



**Team Makes Plans for Bloomingdale and LeDroit Park Flood Relief**

**Historical flooding**

The Bloomingdale and LeDroit Park neighborhoods were developed at the turn of the last century when sewage conveyance was still a relatively new concept. Sewers were heralded for eliminating epidemics of cholera and typhoid and for advancing public health, but the system built so long ago is simply too small to accommodate the growth of the city over the last century.

Generally, in extreme storms, combined runoff and sewage spills into local waterways rather than backing up onto streets and in homes. But in these low-lying neighborhoods, flooding and basement back-ups occur during the most intense rain storms. Ultimately, the Clean Rivers Project tunnels will solve the problem by storing the combined sewage and then slowly releasing it into the system. But that project completion is still a decade away, and residents need relief sooner.

**Task Force identifies solutions**

The Mayor's Task Force on the Prevention of Flooding in Bloomingdale and LeDroit Park was formed in September 2013. The group worked quickly and submitted a final report in December which included 25 recommendations to mitigate flooding in these neighborhoods. These include short-, medium- and long-term solutions in the following categories:

- Engineering Components
- Regulatory Components
- Code Revision Components
- Operation and Maintenance Components

**Short term**

DC government agencies are coordinating on several programs providing home engineering consultations and flood proofing; rebates for backwater valves to prevent sewage from backing up into basements;

## District, US EPA and DC Water Sign “Clean Rivers, Green District” Partnership Agreement

The U.S. Environmental Protection Agency, the District of Columbia, and DC Water recently joined in a partnership agreement in support of using green techniques for combined sewer overflow control in the District. The “Clean Rivers, Green District” agreement affirms the organizations’ support of green infrastructure (GI) for better stormwater management, more livable communities, and other environmental improvements in the District.

### Green Infrastructure mimics nature to reduce storm runoff

In areas outside of cities, nature does an excellent job of absorbing rainwater and returning it to the water cycle. Trees, native plants and grasses all allow the rain to infiltrate. In urban areas, however, pavement, sidewalks, parking lots, streets and rooftops are impermeable, causing rainwater to run off into storm and sewer systems, picking up pollutants on the way. By planting trees, installing green roofs (gardens on rooftops), and replacing pavement with more porous substances, urban areas can increase rain infiltration and decrease runoff.

### Initiative seeks to measure green solutions

Under the 2005 consent decree, DC Water is required to evaluate green techniques for their potential to reduce the need for engineering solutions (concrete tunnels) in the Rock Creek and Potomac River drainage areas of the District. Under the new green initiative, DC Water is



DC Water staff analyze a green roof in the District.

pursuing a large-scale, multi-million dollar demonstration project to evaluate whether this green solution can achieve enough infiltration of rainwater to achieve combined sewer overflow (CSO) control in the Rock Creek and Potomac sewersheds.

This is not a consent Decree modification but the **Clean Rivers, Green District** partnership agreement outlines some of the steps that EPA and the District will take to support this GI demonstration project. As an early action item of the agreement, DC Water is creating a Green Design Challenge that invites public and private organizations and government and institutions to submit plans for green infrastructure projects in the District. Winners will receive monetary awards to help fund the projects. This effort will help advance GI technology and develop next generation designs, as well as encourage participation by academic institutions in various aspects of the project.

...continued on page 4



### continued from page | Flood Relief

and a rain barrel and green infrastructure program to absorb rainwater before it gets into the stormwater and sewer systems.

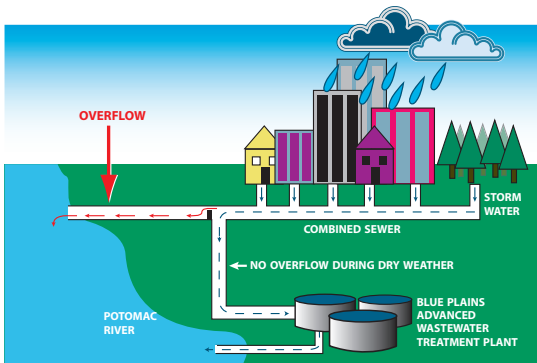
### Medium term

DC Water is implementing two significant engineering projects in the medium term. The first will transform two cells of the abandoned sand filtration facilities at McMillan Reservoir to capture six million gallons of stormwater before it can enter the combined sewer system. These are underground, concrete storage facilities that were once used to filter drinking water. Now the sand will be removed and the cells converted to storage tanks to hold the stormwater during intense rains. When the rains subside, and there is enough space in the pipes, this stormwater will be fed back into the District’s sewer system and be conveyed to Blue Plains to be treated.

...continued on page 4

## 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](http://dcwater.com/cleanrivers). You may also contact the DC Water 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 at the following public libraries: Capitol View, Mount Pleasant, Northeast, Woodridge, Southeast, Shepherd Park, Tenley-Friendship and Washington Highlands.

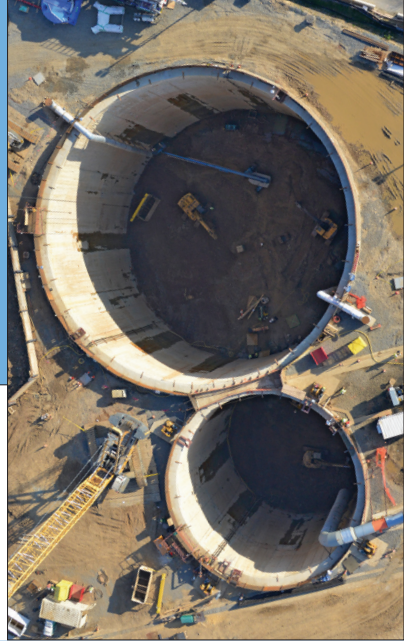


# CLEAN RIVERS PROJECT NEWS

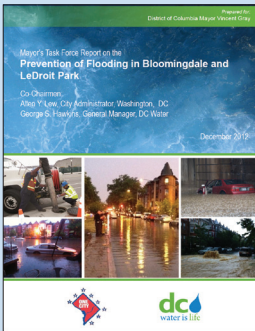
## COMBINED SEWER OVERFLOW (CSO) CONTROL ACTIVITIES

### BIANNUAL REPORT APRIL 2013

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY



continued from page 2 **Flood Relief**



The second installation will serve the same purpose and store an additional six million gallons of stormwater. This is a 19'-diameter tunnel to be built under First Street, NW, running from Rhode Island and First Street, to the southwest corner of the McMillan site. When construction is complete in 2016, this tunnel (called the

First Street Tunnel) will hold stormwater during intense rainstorms, after which a temporary pumping station will deliver the stormwater up into the sewer system to be treated at Blue Plains.

#### Long term

DC Water began construction on the massive \$2.6 billion Clean Rivers Project in 2011 to build large storage tunnels from Blue Plains all the way up to the Northeast Boundary district. The Authority is changing the alignment of the system to provide better drainage for the affected area. DC Water has also accelerated project plans to reach this area sooner than originally scheduled, so that in 2022 the tunnel system to the south will meet up and tie into the First Street tunnel. At that time the lift station can be removed as drainage will be achieved through gravity.

For more information, please visit: [dcwater.com/bloomingdale](http://dcwater.com/bloomingdale) and [dcwater.com/cleanrivers](http://dcwater.com/cleanrivers)

continued from page 2 **“Clean Rivers, Green District”**

The agreement highlights the requirements in the consent decree regarding modification. For any modification, DC Water must provide an opportunity for public comment, address any concerns, and present a proposal for consideration by EPA and the Department of Justice. Throughout this initiative, DC Water, EPA, and the District will work together to assess the water quality benefits and impacts to ensure that they meet EPA and Clean Water Act requirements.

In 2011, DC Water began the tunnel project to significantly reduce CSOs to the Anacostia River and will continue with that effort, reducing CSOs to the Anacostia River by 98 percent by the end of 2018.

For more information, please visit: [dcwater.com/Glchallenge](http://dcwater.com/Glchallenge) and [dcwater.com/cleanrivers](http://dcwater.com/cleanrivers)



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