

SEWER SYSTEM

HOW DOES THE SEWER SYSTEM WORK?

When you flush your toilet, take a shower, wash your hands or dishes, or put anything down your drain, that wastewater goes into a pipe (side sewer) from your home, and flows through a series of pipes (sewer main) and pump (lift) stations all the way to the Wastewater Treatment Plant (WWTP).

IMPROVEMENT PROJECTS

All this pipe takes a lot of staff working hard every day to maintain the system and keep things safe, clean, and flowing.

Improvements to the sewer system are necessary over time. Some of the projects that have been identified to improve the sewer system are:

- Upgrade and expansion of the effluent filtration.
- Adding a denitrification process for future nitrogen removal requirements.
- Replacing three of the four existing motor control centers (one has been done already).
- North Sewer Trunkline project, which will improve capacity in the SE sewer collection system to support development of the NE area of town. This will eliminate the Casino and Bonneville Lift Stations, allowing gravity flow to the Trunkline.

COMBINED AND SEPARATED SYSTEMS

This refers to whether or not the sewer mains also carry water from the storm drains.

There's 47 miles of sewer pipe in Snohomish! The sanitary sewer system is divided into 2 categories:

- **Combined Sewer System (CSS):** includes both sanitary sewer and stormwater, which serves much of the downtown; some of this system is over 100 years old. There is about 46,500 feet of CSS pipe, ranging between 6" and 30" in pipe diameter. The City is working on separating the CSS by installing new storm pipes throughout the area that will discharge to the City's stormwater treatment pond or in some cases directly to the Snohomish River instead of the WWTP.
- **Separated system:** includes only sanitary sewer flow, and was installed more recently. There is about 140,000 feet of pipe ranging between 6" and 18". This system includes 15 pump stations and 2.5 miles of force mains.

GRAVITY SEWER AND FORCE MAINS

The sewer system uses both gravity flow and force mains. Gravity "flows downhill", meaning the pipes are angled to flow in a certain direction. Force mains use pressurized pipes to force the flow in the direction it needs to go. These are used when site conditions prevent the use of gravity, and rely on mechanical pumps located in pump stations.

THE WWTP

The City is entrusted with the quality of water that our plant discharges into the Snohomish River. The purposes of the Snohomish Wastewater Treatment Plant are:

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| Remove suspended solids | Treat biodegradable organic material (poop) |
| Reduce ammonia and nitrogen levels | Eliminate harmful bacteria/viruses |

The WWTP can treat up to 2.80 million gallons per day (MGD).

Our WWTP is run by dedicated, professionally certified staff who are always looking at new and innovative approaches to lowering costs while improving the quality of the treated water leaving the plant, and ensuring the health of our community and the environment around us.

WHAT ABOUT GROWTH?

The sanitary sewer system service area is about 1,900 acres, and is planned to expand by an additional 700 acres between Blackmans Lake and US-2. The system is anticipated to be able to serve about 14,500 people over the next 20 years. The North Sewer Trunkline project will improve capacity and support development in the NE sewer area. This project has received federal funding, and is planned to occur over the next few years. It will involve a new main at 16th Street, east of SR-9.

