Septic System Owner's Guide

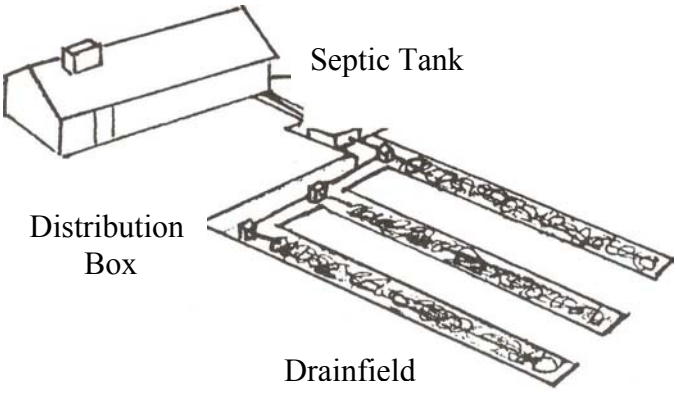
If you use a septic system, or if you are buying a home with a septic system, this owner's guide can help you use and maintain your septic system properly. This folder also provides a place to record and keep important information, such as a copy of your permit, maintenance records and other fact sheets.

What is a Septic System?

Septic systems are individual wastewater treatment systems that use the soil to treat small wastewater flows, usually from individual homes. They are typically used in rural or large lot settings where municipal sewers are impractical or unavailable. A conventional septic system consists of a septic tank, distribution box(es) and a drainfield.

Your septic system treats your household wastewater by temporarily holding it in the septic tank for a day or two to allow heavy solids and lighter scum to separate from the wastewater. The solids stored in the tank are decomposed by bacteria and later removed, along with the lighter scum, by a professional septic tank pumper. If the tank is not pumped on a regular basis, the tank will fill with sludge and allow solids to be washed out into the drainfield where they will quickly clog the soil.

After the 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 soil where it is treated further. A properly functioning septic system does not contaminate the groundwater.



What Type System Do You Have?

Many different kinds of septic systems are in use in North Carolina, but most of the 1.2 million systems used are slight modifications of the conventional system.

Non-conventional or alternative systems include pump to conventional systems, pressure manifold and low pressure pipe (LPP) systems. There are several other alternative type systems that are allowed by state rules. * Alternative systems may have pumps, floats and alarms that require an additional tank (a lift station). There can be other mechanical parts that are sure to fail without maintenance. For this reason, state rules have specific maintenance requirements for a number of these systems.

The Health Department can tell you what type of system you have and what legal requirements there are for long-term maintenance of that system. You may be required to have an Operation Permit from the Health Department and a maintenance contract with a "Certified Operator" or an approved "Public management entity". The management organization could be a certified septic system operator or a public agency involved in wastewater management. These activities will result in monthly or yearly system maintenance fees for the homeowners, but they should improve the longevity and performance of these systems.

Do You Know the Location if Your Septic System and Repair Area?

To properly maintain your septic system, you should know the location of both the septic tank and the drainfield. Contact the Health Department for a copy of your septic tank permit and soil evaluation sheet, which will indicate the approximate location of the system and the size of the tank. Keep these items in this folder.

A good starting point for finding the tank is to look in the crawl space to see the direction in which the house sewer pipe enters the soil. Then, gently push a thin (3/8-to-1/2-inch diameter) steel rod into the soil to feel for the tank about 5-15 feet away from the house. Of course, you should first call local utility companies to make sure there are not any underground utilities (such as buried electrical cables) in the area.

Most housing sites are legally required to have a repair area in which a second drain field will be built when needed.. This repair area is identified when the site is initially permitted. The law also requires you to protect this area from excavation, building, swimming pool construction, and other land moving activities.

Is Your Septic System Working Properly?

Unfortunately, if house fixtures drain well, many people are not concerned about whether their septic system is working properly. They do not realize that untreated sewage can be a health hazard. If your system shows signs of problems, contact your local Health Department immediately. They will diagnose the problem and prescribe changes or additions that must be made to repair the system.

State law requires that you get a permit from the Health Department before repairing a failing septic system. It is important that the system be repaired as soon as possible to minimize the health risk to your family and community.

Signs of Possible Septic System Problems

- Sewage backing up in your toilets, tubs or sinks.
- Slowly draining fixtures; particularly after it has rained.
- The smell of raw sewage accompanied by extremely soggy soil over the drainfield.
- Sewage discharged over the ground or in nearby ditches or woods.
- Broken or cracked white pipes that stick out of the ground in a pressurized system.
- An alarm flashing (red light) or beeping in the house, garage, crawl space or in the yard indicating that a pump is not working properly.
- An increase in infections or illnesses associated with swimming in lakes or rivers next to the system.
- Water test results indicating the presence of biological contamination or organic chemical contamination in the ground water under the system.

System Maintenance

System maintenance will vary according to the type of system you have. A septic tank on a conventional system should be pumped and inspected every 3-5 years. Surfacing sewage or water on any type of drainfield is cause for concern. A non-conventional or alternative system should be inspected by a certified operator at least once per year or as indicated on the operation permit. At the time of the inspection the following items must be checked:

Septic Tank
- Does it need pumping?
- Is the sanitary tee in working order?
- Is surface water diverted away from the tank?

Lift Station
- Is the effluent free of solids?
- Is the pump operating and cycling properly
- Are floats/valves/pipe in good condition?
- Is control panel in good condition?

Drainfields
- Is there evidence of sewage surfacing?
- Is surface water diverted away from the field?
- Is the vegetation cover adequate and maintained?
- Are the drainfield and repair areas protected from traffic?

Pressurized Drainfields
- Are turnips/cleanouts/valves intact?
- Are laterals free of solids?
- Is the pressure head properly adjusted?

Day-to-day Management
Proper care of your septic system requires day-to-day management as well as periodic maintenance and repairs.

Do not use too much water

- The drainfield does not have unlimited capacity. The typical daily water use is 50 gallons per person.
- The soil drainfield has a minimum design capacity of 120 gallons per bedroom. When near capacity, systems may not work.
- Overloads can occur seasonally or daily. Water conservation will extend the life of your system.
- Washing machines can use up to 50 gallons of water per load. Wash only full loads of laundry spacing them over the week. Do not wash more than 2 full loads in one day.

Limit disposal to sewage

- Do not use your septic tank as a trash can for cigarette butts, tissues, sanitary napkins and tampons, cotton swabs, cat box litter, coffee grounds, or disposable diapers.
- Restrict the use of your garbage disposal.
- Do not put grease or cooking oil into the system.
- Do not poison your system with harmful chemicals such as solvents, oils, paints, thinners, disinfectants, pesticides, poisons, and other substances. They can kill bacteria that help treat sewage and can also contaminate groundwater.

Save money

- Commercial septic tank additives are not necessary. The bacteria needed for partially decomposing the organic solids are naturally present in sewage. Even if you use additives, you will still need to pump the solids out of your tank.

Protect the system from physical damage

- Keep the soil over the drainfield covered with vegetation (grass or fescue) to prevent soil erosion. Avoid creating "natural areas" over the drainfield.
- Be careful not to mow the lateral turnups off any pressurized system.
- Do not drive heavy vehicles over the system.
- Contact the Health Department before building any additions or outbuildings to insure that the new construction meets distance requirements.
- Maintain the natural shape of the land immediately downslope of the system, and protect this area from excavation (cutting and filling).
- Do not cover any part of the system with asphalt or concrete.

Dispose of all wastewater in an approved system.

It is illegal to install a separate pipe to carry wastewater to a side ditch or the woods. This gray water contains germs that can spread disease.

Periodic Maintenance and Repair

Home and yard

- Repair leaking faucets and toilets.
- Cut down and remove trees that like wet conditions. Treat the stumps to prevent further growth.
- Landscape the yard to divert surface water away from the tank and drainfield.
- Be sure that the water from the roof, gutters, and foundation drains does not flow across the system.

- Install an interceptor drain or terrace, if needed.
- Maintain drainage ditches, subsurface tiles, and drainage outlets so that water can flow freely.

Septic Tank
- Keep track of how quickly scum and sludge accumulate in the tank.
- Have solids pumped out of the tank at least every 3-5 years.

Do not wait until your drainfield fails to have your tank pumped. By then, the drainfield may be ruined. With septic systems, an ounce of prevention is worth a pound of cure!

Regulations and precautions:

- Hire a certified operator when required by law.
- Be sure the pump, electrical controls, floats and alarm on your lift station continue working properly between scheduled maintenance visits.
- Work carefully and safely. Sewage contains germs that can cause diseases. Never enter a septic tank. Toxic and explosive gases in the tank present a hazard. Old tanks may collapse. Electrical controls present a shock and spark hazard. Secure the septic tank lid so that children cannot open it.

Do not attempt to repair a failing system yourself. Get a repair permit from the Health Department and hire an experienced Contractor.

Preventative Maintenance Record

DATE	WORK DONE	CONTRACTOR	COST

*Disclaimer- Specific alternative or non-conventional systems are not listed due to the risk of omission. The Forsyth County Health Dept., Division of Environmental Health does not endorse any alternative or non-conventional system.

This fact sheet is based on a publication developed by Michael T. Hoover, Extension Soil Science Specialist, and Wilma S. Hammet, Extension Home Furnishing Specialist.

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