

Homeowner's Guide to Wells and Septic Systems (Or how to save thousands of dollars)

If you live in a home with a well and a septic system, you have one of the finest examples of recycling that man has yet devised. The wastewater from the home is discharged to the septic system, where filtering through the soil purifies the water. Much of this water flows downward through the soil and bedrock, where it becomes a source of well water for you and/or your neighbors.

Septic systems and wells require very little attention, but there are significant differences between these systems and city sewers and water. Septic systems and wells require some basic maintenance to ensure continued adequate functioning and to avoid costly, unnecessary repairs.

The purpose of this article is to point out responsibilities we have to protect our most valuable investments: our families, our health, and our homes.

Water Conservation

New England, and the Northeast in general, is fortunate in that it has an abundant supply of groundwater of an excellent quality. Like any other resource, however, overuse or misuse could threaten this abundance and quality.

On an individual basis, water conservation is desirable because it increases the useful lifetime of a septic system, helps to control problems and prevent total failure in a septic system that is functioning poorly, decreases your water bill (if you are on public water), and decreases the likelihood that your well will run dry during droughts such as those experienced in the northeast, most recently during 1980-81.

In short, saving water saves money. Water conservation measures are cheap and simple. The following are specific measures, which we recommend highly:

1. Use low-flush toilets where possible because 40 percent of all family water use (waste) falls in this category. The present toilet can be replaced with one that uses less water to do the same job, or you can place objects in each toilet tank to displace water. Rocks or plastic bottles filled with water work well. Be sure that they don't interfere with the flushing mechanism.
2. Replace or repair defective faucet washers or flush valve parts in running toilets to eliminate drips.
3. Install water-saving showerheads. These decrease the volume but increase the pressure; so the difference in water volume is not noticed. They are available from any plumbing supply shop.

4. When buying a new washing machine or dishwasher, consider a water-saving model. Look for partial wash cycles in dishwashers and suds-savers on washing machines.

5. Install aerators on all sink faucets, which don't already have them. 6. Spread laundry out over the week; don't do it all on one day. However, don't run the washing machine with less than a full load.

Notice that items 2, 3, 4, and 5, above, also decrease the amount of energy used in heating water; hence, you save even more money.

It is important to remember that most wells do not have the capacity to provide unlimited water. Such activities as watering the lawn, irrigating the garden, washing vehicles, filling swimming pools, etc., can seriously deplete the well water supply and can damage the well pump. Therefore, these activities should be limited as much as possible.

Keep in mind that the time when lawn and garden watering is done is in midsummer, when groundwater supplies are usually low. Above all, do not water during midday, when evaporation is at a maximum. Also, do not use well water to fill swimming pools, since water can be purchased in bulk for this purpose.

Functions of a Septic Tank System

The modern septic tank retains and stores solid matter that is flushed from the house while allowing the liquid portion of the waste to pass through to the leaching field. A certain amount of solid digestion takes place inside of the septic tank, which helps control the rapid buildup of solid matter. The solids in a septic tank can be divided into three categories: those that float on the water, such as grease; those that settle to the bottom, such as paper and ground garbage; and those that are suspended in the liquid, such as partially digested solids.

Because of modern living patterns and the resulting waste disposal habits, a septic tank should be pumped out every three years, or more often if a garbage disposal is utilized in the house. A septic tank will fill with solids if it is not pumped out, and the solids will then flow out of the tank with the liquid. This will shorten the useful life of the leaching fields by physically clogging the soil pores. A licensed septic tank cleaner can pump out a septic tank and inspect the baffles at the same time. An inspection of the baffles in the tank is extremely important and very cost effective, because the function of the baffles is to retain the floating solid layer in the tank. These baffles should be checked each time the tank is pumped because they may deteriorate as a result of the biological activity in the tank. The cost of replacing a defective baffle is far less than the cost of replacing a leaching system that has been ruined.

Leaching Fields

The function of leaching fields is to further purify and disperse the liquid from the septic tank into the soil without polluting the ground water which supplies well water. The four most common types of leaching fields are trenches, beds, galleries, and pits (drywells). The type and size of field at your home is determined by the soil conditions. In soils with slower drainage characteristics, a larger field is needed. In sand and gravel-type soils, less leaching area is required.

What Not to Put in Septic System

1. Septic system additives offered for sale for the purpose of correcting a malfunctioning system or improving the performance of a septic system. This includes degreasing agents, caustic chemicals, solvents, and "bacterial digestion enhancers" such as enzymes or yeast. These products can be dangerous. Most of them will impair the natural biological activities of the system. Many chemical additives are nonbiodegradable and pass through the system into the groundwater, where they can contaminate well water supplies. There are too many cases of homeowners who rendered their own water supplies unfit to drink through use of a chemical septic tank additive.

2. Paints, oils, greases, solvents, or pesticides that are being discarded may eventually harm well water in the area. These wastes are hazardous, should be used with extreme caution, and should never be disposed of in a toilet or sink.

3. Backwash from any water treatment system, such as water softeners. Some of these chemicals persist in the environment and can pollute the aquifer that supplies your drinking water. They can also interfere with the bacterial digestion that takes place in the septic tank.

4. Bulky items such as diapers, sanitary napkins, paper towels, etc.

Liquid laundry detergents are better than powdered detergents, because the powders never completely dissolve and can clog the leaching fields or septic tank. Moderate amounts of bleach and other household cleaners will not interfere significantly with the digestion process.

Call the Health Department When

1. Your septic tank system is not working properly. Sewage may be backing up into the house or surfacing in your yard.

2. Your septic system needs repair. This is for your protection and will insure the best possible system for the lowest possible price.

3. You are planning to make a building addition.

4. You are planning to install a swimming pool. In both 3 and 4, we can provide information as to the location of the septic system. Contractors who did not check locations before digging have damaged systems.

5. You are having problems with your water supply, such as unusual tastes and odors, sudsing, etc. We will help determine the source of the problem and suggest possible solutions.

6. You are contemplating installing a water treatment device or system (water softener, etc.). We will help you select the proper equipment to correct your problem.

The health department will provide you with a free consultation in these instances, which could save you a lot of money and provide you with all the available information you need for effective decision-making.