

How Your Septic System Works

Septic systems are underground wastewater treatment structures, commonly used in rural areas without centralized sewer systems. They use a combination of nature and proven technology to treat wastewater from household plumbing produced by bathrooms, kitchen drains, and laundry.

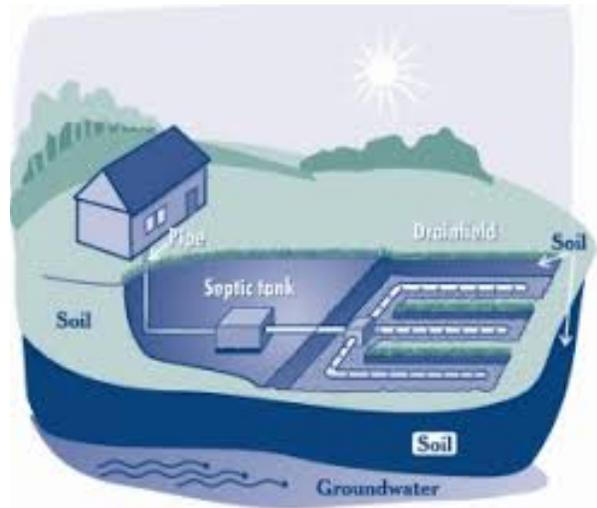
A typical septic system consists of a septic tank and a drainfield, or soil absorption field.

The septic tank digests organic matter and separates floatable matter (e.g., oils and grease) and solids from the wastewater. Soil-based systems discharge the liquid (known as effluent) from the septic tank into a series of perforated pipes buried in a drainfield, typically consisting of a gravel bed or trenches, which is designed to temporarily store wastewater and to slowly release the effluent into the soil where treatment occurs naturally.

Alternative systems use pumps or gravity to help septic tank effluent achieve a high level of treatment through aerobic activity, or other waste treatment technology, to remove or neutralize pollutants like disease-causing pathogens, nitrogen, phosphorus, and other contaminants.

Specifically, this is how a typical septic system works:

1. All water runs out of your house from one main drainage pipe into a septic tank.
2. The septic tank is a buried, water-tight container usually made of concrete, fiberglass, or polyethylene. Its job is to hold the wastewater long enough to allow solids to settle down to the bottom forming sludge, while the oil and grease floats to the top as scum. Compartments and a T-shaped outlet prevent the sludge and scum from leaving the tank and traveling into the drainfield area.
3. The liquid wastewater (effluent) then exits the tank into the drainfield.
4. The drain field is a shallow, covered, excavation made in unsaturated soil. Wastewater is discharged through piping onto porous surfaces that allow wastewater to filter through the soil. The soil accepts, treats, and disperses... wastewater as it percolates through the soil, ultimately discharging to groundwater.
5. Finally, the wastewater percolates into the soil, naturally removing harmful coliform bacteria, viruses and nutrients. Coliform bacteria is a group of bacteria predominantly inhabiting the intestines of humans or other warm-blooded animals. It is an indicator of human fecal contamination.



Why Maintain Your Septic System?

Saves you money

Regular maintenance fees every three to five years is a bargain compared to the cost of repairing or replacing a malfunctioning system, which can cost several thousand for a conventional system. Alternative systems can cost even more. The frequency of pumping required for each system depends on how many people live in the home and the size of the system.

Protects your property value

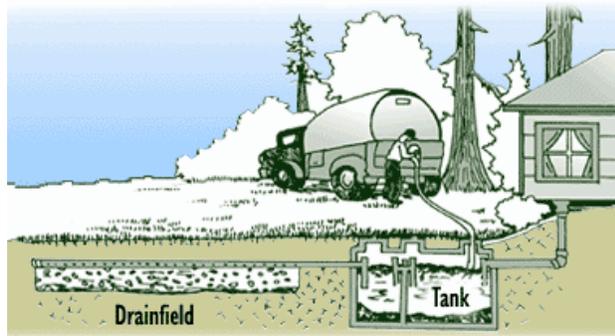
An unusable septic system or one in disrepair will lower your property value, and potentially can pose a costly legal liability.

Keeps you and your neighbors healthy

Household wastewater contains disease causing bacteria and viruses and high levels of nitrogen and phosphorus. If a septic system is well-maintained and working properly, it will remove most of these pollutants. Insufficiently treated sewage from septic systems can cause groundwater contamination, which can spread disease in humans and animals. Improperly treated sewage poses the risk of contaminating nearby surface waters threatening swimmers with various infectious diseases, from eye and ear infections to acute gastrointestinal illness and hepatitis.

Protects the environment

More than four billion gallons of wastewater are dispersed below the ground's surface every day. Ground water contaminated by poorly or untreated household wastewater poses dangers to drinking water and to the environment. Malfunctioning septic systems release bacteria, viruses, and chemicals toxic to local waterways. When these pollutants are released into the ground, they eventually enter streams, rivers, lakes, and more, harming local ecosystems by killing native plants, fish, and shellfish. Learn more about how septic systems can help support greener, more sustainable communities.



Failure Symptoms: Mind the Signs!

A foul odor is not always the first sign of a malfunctioning septic system. Call a septic professional if you notice any of the following:

- Wastewater backing up into household drains.
- Bright green, spongy grass on the drainfield, even during dry weather.
- Pooling water or muddy soil around your septic system or in your basement.
- A strong odor around the septic tank and drainfield.

Basic Rules of Septic System Care

Do	Don't
<p>Pump your tank on a regular basis (generally, every 3-5 years). The more you use it the more often it should be cleaned out.</p>	<p>Flush items that aren't biodegradable. Diapers, wipes, tampons, condoms, and sanitary napkins should all go in the trash. Also, many items labeled as biodegradable are not readily digestible by a traditional septic system (ie. biodegradable wipes and other similar products).</p>
<p>Conserve water. Your system is scaled for a certain flow of water. Fix leaking faucets, install low- flow fixtures, and avoid unnecessary water usage</p>	<p>Allow hazardous fluids to enter your wastewater treatment system. Solvents, oils, paint thinners, poisons, pesticides, unused pharmaceuticals etc., need to be disposed of properly. Call your township office or conservation district for the date of the next hazardous waste collection or prescription drug drop-off.</p>
<p>Restrict or eliminate using the garbage disposal. Compost organic wastes or put it in the trash.</p>	<p>Enter a septic tank—EVER! Gases in the tank are very dangerous. Call a professional service provider in case of problems.</p>
<p>Install a lint trap on your washing machine discharge line and clean regularly.</p>	<p>Dig into your drainfield or build anything over it.</p>
<p>Know where your drainfield is and take care of it. Divert extra water from flowing over or ponding on the drainfield and avoid building anything over or planting anything with a deep root system over the drainfield area. Make sure heavy items are never placed over the drainfield, including piles of snow.</p>	
<p>Remove trees 10-20' around drainfield to prevent root intrusion.</p>	
<p>Make sure your tank is protected from unauthorized entry.</p>	
<p>Know where your septic tank lid is and keep it easily accessible for inspections.</p>	

