

What Do I Need to Know About the Operation and Maintenance of Onsite Wastewater Systems ?

In the past, onsite wastewater treatment systems, typically called septic systems, were considered a temporary solution to wastewater management, but now onsite wastewater treatment systems are considered a permanent solution. About 25 percent of the homes now being built have onsite wastewater treatment systems as their permanent wastewater infrastructure.

Proper operation and maintenance of onsite wastewater treatment systems aid in protecting your health, preventing pollution and sewage backups. To understand how to operate and maintain onsite wastewater treatment systems, it helps to know how they work and what factors affect them.

The four major components of a wastewater treatment system are the wastewater source, collection and storage, pretreatment, and final treatment and dispersal. The source is the location where the wastewater is generated. For a conventional septic system, the collection and storage component consists of PVC piping from the wastewater-producing-fixtures in the source to the pretreatment component.

The most common pretreatment component is a septic tank. A septic tank is an enclosed, watertight container where solids are separated from liquid wastes, and microorganisms begin consuming the organic matter, solids and nutrients in the wastewater.

The wastewater then moves to the final treatment and dispersal component of the system. Final treatment and dispersal of the wastewater typically occurs in a soil treatment area, typically called a soil absorption field or a drain field. It is here in the soil where microorganisms consume more of the contaminants and the water moves through the soil and evaporates, is used by plants, or moves to groundwater.

Onsite wastewater treatment systems come in many types and sizes. Each one's operation and maintenance requirements depend on the treatment method, the volume of wastewater the system must handle, and the amount of solids in the wastewater.

It is important to remember that an onsite wastewater treatment system can be both hydraulically and organically overloaded, so your water-use habits and the amount of organics put into your system affect how well your onsite wastewater treatment system works.

In order for proper treatment of the wastewater, natural bacteria present in the wastewater must be alive and active. Chemical additives are not necessary for a septic tank to operate. Some additives may even harm the tank's operation.

Remember that anything you put down the drain or flush down the toilet has to be treated by the wastewater system.

Onsite wastewater treatment systems are typically designed for the average water and organic loading expected for your home or business. If you exceed the average loading to the system by using a garbage disposal, operating a daycare facility at home, or having frequent large gatherings, you run the risk of causing a system malfunction.

Malfunction of an onsite wastewater treatment system can lead to wastewater backing up into the home or surfacing of untreated effluent, both of which lead to public health concerns and environmental problems.

Different types of onsite wastewater treatment systems require different maintenance procedures. However, all systems need maintenance. If you do not maintain your system it will malfunction. Follow the maintenance instructions provided for the equipment installed for your system.

For more information about onsite wastewater treatment systems:

- The Texas A&M AgriLife Extension Service has an entire series of fact sheets that can be downloaded free from <https://agrilifebookstore.org/>, <http://ossf.tamu.edu>, or <http://texaswater.tamu.edu>.
- The Texas Commission on Environmental Quality has information for homeowners with septic systems at <https://www.tceq.texas.gov/licensing/ossf/ossfhomeowners.html>.
- The Texas Groundwater Protection Committee has a Septic Systems webpage at <http://tgpc.state.tx.us/septic-systems/>.

For additional Frequently Asked Questions (FAQs) related to groundwater quantity, groundwater quality, septic systems, water wells, administrative entities, and publications, visit the Texas Groundwater Protection Committee's FAQ webpage at <http://tgpc.state.tx.us/frequently-asked-questions-faqs/>.