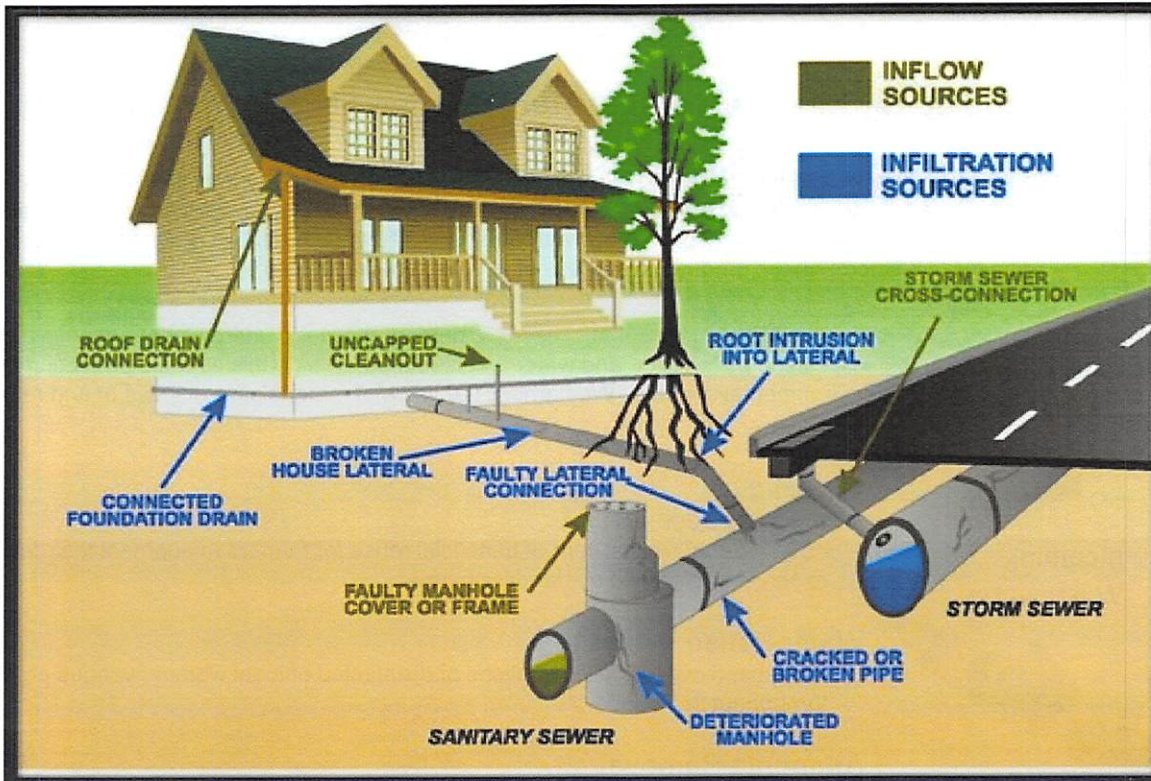


INFLOW & INFILTRATION



Sanitary sewers are strictly designed to transport wastewater from sanitary plumbing fixtures, such as toilets, sinks, bathtubs and showers. Every day, millions of gallons of wastewater begin the journey from homes and businesses, and travel through the collection system to the WTRRF.

A significant amount of "clearwater" comes from groundwater and stormwater that flow into a dedicated sanitary sewer system. This is known as inflow and infiltration (I & I).

Our plant is designed to treat a maximum of 34 million gallons per day. However, during rainfall events, our flows can reach 60 million gallons, due to inflow and infiltration.

When clearwater gets into our sewer system, it must be treated. And when it gets treated it costs the plant and the rate-payers money to treat water that does not require treatment. It also takes up valuable capacity within our collection system and at our plant, which is already working at maximum capacity during a rain event. With deteriorating sewer systems and increasing needs for capacity, mitigating I & I is essential.

The City of Fond du Lac and WTRRF are working diligently to reduce I & I from entering the sanitary sewer system.

We are televising sanitary sewers to evaluate the piping, identifying leaks and making repairs, jetting sanitary sewer mains and removing the debris, which in turn, provides for increased capacity in the collection system.

Collection system flows are monitored and evaluated and manholes and sanitary laterals are being lined, which eliminates approximately 10% of clearwater from entering the system during high flow events.

Residential sump pumps and foundation drains are being inspected for illegal connections to the sanitary system. A single sump pump can send more than 7,000 gallons of water into the sanitary collection system during a rain event. That's about the same as the average daily flow from 18 homes.

Reducing I/I flows provides a number of benefits, such as cost savings from reduced conveyance costs (pumping), reduced treatment costs and hydraulic benefits (plants and pipes will be in service longer and cost less to maintain), as well as reduced health risks, property damage, and environmental effects. It also has an impact on the treatment plant staffs ability to maintain permit compliance.

WHAT YOU CAN DO TO REDUCE I & I

- Inspect the rain gutters on your house and make sure the downspout is not connected to the sanitary sewer. Rainwater should be directed to your lawn and/or the storm sewer away from your foundation.
- Inspect your sewer cleanout to make sure the cap is tightly closed and that the cleanout pipe has not been damaged (such as by a lawn mower). Replace missing caps so that rainwater can not get into the sewer system.
- Avoid planting trees and shrubs over or near sewer lines. Roots can enter and damage sewer piping. **Be a part of the solution to end inflow and infiltration.**



The Sewer Jet/Vac as seen here is used as a tool to clean our collection system. The jetter portion of the truck (the orange hose reel on the front) is pushed into the collection system piping as far out as it will go. Using high pressure water, it pulls debris that has settled out in the pipes back towards the truck. As it does this the vacuum portion (the elephant trunk that runs along the top and over the front) vacuums the debris to remove it and dispose of it properly. In cleaning this way we are removing the debris which creates more water holding capacity in the collection system, helping to reduce basement backups.

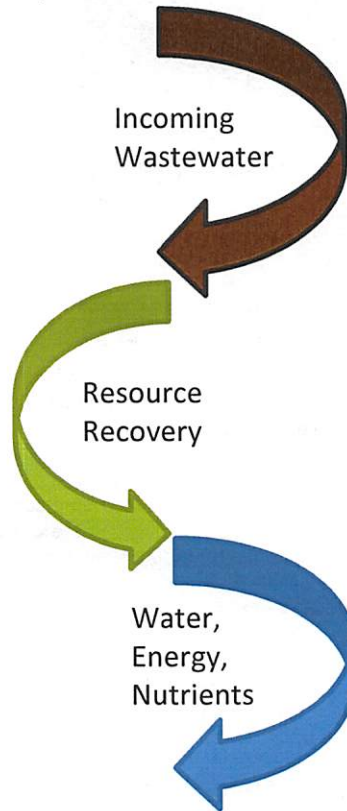


2019 Annual Summary

Fond du Lac Regional Wastewater Treatment & Resource Recovery Facility

The Fond du Lac Regional Wastewater Treatment and Resource Recovery Facility (WTRRF) is NOT ONLY a waste disposal facility but also a water resource recovery facility that produces clean water, recovers nutrients (such as phosphorus and nitrogen), and has the potential to reduce the dependence upon fossil fuel through the production and use of biogas renewable energy.

As a resource recovery facility, WTRRF would like to share our successes in nutrient recovery, energy independence and water reuse in turning waste into energy, biosolids used as fertilizer, and water that is reused. We do this all while protecting the health of our community and reducing environmental impacts. We harness the value of materials we dispose of and return them to productive use.



Biosolids

- Produced 8,300 wet tons.
- 45% of our biosolids were of beneficial reuse for farmers to augment their fertilizer expense and reduce our landfill charges.

Water Reuse

- We reused over 78 million gallons of disinfected effluent water in various processes throughout the plant.

Ammonia Removal

- We averaged an 86% ammonia removal rate using the AnammoPac Deammonification System.
- 29,000 pounds of ammonia were removed by the anammox bacteria. That equates to approximately 40% energy savings over conventional ammonia removal methods.

Phosphorus Removal

- We are removing phosphorus biologically on a more consistent basis, which has resulted in a 10% reduction in chemical usage.
- We reduced our phosphorus discharge by 39% from the previous year.

Energy Production

- Produced 49% of our power from using biogas to fuel our combined heat and power generator.
- Utilized additional biogas to fuel a boiler for process and building heat.

A continued focus is the elimination of inflow and infiltration into our collection system. Any reduction in the amount of storm water or ground water entering the sanitary sewer system is a public benefit. **Please read the information regarding inflow and infiltration, located on the opposite side of this page.**

As we continue into 2020, each day, our hard-working and dedicated staff will ensure the treatment of water that is returned to Lake Winnebago, ready for the next user. We will continue to refine the operation of WTRRF and use its state of the art technology to continually improve and protect the environment. We'll continue to maintain the high quality and cost-effective service that those we serve have come to expect.

Cody Schoepke, Superintendent
700 Doty St , Fond du Lac WI 54935-1961
920-322-3663



Take A Virtual Drone Tour of Our Facility
www.fdl.wi.gov/wastewater

Adopt-A-Storm Drain

The Department of Public Works is asking the community to assist in keeping storm inlets clear of debris obstructions. For more information on how to Adopt-A-Storm Drain visit www.fdl.wi.gov/engineering

