



Drilling Along CSO Tunnel Route Continues

During the year, WASA has been sampling soil and measuring groundwater levels at various locations throughout the city to determine the route for 12 miles of huge Metro-sized underground tunnels. During heavy rainstorms, these tunnels will capture and hold combined sewer overflows (CSOs) to reduce pollution levels in our waterways.

Using truck-mounted drill rigs, two types of soil borings have been made to determine the best tunnel route through the District. One uses conventional drilling – like that for a well; and the other is sonic drilling, which uses a vibrating drill casing to get a continuous profile of all of the underground layers. As of the publication of this newsletter the first phase of all land-based borings should be complete.

The next step is to take borings from the bed of the Anacostia River. To do this, a barge-mounted drill rig will take samples at various



Truck-mounted drilling rigs take soil borings in the District to determine the CSO tunnel alignments.

see **CSO Drilling** next page

WASA Aids Riverfront Development in the Region

The sight of construction cranes reflects the exciting changes on both the Anacostia and Potomac rivers. In addition to the new ballpark in Southeast Washington, DC, there are plans for waterfront cultural, residential, office and recreational development in the District, Maryland and Virginia. But as this development moves forward, we must keep in mind that it is the projects and programs promoting clean waterways, which are essential to the renaissance of our riverfronts.



Riverfront development includes the Washington Nationals baseball stadium being constructed on the Anacostia River.

As a long-standing environmental steward, WASA knows that the viability of the riverfront is dependent on the quality and health of our waterways – the Anacostia and Potomac rivers and Rock Creek.

To improve the visual look of our waterfronts, WASA removes floating debris daily from the rivers through our skimmer boat program. Using two skimmer boats and three support boats, WASA collects more than 600 tons of trash annually from the Anacostia and Potomac rivers. This Floatable Debris Removal Program was initiated in 1992 and is just one of WASA's many efforts to help ensure attractive riverfronts for the District.

Under the terms of a 2005 agreement with the federal government, WASA's 20-year Long Term Control Plan (LTCP) will reduce combined sewer overflows (CSOs) by 96 percent overall and 98 percent on the Anacostia River

alone. Overflows have already been reduced by 30 percent and will be reduced by 40 percent next year. The plan will also eliminate 14 of the CSO discharge areas or outfalls along the rivers near public areas and greatly reduce floating trash in the rivers.

The Authority and its customers will have spent \$140 million by 2008 but over \$2 billion more will be needed to eliminate the additional 56 percent of the overflows within the next 20 years.

WASA is responsible for only 20 percent of the pollution in the Anacostia River and less in the Potomac River. Our river water quality is affected mostly by sources that are upstream and outside of the District including stormwater runoff from commercial, industrial and agricultural sites. While WASA recognizes the

see **Riverfront Development** next page

A Brief Sewer System History

The District's sewer system, one of the oldest in the United States, began in 1810, when the first sewers and culverts were constructed to drain stormwater and sewage into the nearest body of water. Before the end of the Civil War, and as a result of a population explosion and unsanitary waste disposal, epidemics of smallpox, typhoid and malaria, killed thousands. These epidemics prompted the federal government to investigate the problem of sanitary sewage.

Starting in 1871, under the supervision of the federal government, the first 80 miles of combined sewers that are still in use today were built. A combined system carries and discharges both sewage and stormwater in one pipe.

In 1889, the District population was approaching 280,000, as compared to 75,000 thirty years earlier, and the issue of sewage disposal took on more prominence. A Board of Engineers appointed by President Benjamin Harrison recommended that the existing combined system be kept, but that new extensions should consist of separate lines to carry stormwater and sanitary

flows. The Board also recommended that sewage flows be discharged at a point far enough down the Potomac River to prevent its return to the city. This discharge point is still located at Blue Plains, the southernmost tip of the District.

The Blue Plains wastewater treatment plant opened in 1938, as a primary treatment facility.

It served a population that reached 650,000 in 1950.

As the population and industry grew, the primary treatment plant was inadequate. In 1959, Blue Plains was expanded to provide secondary treatment.

By 1969, the flow again exceeded Blue Plains' capacity. The District government, with authorities from Maryland and

Virginia, agreed to expand the facility to meet the Federal Clean Water Act. From

1970 through 1983, the secondary plant was expanded to an advanced wastewater treatment facility. Since 1997, WASA has invested \$1 billion in major plant upgrades to increase treatment capacity and meet federal regulations. Blue Plains is now the world's largest advanced wastewater treatment facility.



Building sewer overflows at 14th Street and Piney Branch, NW, December 8, 1893.

Anacostia's Clean River Action

Clean River Action is part of WASA's overall plan to control combined sewer overflows (CSOs) and improve water quality in the District's waterways, especially the Anacostia River. The plan involves rehabilitating pumping stations, building storage tunnels, consolidating three outfalls near the Anacostia Marina and separating the combined sewer in homes in the Fort Stanton drainage area east of the river. Many homes in the area bordered by Good Hope Road to the north, W Street to the south, 13th Street to the east, and Shannon Place to the west currently have combined sewers for both their sanitary waste and stormwater runoff. To

eliminate sewer overflows in this area during rainy weather, approximately 100 of these homeowners have been invited to join Clean River Action and have their sewers separated. WASA will pay all sewer separation costs. In addition to the sewer work, WASA will be laying a new drinking water main, and replacing lead pipes and fire hydrants on the affected blocks.

Work on Clean River Action is scheduled to begin in the spring of 2008. A similar program will be implemented in the Rock Creek area in 2010, and sewer separation has already been completed in the Luzon Valley area.

CSO Drilling *from page 1*



The dots on the map represent locations where soil borings have been taken to determine tunnel routes. Routes under consideration will take the 12- to 23-foot-diameter tunnels beneath the Anacostia River and the Metro subway system.

locations in the river at the 11th Street bridge and north of the CSX railroad bridge.

Final alignment of the tunnels is now being determined. WASA is meeting with various District government agencies, Bolling Air Force Base, the Navy, the National Park Service, several developers and District Advisory Neighborhood Commissions (ANCs) to discuss the planned facilities and coordinate associated issues, including right-of-way and construction. Completion of the Facility Plan (tunnels, shafts, etc.) for the project is scheduled for September 2008. Construction of the tunnels, some of which will be up to 150 feet underground, will start in the spring of 2012. The completion of construction is scheduled for 2018 for tunnels south of RFK Stadium and 2025 for tunnels north of RFK Stadium.

Riverfront Development

from page 1

importance of reducing CSOs, we also know that true water quality will not be achieved without water pollution control programs at the regional watershed level.

FAQs About The Combined Sewer System

What is a Combined Sewer?

A combined sewer is a single pipe that carries both sanitary wastewater and storm 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 US 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 WASA'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. WASA 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, WASA 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 overflow during dry weather. This is called a Dry Weather Overflow (DWO) and WASA has an intensive maintenance and inspection program to prevent DWOs from occurring. If you see a CSO outfall discharging during dry weather, call WASA at (202) 612-3400.

What is WASA Doing About CSOs?

WASA has projects underway that will reduce CSOs by 40% by 2008. WASA also has a long-term plan for reducing CSOs even further. This plan is called the Long-Term Control Plan (LTCP) and involves constructing storage tunnels to capture CSOs during rain events. The LTCP will provide a 98% reduction in CSO to the Anacostia River, and a 96% reduction in CSO overall. The LTCP will be implemented over a 20-year period. Details on the plan can be found on WASA's website.

What Can You Do to Help?

Properly dispose of hazardous materials such as oil



How the District of Columbia's combined sewer system works.



To improve water quality in the Anacostia and Potomac rivers and Rock Creek, the 20-year Long-Term CSO Control Plan includes: three deep underground storage tunnels, including side tunnels to reduce flooding; rehabilitation of existing pumping stations; and the elimination of 14 overflow outfalls. Various sections of this system will be placed in operation along the way to reduce overflows even before the entire project is completed.

and paint and don't litter or use catch basins as trash receptacles. Trash improperly disposed in catch basins can wash into District waterways during high volume storm events—negatively impacting aquatic life, and sporting and recreation activities.

Where Can I Get More Information?

You can learn more by visiting WASA's website at www.dcwasa.com. Click on "Environment & Education," then "Combined Sewer System." You may also contact WASA 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, Washington Highlands.

Meetings Scheduled on Public's Role in River Cleanup Efforts

Citizens and other interested parties are invited to attend a public meeting to learn about what WASA is doing to help reduce pollution in the District's rivers and what they can do to help.

Public Meeting Schedule

Monday, October 22, 2007, 7-8 pm

Northeast Neighborhood Library
330 7th St., NE at Maryland Ave., NE

Monday, November 5, 2007, 7-8 pm

Petworth Neighborhood Library
4200 Kansas Ave., NW at Georgia Ave.,
NW and Upshur St., NW

Monday, December 3, 2007, 7-8 pm

Southwest Neighborhood Library
900 Wesley Pl., SW at K St., SW



Controlling CSOs will reduce pollution levels in our local waterways.

SEVING THE PUBLIC * PROTECTING THE ENVIRONMENT

www.dcwasa.com

Washington, DC 20032

5000 Overlook Avenue, SW

Water and Sewer Authority

District of Columbia



A District of Columbia Water and Sewer Authority Biannual Report  October 2007

COMBINED SEWER OVERFLOW (CSO) CONTROL ACTIVITIES



Update



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