



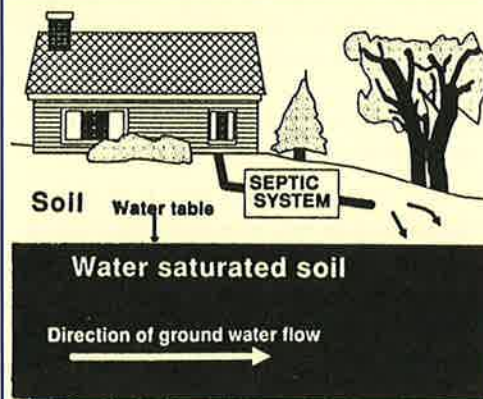
Your Septic System: Considerations When Building or Remodeling a Home

A newly built or remodeled home is more than a kitchen, living room, bathrooms and bedrooms. Along with providing comfort and shelter for your family, it is a functioning unit that protects their health. In the excitement of planning the appearance of your future living space, it is easy to overlook practicalities like the disposal of your family's wastes. This fact sheet is designed to help you understand what is included in a household septic system, the types available and the process of installing one. While it may not have the appeal of the rest of the project, you will safeguard your family's health, maintain the value of your property, protect the environment and save money by doing it correctly the first time. These tips are best used in conjunction with Extension publication FS-1 — *Your Septic System*.

Septic Systems

Typically, a waste disposal system consists of an underground watertight receptacle called a septic tank, a distribution or diversion box and a soil absorption or drainage field. Wastewater leaves the home through an underground pipe and enters the septic tank where the separation of solids occurs. The heavy solids settle to the bottom of the tank and lighter solids and grease float to the surface and form a scum. The remaining partially treated wastewater flows out of the tank to the distribution box that divides the flow, sending it to perforated pipes that distribute the liquid in the drain field. As it partially treated wastewater filters through the coarse gravel in the drain field and the underlying soil, the wastewater is treated by the organisms in the soil and by physical and chemical reactions. Eventually the treated wastewater reaches the groundwater.

Because the soil is the critical factor in the cleansing of the wastewater, it determines the type of system that can be installed. In areas where soils are not suitable for a soil absorption field, alternatives may be used. They include the mound system, evapo-transpiration systems, on-site aeration, lagoons, and sand filters. In extreme conditions, chemical or incineration systems may be used.



Siting

Before you break ground on your new home check the lot for a suitable site for the septic system; even better check before you buy the lot. The health department has requirements regarding septic system placement, especially if you and/or your neighbors will be depending on well water for drinking. Checking the minimum distances that have been established in your county to see if you have room for a well and a septic system can save you time, heartache and money.

If you plan to change an existing home you need to consider how the alterations will affect the waste disposal process. Your system was built to fit the needs of a family living in the structure. Adding bathrooms, bedrooms, garbage disposals or other water using appliances will increase the flow. Taking

this into account before you add on can save future problems. In addition, it is important to know where your septic system is so you do not dig it up as you excavate for the new foundation. Be sure that your planned addition or a separate building, patio, or paved area such as a sidewalk or driveway will not be located over your septic tank or absorption field.

If you are building in the watershed of a public water supply system, the regulations of the New York State Department of Health must be followed. If the watershed area supplies water to New York City, the approval of the Department of Water Resources of the City of New York also must be obtained.

Codes and Permits

New York State Public Health Law 308 authorizes local boards of health to enact ordinances and regulations for the installation and operation of septic systems as long as they are as strict as the New York Sanitary Code. Localities may have their own regulations that are more stringent than state regulations. Before making any final decisions when building or remodeling, contact the local sanitarian in the county or area health department to find out what regulations you must meet.

At that time, you can begin the permit process. This includes soil tests, a design with specifications based on the soil conditions and anticipated use and an inspection(s) during construction.

Percolation Test

The health department sanitarian will recommend a system based on the results of a percolation test. For the "perk" test, several holes are dug, presoaked with water, refilled and the number of minutes it takes an inch of

water to soak into the soil is measured. Generally between 3 and 60 minutes is necessary for a soil absorption system.

Design and Installation

Septic systems are designed to handle the normal, daily flow of wastes a family produces. The 1990 revision of the New York State Department of Health's Public Health Law, section 75-A.6(1), set new minimum tank capacities and minimum liquid surface area requirements.

Minimum Septic Tank Capacities

Number of Bedrooms	Minimum Capacity (gallons)	Minimum Liquid Surface Area (sq. ft.)
1, 2, 3	1,000	27
4	1,250	34
5	1,500	40
6	1,750	47

For seven or more bedrooms, calculate tank capacity by adding 250 gallons and seven square feet of surface area for each additional bedroom. Rooms convertible to a bedroom, such as an attic or den, must be counted as a bedroom.

Although these minimum capacities will safely handle the family's wastes, the larger sizes do offer some advantages. They allow for better separation of scum and solids resulting in fewer solids entering the absorption field which, in turn, prolongs the life of your system. They also require less frequent pumping and allow for future expansion of the home. In the long run, they are more cost-effective.

Your septic system needs to be considered when you remodel because you may be altering the flow of wastes. According to the sizing requirements previously discussed, the addition of a bedroom or room that could be converted to a bedroom necessitates an

increase in your system's size. Failure to add capacity at the time of remodeling may cause a delay and unanticipated expense if you try to sell your house without an up-to-date Certificate of Occupancy. You do not want to find out that your closing will be held up until the new septic system is installed.

Garbage grinders or disposals are not recommended for use with septic systems because they increase the necessity of pumping. If a garbage disposal is planned in a new home or remodeling project in spite of the recommendation, the disposal is considered to be another bedroom.

Most septic tanks are made of concrete and more recently plastic and will last a long time especially if the baffles are made of concrete or plastic. Some metal tanks are still being used, but they do not have as long a life expectancy because the metal above the liquid level eventually rusts. Although steel septic tanks still can be legally installed in New York State, they are not recommended.

The contractor you hire to build or remodel your house may or may not be the one you use to install the septic system. *Be certain that you have a written agreement with the installer that stipulates that final payment will not be made until the system has received approval from the health department.*

Once your waste disposal system is in use it will need regular care and maintenance. While it is fresh in your mind, draw a diagram showing the location of the house, the tank's inspection ports, the piping and the absorption field. Extension publication FS-1 — *Your Septic System*, that is a part of this series, will help you do so. It is also designed to keep the records for your system together.

For More Information About Your Water and Septic System...

Check other fact sheets in the series.

- **SS-1** — *What to Do if Your Septic System Fails*
- **SS-2** — *Maintaining Your Septic System: Special Considerations for Shoreline Property Owners*
- **SS-3** — *How to Conserve Water in Your Home and Yard*
- **SS-4** — *Your Septic System: What You Need to Know When Buying or Selling a Home*

plus *Extension publication...*

- **FS-1** — *Your Septic System*

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