a certification program to create a skilled entry-level workforce to fill those jobs, here in the District.

The DC Clean Rivers Project includes both tunneling projects and "green infrastructure"—practices that improve the health of our waterways by reducing stormwater runoff. These include using rain barrels, rain gardens, curb bump-outs, porous pavement, and more to absorb runoff before it can enter the sewer system. These green projects will require a local workforce to install, inspect and maintain them, creating a long-term need for a trained workforce.

DC Water has committed with the District of Columbia to fill 51 percent of these new green jobs with District residents. Under the leadership of CEO George Hawkins, DC Water worked with the Water Environment Federation (WEF), and partner utilities and organizations across the country to create the National Green Infrastructure Certification Program.

The Program's primary objectives are the creation of a proficient entry-level workforce and to support the long-term success of green systems with skilled professionals. Once these individuals are certified, they are better positioned for employment in construction, inspection and maintenance of green infrastructure. This program advances sustainable employment and career opportunities with livable wages and creates job opportunities locally and elsewhere across the country for graduates of the program. The inaugural class was trained with in-classroom and field activities late last year. Nearly one hundred candidates across the country participated in the first exam. Certifications were awarded to the first 62 individuals in January.

DC Water congratulates the first eight District residents who were certified in this class. They are now eligible to work on DC Water's DC Clean Rivers GI Program, slated to begin construction this year. The next training will begin in spring 2017.

"The best part of the GI Training Program was the balance between theory and hands-on opportunities at real world GI practices such as bioretention," said Nicholas Toney, NGICP graduate.

Added graduate Sevynn Sullivan, "[For me it was] building skills in a new field that ensures sustainability of our natural resources."

To learn more about the certification program, visit **NGICP.org.** To learn more about DC Water's Clean Rivers GI Program, visit **dcwater.com/green**.

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