The Clean Water Nashville Overflow Abatement Program is led by Metro Water Services in coordination with the U.S. Environmental Protection Agency and the Tennessee Dept. of Environment and Conservation. The program's purpose is to meet Clean Water Act requirements and improve water quality in the Cumberland River and its tributaries. This update provides highlights and progress about this program that's dedicated to renewing wastewater infrastructure for future generations.

As Shelby Park area repairs made, play goes on

A guiding principle for all Clean Water Nashville construction projects is to use methods that minimize impacts to Nashville residents, visitors, and businesses.

WHEN CONDUCTING EVEN THE LARGEST PROJECTS IN THE PUBLIC RIGHTS OF WAY, the program prioritizes quality work and strives to complete jobs in a timely manner. We want to leave projects sites in great shape and get out of the way to allow normal community life to resume. Success in this approach requires ongoing collaboration with community stakeholders to develop the right plan of action.

A current project that reflects our efforts to minimize impact in an area of high public use is the Shelby Park Rehabilitation – Area 6 – Shelby Trunk project. The site is located in East Nashville with a majority of the work being constructed within Shelby Park, Shelby Bottoms, Shelby Golf Course, and Vinny Links Golf Course.

This project consists of rehabilitating approximately 26,000 linear feet of existing 8-inch to 42-inch diameter sewer lines by using a cured-in-place pipe (CIPP) lining. It includes approximately 165 sewer service renewals by lining and excavation methods, 90 manholes, cleanout installations, and surface restoration.

The work is necessary to renew aging infrastructure and limit the amount of rainfall and groundwater that can enter the sanitary sewer system through cracked underground pipes during major rain events.

Shelby Park and its related park amenities are hugely popular recreational destinations for community residents. To keep Shelby Park open during construction, CWN and Metro Parks conducted pre-project construction planning to limit interruptions to park activities, publicize potential impacts around park areas, and increase safety awareness.

By using methods such as CIPP, old pipes are repaired without digging and replacement, reducing both the impact and the duration of construction activities. When surface disruptions are necessary, such as installation of temporary piping on ground surfaces, the locations and routes of these pipes are coordinated with Metro Parks. Additionally, utilizing the cold, wet winter months for construction in the most popular areas allows for most of the intrusive work to be out of the way ahead of the spring when park use rises.

Crews insert a liner that will make a defective underground pipe new again. This method minimizes digging and pipe replacement and extends the life of existing infrastructure.

The project footprint, located in Metro Council Districts 6 and 7, primarily runs along the western edge of Shelby Bottoms up to the northwest along Cooper Lane. It is one of numerous CWN projects throughout East Nashville to renew wastewater infrastructure.

Construction began in July 2021 and is scheduled to be completed by the end of the year.

New, larger facilities will expand system capacity

IN AUGUST 2021, CWN BEGAN THE GIBSON CREEK EQUALIZATION FACILITY PROJECT AT 864 IDLEWILD DRIVE IN MADISON. The project includes a twenty-two million gallons per day wet weather pumping station and a ten million gallon wet weather storage tank to expand the facility's capacity during heavy wet weather events.

Construction is scheduled to be complete in spring 2023.

Why this project is important

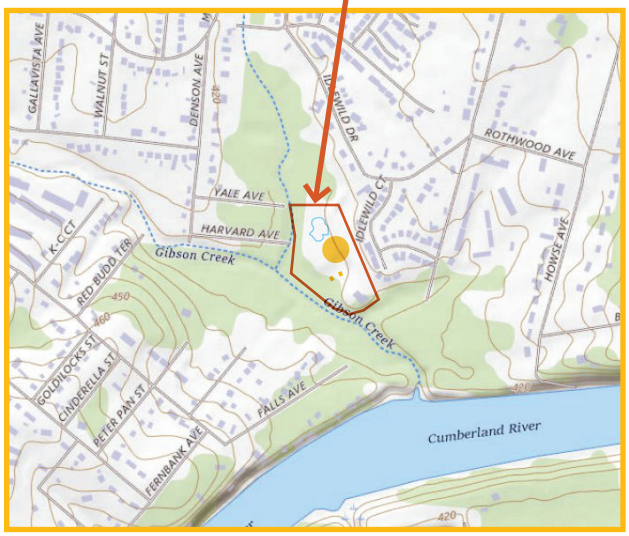
The project will reduce the frequency of overflows from the wastewater collection system. Without this project, rainfall and groundwater entering the sanitary sewer system during rain events can exceed the sewer system's current capacity, resulting in unauthorized discharges of wastewater to the environment.

How the system works

The facility will temporarily store flows exceeding the downstream sewer's capacity. Once high flows recede and capacity is available, the stored flows are returned to the adjacent, existing pump station and conveyed to the Dry Creek Wastewater Treatment Plant for treatment.

The project site is located north of the upper horseshoe curve of the Cumberland River at Pennington Bend. Limited blasting was necessary to construct the partially buried concrete equalization tank. CWN is conducting ongoing communication to provide area neighbors with project information.

The project keeps most of the existing trees and will add new trees and shrubbery for screening and to contribute to Metro's sustainability and environmental improvement initiatives.



A new storage tank, force main, and new wet weather pump station in the Gibson Creek area are being built to address sanitary sewer overflows.

Central Water Reclamation Facility update

COMPLETION OF THE NEW CENTRAL ADMINISTRATION BUILDING headlines progress on the Central Water Reclamation Facility (CWRF), the largest project to date in the Clean Water Nashville Program. The $400 million modernization and expansion of the Central plant, located between Second and Third Avenues North (south of Interstate 65), began in July 2020 and is scheduled for completion in December 2023.

The Central Administration Building is a 12,500 square foot, pre-engineered metal facility that will house Central plant staff and management. It includes an electrical shop and large garage bay for mechanical repairs. The facility was completed in the fall of 2021. The new administration building reflects the environmental design and energy savings-oriented goals of the overall Central campus project.

The recently completed administration structure is the first net zero energy building constructed by Metro Government. Zero energy buildings combine energy efficiency and renewable energy generation so that energy consumption is only as much as can be produced on site. The building has 514 solar panels capable of generating more wattage than the building requires, and excess energy will be directed to power other on-campus structures.

The Central Water Reclamation Facility maintenance building is now complete.

The administration building was built with LEED certified materials and has other energy and resource efficient features, such as variable refrigerant flow HVAC, smart lighting, low flow faucets, building automation systems, proper insulation, and permeable parking lot pavers. The future CWRF campus features a solar farm (currently under construction) along Second Avenue North.

Other aspects of the Central improvement project are moving along on schedule as well. Most visible to the community is the park-like feature being built along Third Avenue North. Its first phase includes water play features to simulate how water flows through channels. That phase will be complete in May 2022 with two additional phases to follow.

Davidson Branch EQ slated for late 2022 finish

CONSTRUCTION OF THE DAVIDSON BRANCH PUMP STATION AND EQUALIZATION FACILITY PROJECT at 6950 Charlotte Pike has progressed past the halfway mark toward a projected December 2022 completion.

Current work includes completing the concrete walls and floor slab of a new 11 million gallons per day (MGD) wet weather pumping station. As the year progresses, crews will construct a 3.6 MGD duty pumping station and a 6 million gallon (MG) equalization (EQ) tank.

Clean Water Nashville (CWN) has prioritized completion this year so that the new facility is fully operational ahead of next year's winter wet weather season.

Why this project is important

The massive redevelopment project replaces a 1960s era facility that is beyond its useful life, relocates the facility to provide better access for MWS staff, and addresses one of MWS's most frequent sanitary sewer overflows. The project, located in Metro Council District 35, is near the confluence of the Cumberland River and the Ewin Branch and Davidson Branch tributaries. The area has experienced considerable commercial and residential growth in recent decades.

Work progresses at the Davidson Branch facility.

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DAVIDSON BRANCH EQ

(continued from page 3)

Without this project, heavy rain events in the area create flows that exceed the existing facility's capacity and result in overflows into Davidson Branch and the Cumberland River. The new facility will improve environmental water quality by capturing higher flows during heavy rain events, temporarily storing it, and then conveying it downstream for treatment.

How it will work

The duty pumping station, wet weather pumping station, and the equalization tank will operate together to capture and treat wastewater flows from the surrounding area. During normal conditions, the duty pumping station will capture and transfer flows northward, eventually arriving at Nashville's Whites Creek Wastewater Treatment Plant. This is similar to the operation of the existing, aged pumping station that is being replaced.

When it rains in the surrounding area, flows in the sewer system increase due to defects that allow rainwater and groundwater to enter the system. Once the Davidson Branch Pump Station and Equalization Facility project is complete, flows in excess of the capacity of the duty station will be transferred by the 11 MGD wet weather pump station to the new 6 MG storage tank.

The peak flows will be stored in the tank temporarily until the system has available capacity, and then the tank volume will be conveyed through the duty pump station for treatment at the Whites Creek Wastewater Treatment Plant.

Upon completion of construction, new trees and shrubs will be added to the site to screen the infrastructure project and contribute to the City's sustainability and environmental improvement program.

PROJECT PIPELINE

Clean Water Nashville continuously advances projects at various stages of construction, design, and planning in neighborhoods across Davidson County, including:

Annual Rehabilitation 2017 – Dry Creek. This project, located in Metro Council Districts 3, 8 and 9, renews aging infrastructure and addresses downstream overflows by reducing the amount of rainfall that enters the system through defective infrastructure. The project, located in Madison, spans westward from the Dry Creek Wastewater Treatment Plant across I-65 North and into the Dickerson Pike area and includes industrial, commercial, and residential areas. Approximately 57,900 linear feet of gravity sewers were evaluated, and the resulting construction project consists of the renewal of approximately 27,100 linear feet of gravity sewer, associated manholes, and services laterals within Metro's rights of way and easements. The project began construction in September 2021 and is scheduled for completion in late fall 2022.

Annual Rehabilitation FY2017 – Shepherd Hills. This project is in Metro Council District 10 north of the Dry Creek Wastewater Treatment Plant service area in northeastern Davidson County in the Rivergate area adjacent to Goodlettsville. It consists of evaluation and rehabilitation (as needed) of approximately 59,900 linear feet of existing 8-inch to 18-inch diameter sewer lines, associated manholes, and service laterals within Metro's rights of way and easements. About 29,000 linear feet of the sewer lines are being rehabilitated using cured-in-place pipe (CIPP) lining – a process where a liner is inserted into the existing, defective pipe and cured to create a hard, sealed, like-new pipe. Construction began in October 2021 and is scheduled to be completed in late 2022.

Smith Springs Rehabilitation – Area 3 – Harbour Town. This project, located in Metro Council Districts 29 and 33 in Southeast Nashville, renews aging infrastructure and addresses downstream overflows by reducing the amount of rainfall and groundwater that can enter the system through defects. Approximately 54,000 linear feet of gravity sewer, associated manholes, and service laterals within Metro's rights of way and easements will be evaluated and repaired as necessary. The project began construction in January 2022 and is scheduled to be completed in approximately one year.

Lakewood Rehabilitation – Area 2 – Pitts Avenue. Located in Metro Council District 11, the project area includes portions of the old City of Lakewood sewer system and encompasses Crooked Branch Park. Like other sewer rehabilitation projects, the goal of the project is to renew sewer system infrastructure and reduce rainfall from entering the system through defects. Approximately 54,000 linear feet of gravity sewer and associated system components within Metro's rights of way and easements will be evaluated and rehabilitated as needed. Construction will begin in February 2022 and is scheduled to be complete in August 2022.

Visit **www.cleanwaternashville.org** for program and project information.