

COMMON QUESTIONS REGARDING PRESSURE SEWER SYSTEMS AND GRINDER PUMPING STATIONS



WHAT ARE GRINDER PUMPS AND PRESSURE SEWER AND HOW DO THEY FUNCTION TOGETHER?

A pressure sewer system consists of pressurized lateral sewers and individual grinder pumps at each building. The grinder stations pump sanitary waste into the sewers. The sewers are usually 2" to 6" in diameter and are around 6 feet deep.

WHAT IS A GRINDER PUMPING STATION?

A grinder pump works like a household garbage disposal, but on a larger scale. It grinds up wastewater produced in your home (i.e. toilet use, shower, washing machine, etc.) and pumps it into the public sewer system.

HOW DO THEY WORK?

A grinder pump is placed in a basin (or tank) that is buried in a convenient outdoor location on a homeowner's property. The basin provides wastewater holding storage capacity. When water is used in the house, wastewater flows into the basin. When the wastewater in the basin reaches a pre-set level, the grinder pump automatically turns on, grinds the waste, and pumps it out of the tank via the discharge line and into the public sewer system. A grinder pump will normally run for one or two minutes and automatically turn off when the tank is emptied. The pump is powered by electricity and is connected to a control panel near your electric meter. Check valves prevent the pressurized waste water from backing up into your home.

WHY A PRESSURE SEWER?

A pressure sewer is an alternate to a gravity sewer. For the following reasons, pressure sewers usually are found to be the most appropriate for existing neighborhoods:

1. Pressure sewers can be installed with very little disruption to the neighborhood. In most cases, they are installed by the directional bore method which requires little excavation. Gravity sewers, on the other hand, require extensive excavation and thus cause much more damage to the streets and landscaping. Streets must be re-paved after a gravity sewer is installed.
2. The cost of a pressure sewer can be less than the cost of a gravity sewer due to lesser restoration costs that would have otherwise been expended with the installation of gravity sewer.
3. Gravity sewers must be accurately placed and bedded on a continuous downward slope and involve the need for costly lift stations. Pressure sewers can be constructed to the lay of the land reducing excavation and restoration costs.
4. Gravity sewers can tend to leak and can be compromised by stormwater infiltration. Pressure sewers are water-tight systems which are especially desirable for environmentally sensitive areas and reducing infiltration and inflow of stormwater into the system.

WHO INSTALLS AND MAINTAINS THE GRINDER PUMP STATIONS?

White Lake Township currently bids and awards a blanket contract for the installation of all grinder pumps. The blanket contractor selected by the Township performs the installations. The Oakland County Water Resources Commission maintains the grinder pump stations and pressure sewer system for White Lake Township after installation.

HOW DEPENDABLE ARE THE GRINDER PUMPS?

Grinder pumps have been used for over 25 years, with the average required service call being approximately once every seven years.

WHAT MAINTENANCE COSTS ARE ASSOCIATED WITH PRESSURE SEWER?

The only extra cost for pressure sewer is for the electricity to operate the pump. Currently, the annual operating costs are \$12-\$20 annually for a grinder station.

WHAT HAPPENS IF THERE IS A POWER FAILURE?

If there is a power failure, then water should be used sparingly. There will be some storage in the pump tank (30-60 gallons) so some water can be used. However, most water usage, such as a shower and washing clothes, should cease. Residents that have well water are not as affected since without power, well pumps are also not operational. Experience has found that power failures have not been a significant source of complaints by users.

WHAT HAPPENS IF THE GRINDER PUMP FAILS?

In the event that a grinder pump fails, an alarm on the control box sounds an audible alarm as well as a flashing light. The audible alarm can be turned off by a switch on the box, but the light continues to flash. **The homeowner can then call the Oakland County Water Resources Commission 24 hours/7 days a week for immediate assistance.**

The emergency phone number for OCWRC is (248) 624-6366

WHAT HAPPENS IF THE SEWER MAIN BREAKS?

The sewer system is designed with a series of valves which allow for breaks in the system to be isolated. Depending on the location of the break, only a small percentage of the residences will be affected. Once a break is discovered, contractors will be dispatched to repair the break.



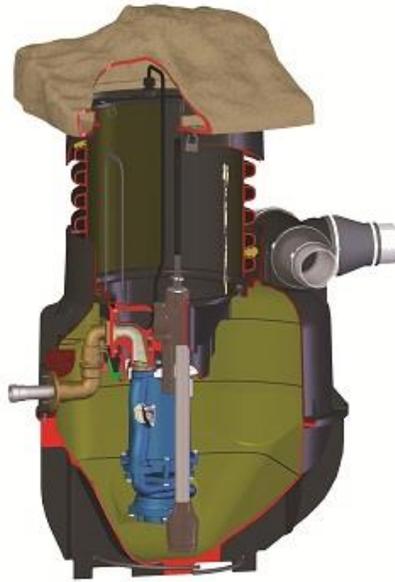
E/One with a positive displacement, progressive cavity pump



Examples of the types of grinder station packages typically specified in White Lake Township.



Crane/Barnes utilizing a high-head centrifugal pump



Crane/Barnes with high-head centrifugal OGP pump

