



DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY  
BIANNUAL REPORT APRIL 2022

## COMBINED SEWER OVERFLOW (CSO) CONTROL ACTIVITIES

# CLEAN RIVERS PROJECT NEWS

## Potomac River Tunnel Advanced Utility Construction Begins!

The Potomac River Tunnel is the next major phase of DC Water's Clean Rivers Project. The project consists of a large-diameter deep sewer tunnel, diversion facilities, drop shafts, and support structures to capture flows from existing combined sewer overflows (CSOs) along the Potomac River and convey them to the Blue Plains Advanced Wastewater Treatment Plant for treatment. The project is needed to reduce CSO discharges that contribute to water quality impairment of the Potomac River and ultimately the Chesapeake Bay; and to comply with Federal Consent Decree requirements.

CSOs impair water quality by increasing water bacteria levels, contributing to low dissolved oxygen in the water, increasing the potential for fish stress or fish kills and impacts on other



aquatic life, and increasing the amount of trash in waterways. An estimated 654 million gallons of CSOs currently enter the Potomac River in a year of average rainfall. The Clean Rivers Project will reduce CSOs to the Potomac River by 93% by volume and reduce their frequency of occurrence from approximately 74 events to 4 events in a year of average rainfall.

The Potomac River Tunnel Project includes two main phases: Advanced Utility Construction and Potomac River Tunnel System Construction. The Advanced Utility Construction is in progress and will be completed in Spring of 2023. The purpose of the Advanced Utility Construction phase of the project is to provide electrical infra-

structure needed to power the Tunnel Boring Machine (TBM) and to support the construction and then operation of the Potomac River Tunnel. The electrical infrastructure in the first phase will include the installation of underground electrical duct banks and manholes to each individual site along the tunnel alignment. The electrical infrastructure will be constructed in coordination with PEPCO and is common throughout the District. The Potomac River Tunnel System Construction phases will begin in 2023. This phase includes construction of the tunnel along with various structures and vents on or below grade that divert flows through the tunnel to the Blue Plains Advanced Wastewater Treatment Facility. Learn more at the project website: [dcwater.com/prt](https://dcwater.com/prt).



## EMPLOYEE SPOTLIGHT

# Dr. Moussa Wone

The baton has been passed to Dr. Moussa Wone, the new Director for the Clean Rivers program following the retirement of Mr. Carlton Ray, the program's driving force. No stranger to the

program, Dr Wone has been with the Authority since 2013 managing the design effort. Clean Rivers is one of the largest environmental projects in the country mandated by the federal government and spans 25 years.

Dr. Mone actually began his career with DC Water on the contractor side. He was Lead Designer and Engineer of Record for the Blue Plains Tunnel (BPT) Project, the first of the Clean Rivers projects. In that position, he directed a successful BPT design that included many engineering innovations and, along with a stellar safety record, was delivered on time and under budget. These innovations did not go unnoticed by the tunneling industry. The project was

awarded the Engineering News Record 2016 Best of the Best Projects award and the International Tunneling and Underground Space Association 2013 Technical Innovation of the Year award.

Dr. Wone points to the benefits District residents and visitors will enjoy as his motivation for continued service. "The Clean Rivers Project will address the many years of chronic flooding in Northeast DC, and substantially reduce combined sewer overflows as a pollution source for the three District water bodies."

Dr. Wone will continue program innovation now that he is at the helm, with a constant focus on responsibility to resident ratepayers and attaining an average system-wide reduction of 96% of pollution discharges to District waterways.

DC Water feels fortunate to have Dr. Wone as its new Clean Rivers program director.

## Cool Art and Cleaner Rivers 2021 Campaign

Congratulations to the four winners of DC Water's second Cool Art & Cleaner Rivers contest! Each was awarded \$600, art supplies, and time to paint storm drain murals highlighting the ecosystem of the Anacostia River and the impacts of trash and pollution.

Three of the four murals are located on storm drains near the Northeast Boundary Tunnel Project construction sites. Near the R Street NW construction site, view Marley Kinkead's mural at the intersection of 2nd Street and Rhode Island Avenue NW. Kinkead's mural was inspired by Japanese art. She explained that the storm drain covers feature "the rising red sun and traditional great wave motif to represent the strength of the watershed and thriving foliage." A block away at the intersection of R Street and 6th Street NW is Carly Rounds' mural which features a colorful seahorse. The lined seahorse is the only species of 54 seahorses that inhabit the Chesapeake Bay.

Cheama Quigley's mural of an Afro-crowned mermaid is at the intersection of 2nd Street and Florida Avenue NW. "My daughter asked me how amazing would that be if we actually had mermaids that live in the Anacostia River."

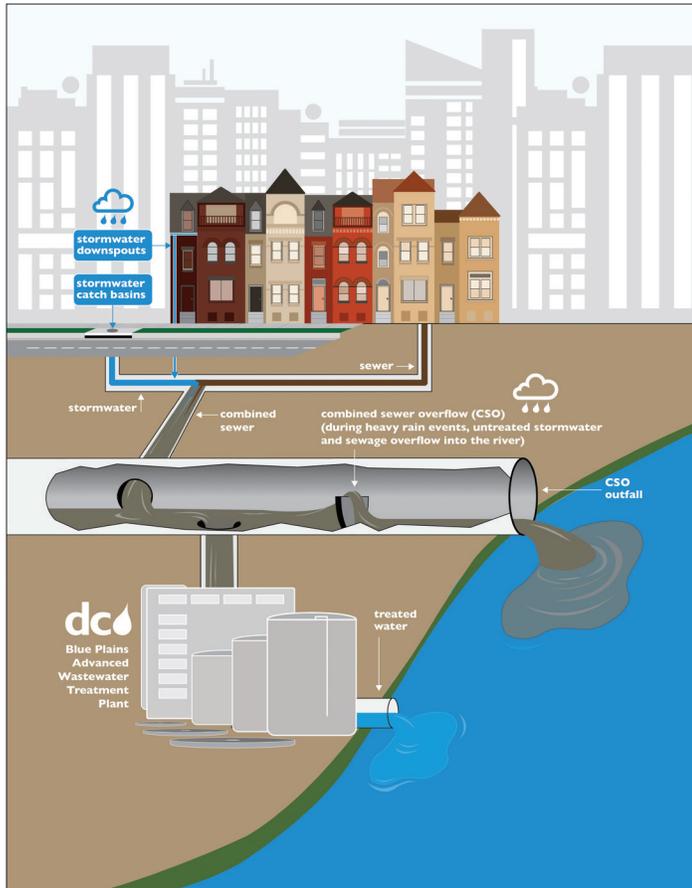
The fourth mural is located at the 100-block of T Street NE across from McKinley Middle School. Jason Clemons illustrates a fish and frog saving a turtle caught in plastic rings. His message: protect the Anacostia River.



## 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 River about 20 times annually and the Potomac River about 77 times annually, spilling approximately 391 million 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?

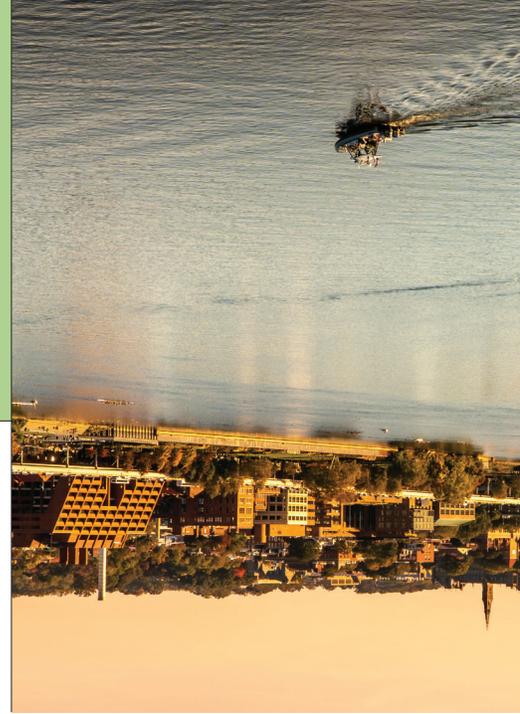
You can learn more by visiting DC Water's website at [dcwater.com/cleanrivers](http://dcwater.com/cleanrivers). You may also contact DC Water's Office of Marketing and Communications at (202) 787-2200.

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](http://dcwater.com/FinalLTCP).

# CLEAN RIVERS PROJECT NEWS

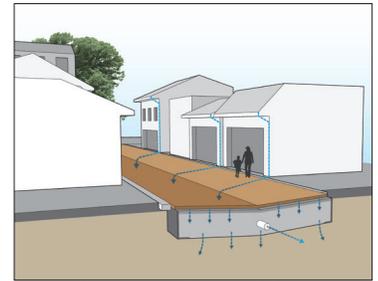
CONTROL ACTIVITIES  
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## Construction of DC Water’s Next Green Project begins in 2022

DC Water finalized the design of the second Green Infrastructure (GI) project in the Rock Creek Sewershed. The project, coined as Rock Creek Project B (RC-B), will include twenty planter bioretentions and forty-eight alley permeable pavements. The RC-B GI practices are located within six project areas inside the sewershed that were selected for their feasibility of design and construction, cost effective implementation, and DC Water’s ability to meet the required stormwater volume capture under their Consent Decree. These areas include Columbia Heights, Takoma DC, Sixteen Street Heights, Grant Circle, Sherman Circle and Brightwood Park.



Specifics on the project and GI practice locations can be found on the project’s website: [dcwater.com/rockcreekgreenb](https://dcwater.com/rockcreekgreenb). An interactive map is included on the page, where residents can enter their address to see if GI is coming to their area.



## Northeast Boundary Tunnel Project’s M-TBM

While traffic continued above ground on Mt. Olivet Road NE, DC Water’s contractor for the Northeast Boundary Tunnel Project completed a critical milestone below ground. A micro-tunnel boring machine (M-TBM) mined a 10.5-foot diameter diversion sewer to connect the diversion facility components under construction at sites at the Department of Public Works (DPW) parking lot and at Capitol Avenue NE at Mt. Olivet Road.

To relieve chronic sewer flooding in the Trinidad and Ivy City neighborhoods, DC Water is constructing a diversion facility to convey flow from the existing sewer to the Northeast Boundary Tunnel. For a month beginning on August 17, 2021, the M-TBM began mining from the DPW site, carefully crossed under a 16-inch and then a 24-inch water line and completed its 718-foot drive to Capitol Avenue without a hitch.



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