

Caring for your Septic System

A Reference Guide for Homeowners

Septic Systems Explained

Septic systems are individual wastewater treatment systems (conventional septic systems, innovative/alternative (I/A) systems, or cesspools) that use the soil to treat small wastewater flows, usually from individual homes. They are typically used in rural or large lot settings where centralized wastewater treatment is impractical.

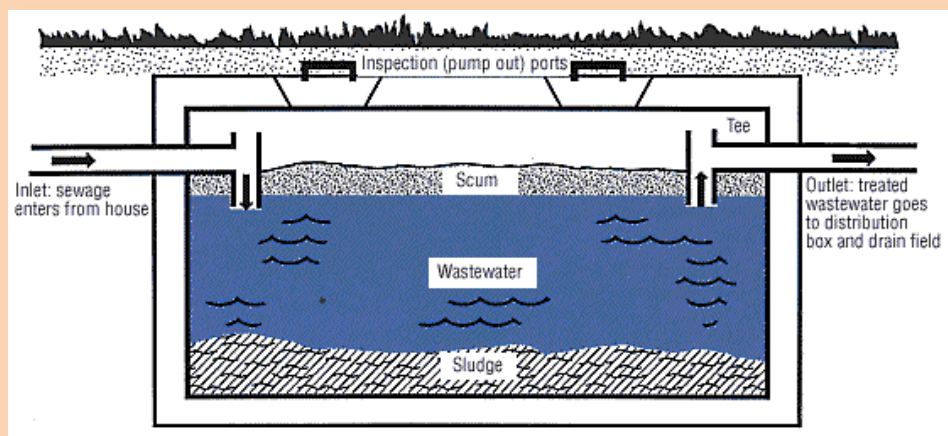
There are many types of septic systems in use today. While all systems are individually designed for each site, most systems are based on the same principles.

A Conventional Septic System

A conventional septic system consists of a septic tank, a distribution box and a drainfield, all connected by pipes, called conveyance lines.

Your septic system treats your household wastewater by temporarily holding it in the septic tank where heavy solids and lighter scum are allowed to separate from the wastewater. This separation process is known as primary treatment. The solids stored in the tank are decomposed by bacteria and later removed, along with the lighter scum, by a professional septic tank pumper.

After partially treated wastewater leaves the tank, it flows into a distribution box, which separates this flow evenly into a network of drainfield trenches. Drainage holes at the bottom of each line allow the wastewater to drain into gravel trenches for temporary storage. This effluent then slowly seeps into the subsurface soil where it is further treated and purified (secondary treatment). A properly functioning septic system does not pollute the groundwater.



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(Conventional Septic System, Innovative/Alternative (I/A) System, or Cesspool)

The accumulated solids in the bottom of the septic tank should be pumped out every three years to prolong the life of your system. Septic systems must be maintained regularly to stay working.

Neglect or abuse of your system can cause it to fail. Failing systems can

- cause a serious health threat to your family and neighbors,
- degrade the environment, especially lakes, streams and groundwater,
- reduce the value of your property,
- be very expensive to repair,
- and put thousands of water supply users at risk if you live in a public water supply watershed and fail to maintain your system.

Be alert to these warning signs of a failing system:

- sewage surfacing over the drainfield (especially after storms),
- sewage back-ups in the house,
- lush, green growth over the drainfield,
- slow draining toilets or drains,
- sewage odors.

Save Money by Maintaining Your Septic System

- A major reason to maintain your septic system is to save money. Failing systems are expensive to repair or replace, and poor maintenance is often the culprit. Preventive maintenance is a whole lot cheaper than repair or replacement. For example, it could cost up to \$40,000 or more to replace a failing system with a new one, compared to approximately \$200 to \$400 to have a system inspected, and \$150 to \$250 to have it pumped. Maintaining a septic system is like maintaining a car. A small effort on a regular basis can save a lot of money and significantly prolong the life of the system.
- Innovative/Alternative (I/A) systems, although providing more advanced treatment, also require more frequent oversight and maintenance.

Tips to Avoid Trouble

DO have your tank pumped out and system inspected every 3 years by a licensed septic contractor, or annually if you have a garbage disposal. If the tank fills up with an excess of solids, the wastewater will not have enough time to settle in the tank. These excess solids will then pass on to the leach field, where they will clog the drain lines and soil. .

DO keep a record of pumping, inspections, and other maintenance. Use the back page of this brochure to record maintenance dates.

DO practice water conservation. Repair dripping faucets and leaking toilets, run washing machines and dishwashers only when full, avoid long showers, and use water-saving features in faucets, shower heads and toilets.

DO learn the location of your septic system and drainfield. Keep a sketch of it handy for service visits. If your system has a flow diversion valve, learn its location, and turn it once a year. Flow diverters can add many years to the life of your system.

DO divert roof drains and surface water from driveways and hillsides away from the septic system. Keep sump pumps and house footing drains away from the septic system as well.

DO grow grass or small plants (not trees or shrubs) above the septic system to hold the drain field in place. Water conservation through creative landscaping is a great way to control excess runoff.

DO use only additives that have been allowed for usage in Massachusetts by MassDEP. Additives that are allowed for use in Massachusetts have been determined not to produce a harmful effect to the individual system or its components or to the environment at large.

DO take leftover hazardous household chemicals to your approved hazardous waste collection center for disposal. Use bleach, disinfectants, and drain and toilet bowl cleaners sparingly and in accordance with product labels.

DON'T allow anyone to drive or park over any part of the system. The area over the drainfield should be left undisturbed with only a mowed grass cover. Roots from nearby trees or shrubs may clog and damage your drain lines.

DON'T plant trees within 30 feet of your system or park/drive over any part of the system. Tree roots will clog your pipes, and heavy vehicles may cause your drainfield to collapse.

DON'T make or allow repairs to your septic system without obtaining the required health department permit. Use professional licensed contractors when needed.

DON'T use commercial septic tank additives other than those allowed for use in Massachusetts by MassDEP. These products usually do not help and some may hurt your system in the long run.

DON'T use chemical solvents to clean the plumbing or septic system. "Miracle" chemicals will kill microorganisms that consume harmful wastes. These products can also cause groundwater contamination.

DON'T perform excessive laundry loads with your washing machine. Doing load after load does not allow your septic tank time to adequately treat wastes and overwhelms the entire system with excess wastewater. You could therefore be flooding your drain field without allowing sufficient recovery time. You should consult your tank professional to determine the gallon capacity and number of loads per day that can safely go into the system.

DON'T use a garbage grinder or disposal, which feeds into the septic tank. If you do have one in the house, severely limit its use. Adding food wastes or other solids reduces your system's capacity and increases the need to pump the septic tank. If you use a grinder, the system must be pumped more often.

DON'T use your toilet as a trash can by dumping nondegradables down your toilet or drains. Also, don't poison your septic system and the groundwater by pouring harmful chemicals down the drain. They can kill the beneficial bacteria that treat your wastewater. Small amounts of standard household cleaners, drain cleansers, detergents, etc. will be diluted in the tank and should cause no damage to the system.

Keep the following materials out of your system:

NONDEGRADABLES:

grease, disposable diapers, plastics, etc.

POISONS:

gasoline, oil, paint, paint thinner, pesticides, polyurethane, dyes, disinfectants, antifreeze, etc.

Water Softeners

Many homes or small businesses may decide to install water softeners to address "hard water" and the resulting mineral deposits that build up from it. The Title 5 regulations prohibit water softener backwash or reject wastes from going into a septic system (conventional septic system, I/A system, or cesspool), in any amount.

However, the backwash from water softeners or from other water purification or filtration devices can be discharged into a drywell that has been properly designed and is approved by the local Board of Health. Backwash is wastewater generated from the cleaning of water and wastewater treatment filters. A drywell is a pit with open-jointed lining or holes that allow infiltration to the surrounding soil.

For more information on having a drywell designed for your home or business, you should contact your local Board of Health.