

Forty percent of Rhode Islanders get their drinking water from groundwater or small local reservoirs. Outdated cesspools and failing septic systems are a major source of pollution to these water supplies. What you flush down your toilet directly affects the water you drink and the waters you fish, swim, and boat in.

## CONVENTIONAL SEPTIC SYSTEMS

When properly designed, installed, and maintained, septic systems help keep your water supply safe. They replenish groundwater, and they are cost effective. All septic systems need regular maintenance. It is much less expensive to keep them operating properly through regular inspections and pumping than it is to replace them if they fail. With proper care a conventional septic system can last at least 25 years or longer.

There are two major parts to a conventional septic system

### THE SEPTIC TANK

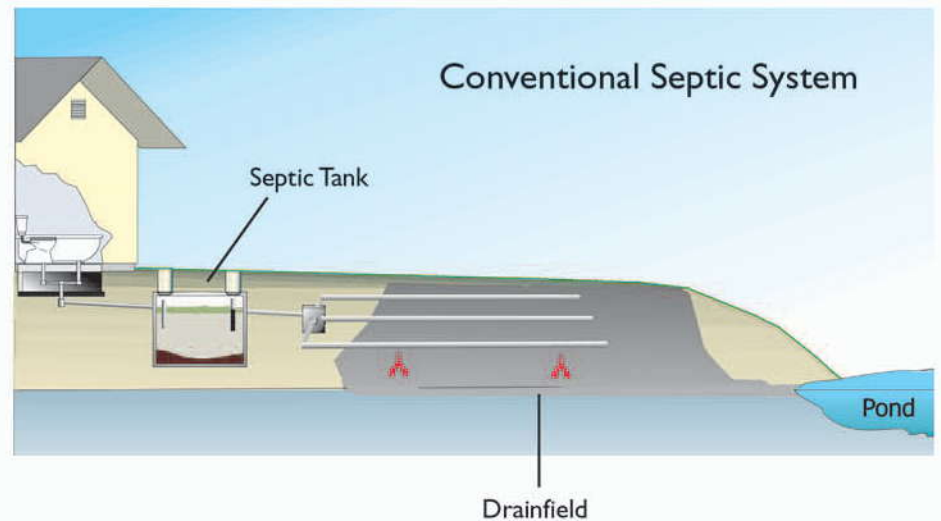
The septic tank separates solids from liquids before sending wastewater to the drainfield. A layer of sludge settles at the bottom and a layer of scum forms at the top, so only the clearest wastewater goes into the ground. Keeping solids in the tank and out of the drainfield is the best way to prolong system life.

Modern Tank features include:

- Water tight tank, solids gradually build up and must be pumped out regularly
- Access risers allow easy entry for inspection
- A low cost effluent filter helps keep solids in the tank to protect your drainfield

What YOU can do.

- Inspect your septic regularly
- Pump and repair it as needed
- If you have a cesspool, plan to replace it



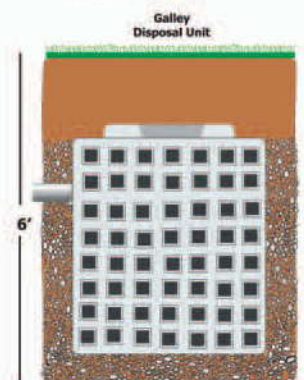
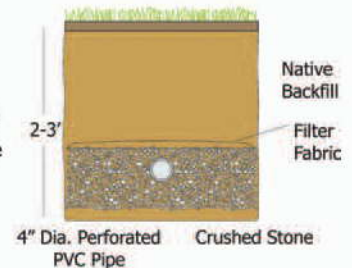
### THE DRAINFIELD

Drainfields distribute the wastewater to the soil.

Two types commonly used are disposal trenches and seepage pits.

A **Trench**-type drainfield consists of two or more parallel stone-lined ditches, each with a perforated pipe that allows incoming liquid wastewater to seep into the soil. A distribution box located between the tank and the drainfield splits wastewater flow to the different lines.

**Seepage Pits** are bottomless concrete box-like structures with open, grated sides. Two types are commonly used. "Galleys" are 4' x 4' x 4' units installed as deep as 10 feet below ground. "Flow diffusers" are shallow 8' x 4' x 2' units. Both types of seepage pits are generally installed in a series of three or more. Liquid effluent flows directly from the tank into the seepage pit where it seeps out the side walls and bottom.



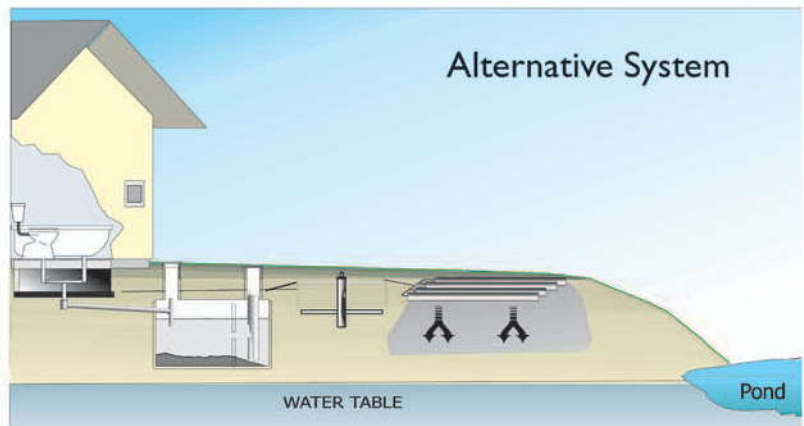
Galley units are installed with 2' of crushed stone on the sides and at least 1' at the bottom.





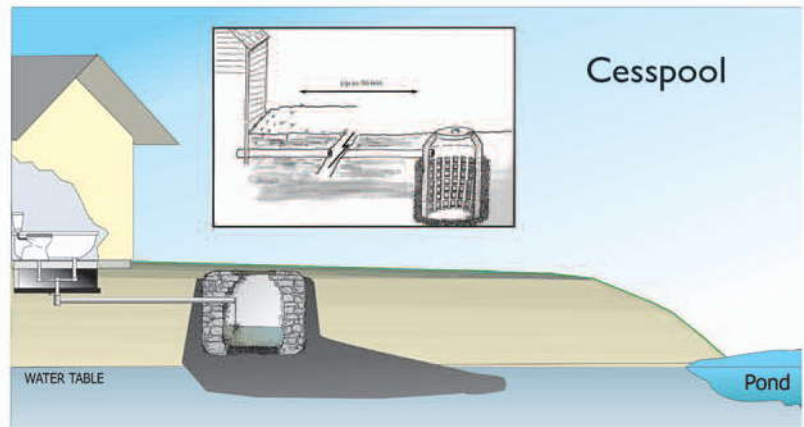
## ALTERNATIVE SEPTIC SYSTEM

New technologies treat wastewater before it reaches groundwater. These alternative systems provide an extra treatment step that conventional systems are not designed to do. Enhanced treatment systems are available for even the most difficult sites and in environmentally sensitive areas.



## CESSPOOLS

A cesspool is nothing more than a covered pit that receives wastewater and allows it to drain into the surrounding soils. This might be a stone-walled pit, perforated concrete chamber, or leaking steel tank. Cesspools don't treat wastewater. Solids and liquids seep directly through the soil into the groundwater. This poses a threat to surrounding bodies of water and nearby wells. Not sure what's in your backyard? Chances are you have a cesspool or other substandard system if your house was built before 1970.



## FAILING SEPTIC SYSTEMS

Septic systems fail when wastewater effluent is unable to seep into the ground. Common causes of failure are:

- Overloading with too much water.
- Improper disposal of solids or grease.
- Tank full of solids, drainfield clogged with solids.
- High water table flooding the drainfield.
- Broken pipes, tree roots or other damage.

### *Your system may be failing if you have:*

- Sluggish drains or odor
- Wastewater backups into house
- Squishy patches above drainfield
- Lush grass above drainfield

Even if you don't notice any problem, your system can still be polluting groundwater. In very sandy or wet soils effluent may reach the groundwater too quickly. Leaking tanks or broken pipes allow wastes to seep into drinking water without treatment.

Even new systems can fail due to faulty design or poor installation. Common causes are use of poor quality stone or gravel fill, improperly sealed tank seams and plugs, and soil compaction or structural damage by heavy equipment driven over the system.



## FIND OUT WHAT'S IN YOUR BACKYARD

To keep drinking water safe, and maintain property values, many RI towns require regular system maintenance. Financial assistance may be available for repairs. Contact your town hall to learn more. For technical information contact URI Cooperative Extension at 874-4558/5950 or <http://www.uri.edu/>.

Cooperative Extension in Rhode Island provides equal opportunities in programs and employment without regard to race, color, national origin, sex, or preference, creed or disability. This publication is supported by URI Cooperative Extension, College of the Environment and Life Sciences, University of Rhode Island. Partial funding for this project provided by CSREES, Project 92- EWQI-1-1040 and the EPA Block Island/Green Hill Pond Watershed National Community Decentralized Wastewater Treatment Demonstration Project.

Printed on recycled paper. 

10/01

