



FAQs & GLOSSARY

What is the difference between storm sewers and sanitary sewers?

The sanitary sewer is a system of underground pipes that carries sewage from bathrooms, sinks, kitchens, and other plumbing components to the wastewater treatment plant.

The storm sewer is a system designed to carry rainfall runoff and other drainage but not sewage. The runoff is carried in underground pipes or open ditches and discharges (untreated) into streams or other surface water bodies. Some older buildings have basement floor drains that connect to the storm sewer system.

What is the difference between brown, grey, and black water?

Brown water comes from waterways, is murky or colored brown from silt, tannins, or pollutants.

Grey water is relatively clean waste water from baths, sinks, washing machines, and other kitchen appliances.

Black water is water polluted with food, animal, or human waste.

What is the Clean Water Act?

The Clean Water Act is a U.S. federal law that regulates the discharge of pollutants into the nation's surface waters, including lakes, rivers, streams, wetlands, and coastal areas. It allows cities to assess its sanitary sewer system and develop plans to eliminate unlawful sewer overflows and bypasses.

Is Waterloo in compliance with the Clean Act? Upon completion of the scheduled measures of the Master Plan, Waterloo will demonstrate its compliance.

Are other cities in Iowa facing the similar challenges?

Yes. Every city is challenged with aging infrastructure and must take proactive measures to maintain, replace, and improve systems.

What is the Consent Decree?

An agreement or settlement that resolves a dispute between two parties without admission of guilt or liability. Waterloo signed a Consent Decree from the EPA in October of 2015. The decree imposed a Civil Penalty of \$272,000. The State of Iowa allowed their portion of the fine, \$136,000 to be spent on an Environmental Beneficial Reuse Project in the City. The City has created the Master Plan and key initiatives to comply with the stipulations of the decree and avoid additional penalties.

CIPP - A **cured-in-place pipe** is one of several trenchless rehabilitation methods used to repair existing pipelines. CIPP is a jointless, seamless, pipe-within-a-pipe with the capability to rehabilitate pipes ranging in diameter from 0.1 to 2.8 meters (4–110 inches).

CMOM – Capacity Management Operation & Maintenance

FOG - Fats Oils Greases

I&I – Infiltration & Inflow

SSO – Sanitary Sewer Overflow

SSORP – Sanitary Sewer Overflow Response Plan

Waterloo's Environmentally Beneficial Infrastructure & Modernization Program



Responsible Waste Management

The City of Waterloo Waste Management Services Department is working to control costs, improve service, and reduce environmental impact. Through **Waterloo's Environmentally Beneficial Infrastructure & Modernization Program**, the department is reducing the amount of storm water in the sanitary sewer and enabling proper flow to the storm sewer and other diversion methods. System-wide proactive management practices are preventing costly issues while preparing for growth & greater demand.

MASTER PLAN OUTLINE

Waterloo's Environmentally Beneficial Infrastructure & Modernization Program Master Plan describes remedial measures necessary to address the sewer system's problems with capacity, inflow and infiltration, with the goal of eliminating sanitary sewer overflows and bypasses.

- Comprehensive assessments of the capacity and condition of its wastewater treatment facility and sewer system which includes approximately 400 miles of sanitary sewer lines and 300 miles of storm sewer lines.
- Identify compromised pipes
- Prioritize high problem areas
- Replace or line pipes to prevent leaks
- Rehabilitate or replace aging lift stations
- Re-route storm intakes to appropriate storm sewer
- Footing drain removal program
- Divert storm water and run off
- Environmentally Beneficial Projects: rain gardens & permeable pavers
- Sanitary sewer overflow response plan
- Comprehensive management, operations and maintenance program

Many of these projects have been under way since 2013 – some are near completion, while others will remain part of the City Capital Improvement Plan (CIP) through 2032.

“Responsible waste management requires continuous attention, maintenance and investment. A great deal of progress has been made to meet strict environmental standards and improve the efficiency of our system. Our efforts must remain persistent and intentional in order to meet the needs of residents today and prepare for growth and greater demand.”

—Steve Hoambrecker, Waster Management Services Director

Waterloo Waste Management Addresses Critical Issues

Often water that does not require treatment finds its way into the sanitary sewer system. This water may travel through foundation footing drains improperly connected to the sanitary sewer instead of the storm sewers or through leaky storm sewer pipes allowing it to flow into sanitary sewers. This causes higher treatment and discharge volumes at the treatment plant and higher frequency of system failures. Unnecessary treatment creates higher treatment and maintenance costs, service disruption, and negative impact on homes and the environment. Failure to address this issue results in increase fines and other costs often passed on to consumers through rate increases.



Waterloo Waste Management
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WATERLOO'S
ENVIRONMENTALLY
BENEFICIAL
INFRASTRUCTURE &
MODERNIZATION
PROGRAM

250 million
gallons
of storm water
diverted

120,000
pounds of
grease
removed per
month

Substantial
Reduction in
sewer overflows
and basement
backups

Sound Solutions Produce Results 2013-2017

Footing Drain Removal Program

2,384 diverted Footing Drains removed over 250 million gallons of storm water from unnecessary treatment.

Reduced operating costs by \$40,000.

Eliminated majority of sewer overflows and basement backups in the targeted areas.

Storm Sewer Disconnect

Elimination of storm sewer connections to the sanitary sewer system, reducing the amount of storm sewer water being unnecessarily treated.

Commercial Fats Oil and Grease (FOG) removal program

120,000 pounds of grease removed per month, doubling previous collections resulting in a reduction of maintenance and sewer backups.

Permeable /Pervious Pavers Project

The city has implemented our first permeable/pervious pavement project filtering and reducing amount of rain water runoff entering the downtown storm sewer system.

CIPP Lining Pipes and Manhole Rehab

Inspections are made using specialized television equipment. Compromised pipe and pipe in poor condition receive: cleaning, root removal; identify active laterals; CIPP lining; re-televise pipe; cut out laterals; grout laterals.

Additional Improvement

Hiring of CMOM Specialist and CMOM Technician.

Incorporate sanitary sewer maps into GIS data base.

2015 upgrade cleaning and televising equipment, vehicles and software.

Implementation of a rainfall and flow monitoring program.

Updates to SSO Reporting.

Benefits to Community

Save Money – Keep Sewer Rates Under control

Reduce volume of fluid being treated, saving treatment expense.

Avoid fines by reducing or eliminating sanitary sewer overflows. (SSO)

Invest dollars into required infrastructure improvements vs. paying fines to the State .

Increase longevity and productivity of sanitary sewer infrastructure through proper cleaning and maintenance.

Proactive vs. reactive management by addressing sewer system operating issues through regular monitoring and maintenance before there is a collapse or other failure leading to a system backup.

Quality Service to Residence

Reduce or eliminate sanitary sewer overflows (SSO), including basement backups.

Fewer disruptions in service due to major reconstruction and repair projects.

Updated monitoring and investigative methods to ensure targeted problem areas in the sewer system are rehabilitated or replaced.

Environmentally Responsible

Achieve compliance with the Clean Water Act and Iowa's water pollution quality control regulations.

Eliminate SSOs, Building Backups and Prohibited Bypasses.

REDUCE YOUR HYDROLOGIC FOOTPRINT

Find information regarding rainscaping, rain water harvesting and rain gardens at CityofWaterlooia.com. You will find design recommendations for rain gardens with sump pump tie-ins. Practices designed to state specifications could be eligible for 50% cost share, up to \$2,000 max, from the Black Hawk Soil & Water Conservation District, as well as technical assistance with the design. Contact the City Storm Water Engineer by calling 319-291-4312 or visit

www.cityofwaterlooia.com/departments/engineering