

SEPTIC



COOPERATIVE EXTENSION SERVICE
UNIVERSITY OF MARYLAND AT COLLEGE PARK
UNIVERSITY OF MARYLAND, EASTERN SHORE

SEPTIC RECORDS AND MAINTENANCE GUIDELINES

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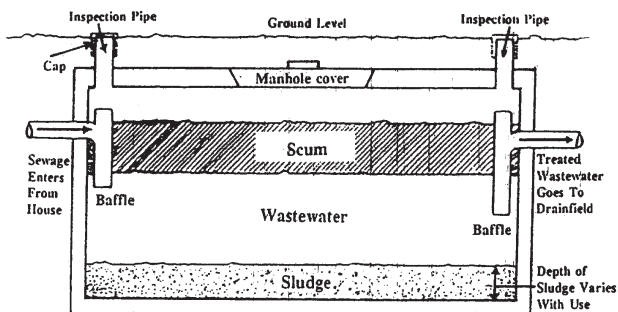
Proper design, installation, and maintenance of your septic system will maximize your system's life. It will prevent failures that can be unsightly, foul-smelling, and threatening to your family's health. Good maintenance reduces the risk of contaminating your well water, and may save you from costly repairs or system replacement.

This folder contains information that will help you maintain your septic system properly. It also provides a convenient place for you to record and file information about your system. Keep it with other important documents about your home, and pass it on to future owners.

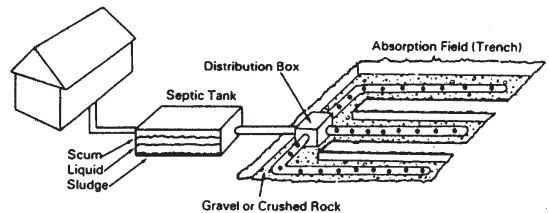
How Your System Works

A septic system has two major components: a septic tank and a soil absorption system.

Septic Tank: Waste water flows from the house to the septic tank. The tank is designed to retain waste water and allow heavy solids to settle to the bottom. These solids are partially decomposed by bacteria to form **sludge**. Grease and light particles float, forming a layer of **scum** on top of the waste water. Baffles installed at the inlet and outlet of the tank force the water to move slowly through it, and prevent scum from exiting the tank.



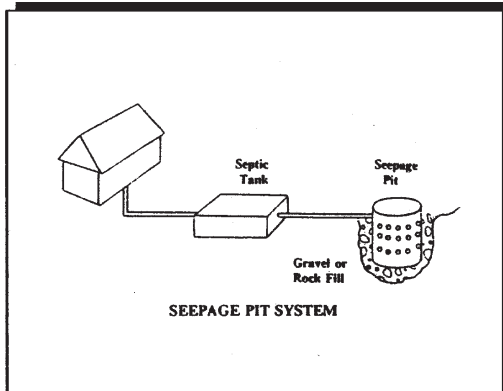
SEPTIC TANK



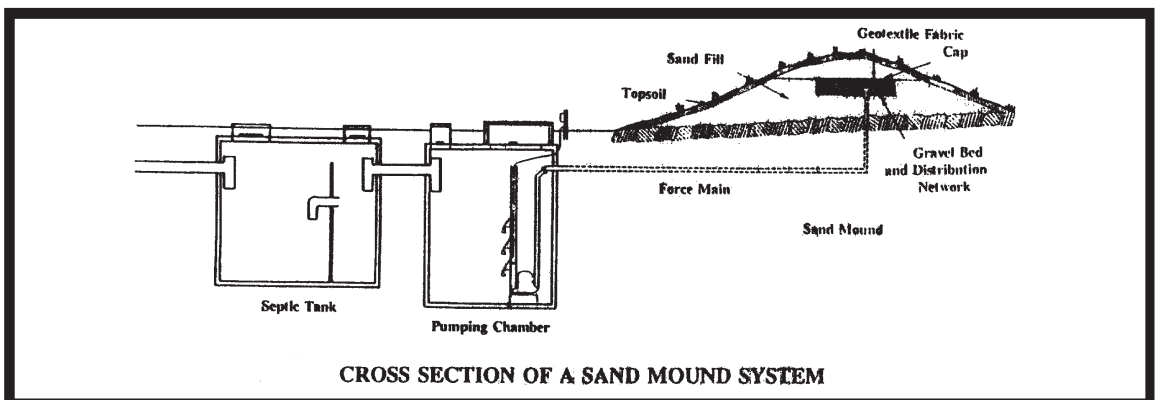
Soil Absorption Field (Trench): A solid pipe leads from the septic tank to a distribution box where the waste water is channeled into one or more perforated pipes set in trenches of gravel. Here the water slowly infiltrates (seeps) into the underlying soil. Dissolved wastes and bacteria in the water are trapped or adsorbed to soil particles or decomposed by microorganisms. This process removes disease-causing organisms, organic matter and most nutrients (except nitrogen and some salts). The purified waste water then either moves to the ground water or evaporates from the soil. Trench systems are the most common type of system used in new home construction.

SEPTIC *Continued*





An alternative to the common drain field is the Seepage Pit (Dry Well). In this type, liquid flows to a pre-cast tank with sidewall holes, surrounded by gravel. (Older versions usually consist of a pit with open-jointed brick or stone walls.) Liquid seeps through the holes or joints to the surrounding soil.



Another alternative is the Sand Mound System: These systems are used in areas where the site is not suitable for traditional septic systems. For instance, the soil may have too much clay to allow the water to seep through at the proper rate, or the water table may be too close to the surface. In these systems, the waste water flows from the septic tank to a storage tank. The liquid is then pumped from the tank to perforated plastic pipes buried in a mound of sand built on the original soil surface. This system provides a layer of suitable soil thick enough to ensure adequate time and distance for proper treatment of the waste water. Vegetation growing on the mound helps to evaporate some of the liquid. This is particularly important in areas with shallow water tables.



Possible Signs of Trouble

-  A wet area or standing water occurs above the absorption field. This situation can develop when sludge particles clog the absorption field, when tree roots or broken pipes keep the waste water from dispersing through the entire drain field, or when water use in the house regularly exceeds the design capacity of the system. When these conditions occur, waste water does not move through the soil as it should, and instead rises to the surface creating a serious health risk and odor problems.
-  Toilets run slowly or backup: in the worst cases, the basement is flooded with sewage. This can be the result of plugged sewer lines to the tank, a plugged inlet or outlet pipe, a full septic tank, or a failed absorption field.
-  Septic odors occur in the house, above the tank and absorption field, or escape from the vent pipe. If the system is operating properly, there should be no odors. If there are odors, it can be an early warning sign that the system is failing.
-  The septic tank has not been pumped out in the past five years. Even if the system appears to be working well, sludge may have built up to the point where waste water is released without sufficient time in the tank for treatment and settling of particles. This situation may result in pollution of ground water or cause eventual clogging of the absorption field.

MAINTENANCE TIPS

INSIDE

- Conserve water. Fix leaks and drips. If you replace old fixtures, install new "low flow" types.
- Do not overload the system -- this is the primary cause of system failures. Early morning and bedtime are peak water use times in the bathroom. Run dishwashers and washing machines at other times of the day. Don't do all the family laundry in one day.
- Do not use a garbage disposal or dump coffee grounds in the sink. Increasing the load of solids into the tank decreases the capacity and shortens the interval between pumpings.
- Do not pour fats and oils down the drain. They can build up and clog the septic tank pipes.
- Put paper towels, tissue, cigarette butts, disposable diapers, sanitary napkins, tampons and other material in a trash can, not the toilet.
- Do not add "starter enzymes" or "yeast" to your system. Additives do not improve how well your system works. There are always plenty of natural bacteria available to do the job. In fact, additives can damage your system by breaking up the sludge and scum layers, causing solids to flush out of the tank and clog the infiltration bed.
- Only use normal amounts of detergents, bleaches, drain cleaners, household cleaners and other products. Avoid dumping solvents like dry cleaning fluid, pesticides, photographic chemicals, paint thinner, or auto products down the drain.

OUTSIDE

- Direct down spouts and runoff away from the septic field to avoid saturating the area with excess water.
- Dense grass cover and other shallow rooted plants are beneficial over a septic field. However, do not plant trees because large plant roots can clog or break the pipes.
- Avoid compacting the soil over the infiltration area. Do not drive or park vehicles over the area and don't build a shed or driveway in this area. These activities can also crack pipes or cause the distribution box to settle unevenly, meaning that effluent will only flow into part of the drain field.
- Tanks need to be pumped every two to five years, depending on use. If the tank gets too full, particles of scum or sludge will flush out of the tank. This material will clog the drain tiles and cause the septic system to fail.
- Hire a licensed professional (listed in the phone book under "septic tank cleaners") to pump the waste out of your tank. The tank should be pumped out through the manhole, not the smaller inspection ports. The tank should be cleaned completely, leaving **nothing** in the tank. Make sure the baffles are inspected and that the tank is checked for leaks.

ADDITIONAL REFERENCES

The following fact sheets are available free of charge at your local county University of Maryland Cooperative Extension Service office.

WR 22 *Ground Water Protection: An Introduction*
WR 24 *Septic Tank Soil Absorption Systems*
WR 25 *Water Conservation in the Home*

WR 28 *Maintaining Your Septic Tank*
WR 29 *Using Septic Tank Soil Absorption Systems in MD*
WR 30 *Correcting Septic System Problems*

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Septic System Location

Sketch the location of your septic system in the box to the right. Show the location of the septic tank, distribution box, and tile lines or seepage pit. Indicate the distance of the septic system from your house and your well. In newer homes, note the area designated for your replacement field (should the original field ever fail).

Locating the components of your system can be difficult. Note where your drain pipe leaves the house; this will point you in the direction of the septic tank. A search in this area may reveal the septic tank inspection ports and shallow depressions marking the trenches. Unfortunately, the tank is usually unmarked. If you can not find any signs of your system, the local Health Department might have your building records on file. (In winter months, the tile lines and septic tank are usually the last place frost forms, and the first place snow melts in your yard.) Once you locate an unmarked tank, place a marker in the ground above the inspection ports and the clean-out man-hole cover. Or, measure their exact distances from at least two reference points (such as a tree and the corner of the house) so you can easily find them again.

RECORDS

INSTALLED BY: _____

DATE INSTALLED: _____ SIZE OF TANK: _____

TILED FIELD DEEP TRENCH SEEPAGE PIT SANDMOUND HOLDING TANK

NUMBER OF TRENCHES OR PITS: _____

MAINTENANCE

<u>DATE</u>	<u>WORK PERFORMED</u>	<u>COMPANY</u>	<u>COST</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____