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Managing Your On-Lot Septic System

About 25 percent of all housing units in Pennsylvania use on-lot septic systems for the treatment and disposal of household wastewater.

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Homeowners should make a map showing the location of the components on their on-lot septic system. Photo: G. Hurd, Penn State Extension

An important factor in keeping on-lot septic systems operating properly and preventing system failure is homeowner maintenance. By properly managing your on-lot septic system, you are protecting your own drinking water and the health of your family. You are also protecting water resources in your community. Another important reason for properly maintaining your septic system is money.

Malfunctioning septic systems are expensive to repair or replace. Improper maintenance by a property owner may cause septic system failure. It is far less expensive to maintain your on-lot septic system by having it inspected and pumped on a regular basis than it is to replace a malfunctioning system.

It's important to know the basic components of the system and how to keep them functioning properly. A few common sense precautions may help keep your septic system working well for a long period of time. Most on-lot septic systems have two basic parts. The first part is a septic tank that is designed to intercept, hold and partially treat solids contained in wastewater coming from the home. The second part is a soil absorption area such as a drainfield or a sandmound to facilitate treatment and dispersal of clarified wastewater after it leaves the septic tank.

The septic tank is a large container into which the wastewater flows. When you flush a toilet, wash a load of clothes or take a shower, the waste water flows into the septic tank. Bacteria in the septic tank help break down solids in the wastewater into liquids and gases. Not all solids break down, however. Those that don't will accumulate at the bottom of the septic tank and form sludge. The sludge must be pumped out periodically to keep the system functioning properly.

Liquids without the solids flow out of the septic tank to a distribution box or dosing tank, which is then directed to the soil absorption field. This effluent exits through pipes into a layer of gravel and then percolates through the soil for additional treatment to remove harmful, disease causing microorganisms, organics and nutrients. Bacteria in the soil neutralize many of the contaminants in the wastewater.

In some areas unsuitable for conventional septic tank-absorption field systems, sand mound systems have been installed. The major difference between the two systems is the use of a pumping station to deliver the wastewater at intervals to the mound absorption field.

Learn the location of your septic tank and drainfield. Have on hand a sketch or map showing the tank and field in relation to your house and private water well. Have the septic tank inspected regularly by a professional and pumped out when needed. Keep a record of inspection, pumping and other maintenance.

Water conservation is probably the most effective way to prevent septic system failures. Reducing water use in the home reduces the flow through the system, allowing more time for solids to settle and digest in the septic. It also decreases the chances of overloading the soil absorption field. In addition, divert roof drains and surface water from driveways and hillsides away from the drainfield.

Be careful of what you dispose of in the toilet or in your drains. Never put plastics or any other nondegradable items into your septic tank. Household chemicals can destroy the bacteria in your septic tank. Garbage disposals can add unnecessary solids and grease to your system.

Do not plant trees or shrubbery in the drainfield because roots may wrap around the distribution lines and even puncture pipes. Do not cover this area with a hard surface, such as concrete, that would prevent soil contact with air. Do not allow heavy equipment to run over the drainfield and compact soil or damage distribution lines. Do not enter a septic tank. The gases contained in the tank can kill you.

Do not make or allow major repairs to your septic system without obtaining the required Pennsylvania Department of Environmental Protection permits. For information on regulations or required permits, contact your local Sewage Enforcement Officer through your municipality.

Remember, homeowner maintenance is important! Take time to educate everyone in your household about the importance of practicing good on-lot septic system management habits.

Authors

Jennifer R Fetter

Extension Educator, Water Resources

Expertise

- Youth Water Education & Curriculum Development
- Conservation Volunteer Management
- Stormwater Management
- Safe Drinking Water
- Agricultural Water Resources Issues
- Innovative Watershed Restoration Approaches

George Hurd

retired Extension Educator

Penn State Extension

Amy Galford

former Extension Educator

Penn State Extension