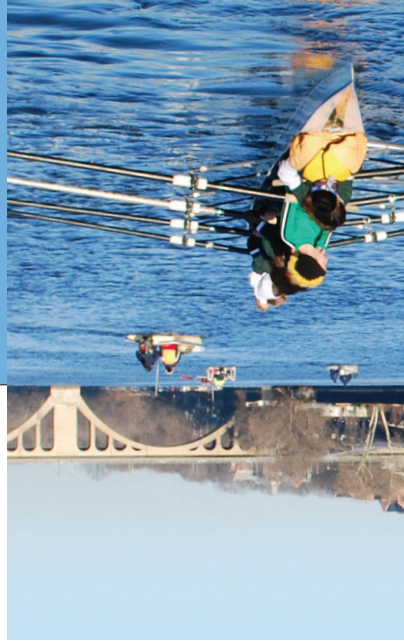


CLEAN RIVERS PROJECT NEWS

CONTROL ACTIVITIES
COMBINED SEWER OVERFLOW (CSO)

BIANNUAL REPORT APRIL 2011

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY



Public Meeting Dates To Be Announced

The Clean Rivers Project team will be touring the District to conduct public meetings about the projects. The team will be on hand to discuss project news as it impacts local neighborhoods, and to answer questions. All members of the public and press are welcome to attend. Please refer to the website at dcwater.com/cleanrivers for dates and locations.



DC Water hosted a Low Impact Development (LID) Summit on March 14, 2011 at the George Washington University Marvin Center. The purpose of this summit was to join a national conversation about ways in which we can “green” our cities. The summit addressed sustainable land use and development, mitigation of climate effects, stormwater management, river restoration and the wise use of water. It also served as a first step for DC Water to explore widespread installation of LIDs to decrease the size of tunnels needed for the Potomac and Rock Creek projects.



Recycled
Supporting responsible use
of forest resources
www.fsc.org Cert no. SCS-COC-001538
© 1996 Forest Stewardship Council



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

DCWATER.COM



DC Water Begins Massive Construction on Blue Plains Plant for CSO Control

The District of Columbia, like hundreds of older U.S. cities, has an older sewer system. In the late 1800s, both wastewater from homes and stormwater from streets were carried in the same pipe away from the streets, houses and businesses. This is called a combined sewer, and differs from the modern separate sewer systems that have been in use since the early 1900s. In its time, though, a combined sewer system was an infrastructure success—removing sewage from places where people lived and worked, virtually eradicating typhoid and malaria and improving living conditions.

About a third of the District is still served by a combined sewer system. The system works well in dry weather, but during intense rain storms, the volume is too great and the combined sewage must either back up into homes and streets or overflow into local waterways. Early engineers designed the system to do the latter, which is called a Combined

Sewer Overflow (CSO). We now know this contributes to poor water quality in our local waterways due to bacteria and pollution in the combined sewage. (See FAQs on page 3.)

DC Water is six years into its massive Clean Rivers Project to reduce CSOs to Rock Creek and the Anacostia and Potomac Rivers. The initial part of the project has already reduced CSOs by 40 percent, but the full-scale project will reduce CSOs by 96 percent overall, and to the Anacostia River by 98 percent.

Site preparation is now underway on the Blue Plains Advanced Wastewater Treatment Plant, where the combined sewage will be pumped to treatment. The next steps are to build huge underground tunnels that will hold the combined wastewater during a rain event, and then release it to travel to Blue Plains when the system has the capacity to treat it. This year the Authority will excavate a 120-foot-deep

DC Water Builds First Diversion Structure to Move Combined Sewage Into Tunnel

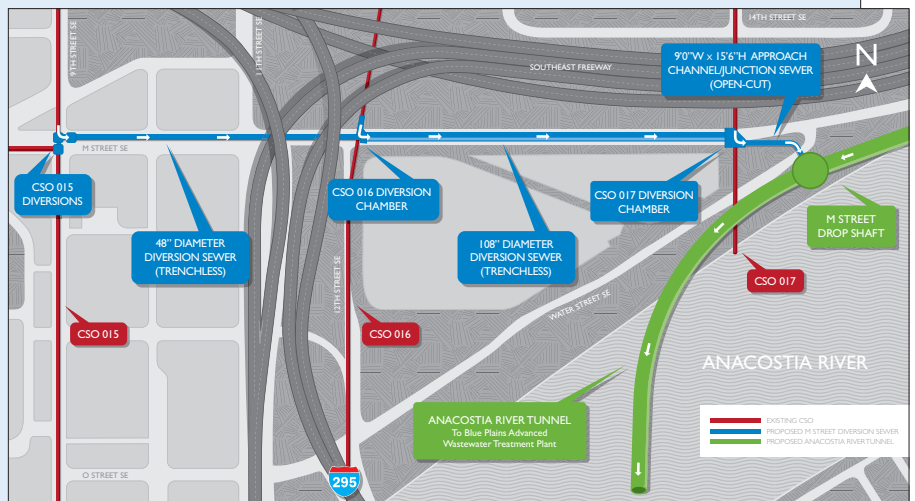
While the largest part of the DC Clean Rivers project consists of deep underground storage tunnels, equally important and more visible elements are several large surface facilities that will redirect the flow into the tunnels. Though the tunnels are not yet built, some of these other structures will be soon underway.

DC Water will construct pipelines to capture flow from each of the 15 Anacostia River Combined Sewer Outfalls and divert them into the tunnel. The facility to divert the flow from outfalls 015, 016 and 017 into the future Anacostia River Tunnel is currently in final design. These outfalls run north to south into the Anacostia River along 9th, 12th and 14th Streets, SE. The pipeline to intercept these runs west to east along M Street and a diversion structure for each of these outfalls is located at the intersection of 9th, 12th and 14th Streets and M Street, SE.

These diversion structures are essentially very large concrete boxes that replace a portion of the CSO pipe. The outlet

to the CSO pipe is eventually blocked off or restricted and the flow diverts into the new east-west pipe during heavy rainfall. The east-west pipe increases in size as it approaches the tunnel. On the west end, it is merely four feet in diameter, but by the time it reaches the tunnel, the pipe is a 9 foot by 15 foot rectangular section.

DC Water officials recognize that M Street, SE is a congested thoroughfare and the project will require a great deal of coordination and traffic planning. DC Water will host public meetings to discuss the project's impact. You can find more information on the DC Water website at: dcwater.com/cleanrivers.



Proposed M Street Diversion Sewer and Anacostia River Tunnel

continued from page 1 DC Water Begins Massive Construction on Blue Plains Plant for CSO Control

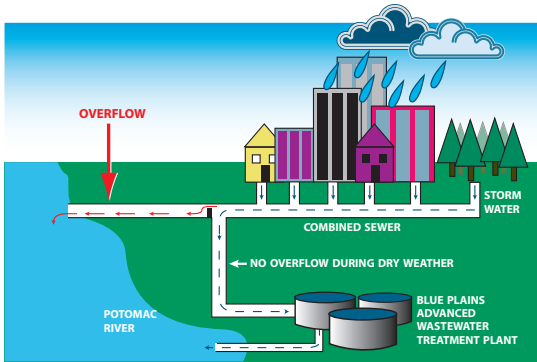


shaft on the plant to begin the project. Next year, contractors will insert an enormous tunnel-boring machine into the shaft and begin boring the first four-mile section of the tunnel along—and under—the Anacostia River. DC Water will also construct future tunnel sections to alleviate CSOs to the Potomac River and Rock Creek.

In some areas outside of the dense downtown, the best approach was to separate the combined sewers into sanitary sewer and stormwater. Those projects are nearing completion.

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 53 CSO outfalls listed in DC Water’s existing discharge permit from the EPA.

Where are CSO Outfalls? There are 10 CSO outfall locations on the Potomac River, 15 on the Anacostia River and 28 along Rock Creek and its tributaries. DC Water has posted signs for each outfall location.

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 1.5 billion gallons into the Anacostia and 850 million gallons into the Potomac. Rock Creek averages 30 CSO events and 52 million gallons of overflow a year.

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 is 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 Public Affairs at (202) 787-2200.

The complete text of the Long Term Control Plan for Combined Sewer Overflows can also be found at the following public libraries: Capitol View, Mount Pleasant, Northeast, Woodridge, Southeast, Shepherd Park, Tenley-Friendship and Washington Highlands.