*City Of Mequon*

# Preventing Sewage in your basement

## What to do when your sanitary sewer back-ups into your basement?

1. Move objects away from the sewage backing up to prevent any further damage to property.
2. Call Mequon Police and report the sewer backup. Give them your Name, Phone Number and the Address of where the backup is occurring.
   24 Hour Police Non-Emergency Contact After hours phone 262-242-3500
3. The Police Department will contact the on-call waste water worker. The worker will contact you, arrive on the scene and evaluate whether it is a lateral or mainline issue.
4. If it is a mainline issue the worker will clean the line to remove any obstructions. Take pictures of the backup if there is any damage to your property and notify City Hall of the backup.
5. If it is a private lateral issue the problem is on your property and you will need to call a plumber. Let the plumber know that the City's mainline is flowing properly. The plumber may ask for information such as distance from the road to help determine how long of the appropriate rodding device to bring. You may want to have the plumber televise and record the condition of your lateral for your reference.
6. Begin cleanup. Raw, untreated sewage contains bacteria and pathogens; residents may consider hiring a professional cleaning service that specializes in this type of cleanup.

## What causes a sanitary sewer backup?

There are many reasons a sanitary sewer system or individual laterals backup. Here are the three most common:


1. **Roots** - Tree roots are the most common cause of a backup. Roots can grow and infiltrate a lateral or main. These roots collect solids and impede water eventually clogging the sewer. As seen in the picture to the right.
2. **Pipe Failure** – Pipes can collapse or sag at any time for a variety of reasons causing a blockage and a backup.
3. **Rain Events** – Sanitary Sewer systems are susceptible to water inflow and infiltration (I/I). Inflow is clear water that enters the sanitary sewer system directly from an illegal connection. Infiltration is water that seeps in from cracks in manholes, mains, and laterals. I/I causes capacity issues and if these capacity issues are great enough can lead to basement backups. The City monitors the public system and takes action to alleviate I/I.

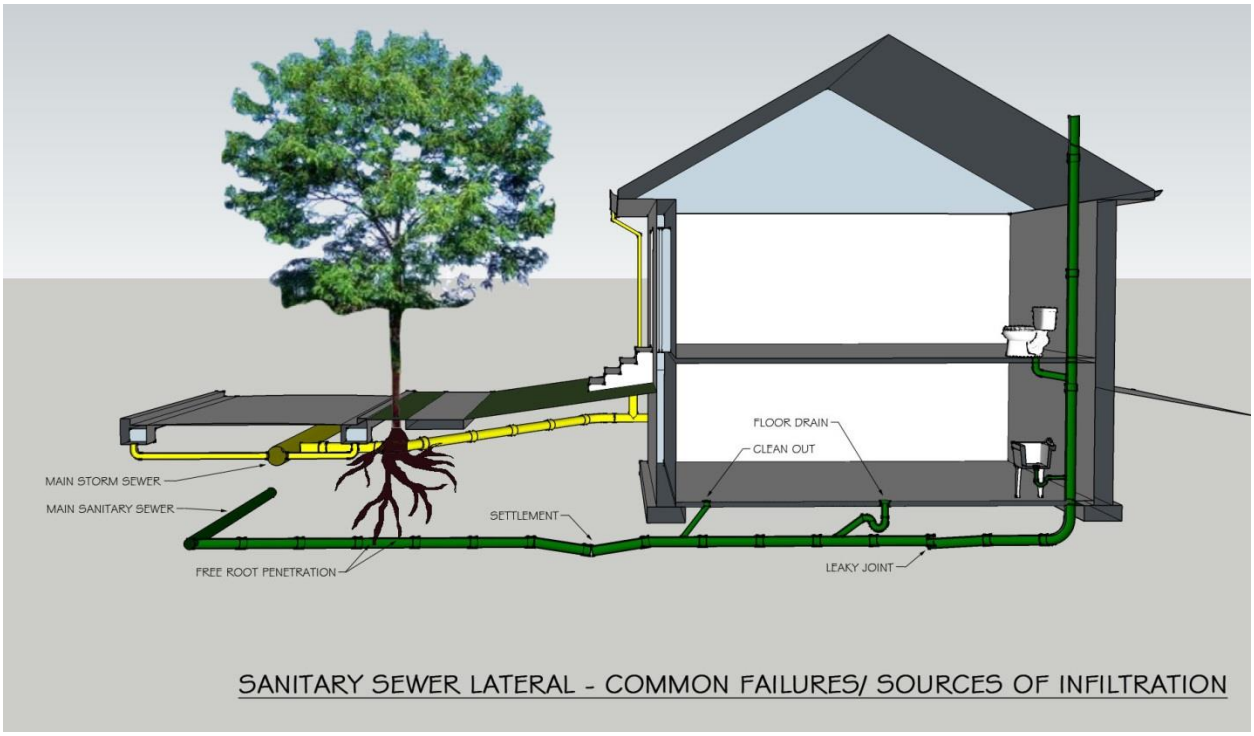


*Image Courtesy of Tom Zoulek, Mid-City Plumbing*

## What can you do to prevent a back-up?

- **Maintain your lateral** – Regular inspections, cleanings, and repairs can save your basement from a backup. The City regularly inspects and cleans the City's infrastructure on a five year cycle and completes any repairs as necessary.
- **Remove roots** – Have a plumber remove the roots from your lateral. These tree roots will continue to grow back and may require subsequent removals or maintenance
- **Replace or line your lateral -**Replacing or lining your lateral is the most expensive option but a permanent one. These options will virtually eliminate roots, decrease pipe defects, and will extend the life of the lateral. Requires a plumbing permit.

- **Install a backflow preventer** – If continual basement backups are an issue for you. Discuss the pros and cons with a knowledgeable contractor. Requires a plumbing permit.

## Sewer Lateral Lining

Information regarding sewer lateral lining can be obtained on the City of Mequon's website by viewing LMK Technologies: *Sewer Rehabilitation through Lateral Lining* Presentation. Both PDF and Power Point versions are available on our website. Go to the Departments tab, scroll down to engineering, and then select Sanitary Sewer.

## Sewer Lateral Replacement

Initial information for sewer lateral replacement can be obtained by contacting the Deputy Director of Utilities Kevin Driscoll. For more detailed information please contact a plumber.

City of Mequon contact information:

Phone: 262-236-2934
Email: kdriscoll@ci.mequon.wi.us

## Backflow Preventers*

Definition: A mechanical device that prevents the backwards flow of water/sewage in a sewer line

**Type: Whole *House Back Water Valve***

- Can only be used if there is no drain tile receiver and the downspouts do not drain to the interior sewer
- Most amount of options available
- Typically located just upstream of the main cleanout in the basement

**Type: Fixture / Branch Back Water Valve**

- Each basement fixture or fixture branch has a back water valve installed
- Increased number of valves increases percentage of malfunction
- Typically more costly and less valve options available

**Install**

- Need to have access to the valve for cleaning. (pit or access manhole, the pit can be a source of ground water entering the basement when hydraulic pressure builds under the floor)

**Maintenance**

- Valves need to be cleaned as often as possible. (manufacturer's recommendation at a minimum)
- Can not clean the sewer through a back water valve, rodder will get stuck and wreck the valve.

## Sewage Ejection System*

- Most effective/reliable way of preventing backflow from a surcharged sewer.
- Lets the waste stack act as a standpipe during a surcharge.
- Only pump sanitary waste from the basement fixtures.
- Multiple pump options along with alarms, etc…
- Does require maintenance, energy consumption and is a mechanical system; however, the ejector pumps do not need to run to prevent a sewer surcharge during a rain storm.
- Assumes that the basement under floor piping can withstand pressure during a surcharge. (usually not a problem, minor leakage only)

## Automated Valves*

- High end system.
- Install a whole house valve (sluice gate style) with an automatic actuator, (air or electric). Valve closes when a sensor recognizes a backflow condition. Can be programmed to exercise itself on a regular basis.
- These system are custom tailored to the homeowner and would require the knowledge of a plumbing engineer.

**A Special Thanks to Tom Zoulek, Mid-City Plumbing, for permission to use images and information regarding backflow preventers, sewage ejection system, and automated valves.*

### For More Information Please Visit:

Milwaukee Metropolitan Sewage District www.mmsd.com