



GREEN GROUND

Low Impact Development Program

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Septic Savvy: Operating and Maintaining Your Septic System

By D. N. Kinsey, ASLA, 6th in a 12 part series on low impact living in the San Juan Islands.

One source of water pollution is from malfunctioning on-site septic systems. Approximately 25% of Washington's population is served by on-site septic systems. In San Juan County the percentage of residents using an on-site system is much greater at about 80%. Many of the existing on-site systems were built before 1980 and are possibly failing or near failure. San Juan County requires that septic systems are inspected every 1-3 years depending on the type of system. New homeowners should verify inspections are complete before purchase.

How Does A Septic System Work?

The wastewater from your toilet, sink, bathtub and other plumbing flows from your drain pipe into the septic tank. Heavy solids settle to the bottom forming a layer of sludge, while grease and light solids float to the top forming a scum layer. The separated waste-water (effluent) in the middle layer of the tank is either pushed out or pumped into the drain-field where it trickles through a series of perforated pipes, through a layer of gravelless infiltrators and down through the soil. Although the effluent looks like normal water, it is sewage and maybe high in pathogens. The soil acts as a natural filter and contains microorganisms that consume left-over waste particles, and harmful germs and viruses. The sludge and scum layers remain in the tank where naturally occurring bacteria work to break them down. Since the bacteria cannot completely decompose all of these solids, these layers continue to grow, slowly filling up the tank, and they eventually have to be pumped out.

Signs of a Failing Septic System

Check for pooling of water or muddy soil around your septic tank or drainfield. Check for odors of sewage or a "rotten egg" smell around your septic system. Notice if your sink or toilet backs up when you flush or do laundry.

If you notice any of these effects, contact the San Juan County Health & Community Services Department at 378-4474. The County has a Septic Repair Loan program available to help in replacement or repair of your septic system.

Why Do Septic Systems Fail?

1) Improper Use:

Putting the wrong things into your tank (down your drain) and/or using too much water can cause septic system failure. Septic systems are not equipped to deal with grease (or non-

biodegradable material), household chemicals or solids (paper, food, etc.). Too much water running into your septic at one time does not allow proper treatment of sewage, and over time can cause system failure.

For proper use of your septic system,

- Don't use a garbage disposal or put grease into it
- Avoid products that claim to clean septic systems (they are not needed and they introduce harmful chemicals into the system)
- Limit water use (avoid doing all washing in one day) and check for leaky fixtures.

2) Lack of Maintenance:

Failure to pump out the septic tank is the most common cause of septic system failure. The tank may need pumping to remove built-up sludge and scum. More frequent pumping is necessary if a garbage disposal is used.

3) Physical Damage:

Driving, paving, or building on top of a septic system can damage the drainfield. Pipes can be crushed and the soil can be compacted. Damage of this sort makes it difficult to locate the septic tank for pumping. Tree roots can also clog the drain field. Plant grass or other shallow-rooted plants in this area, not trees.

4) Improper Design and Construction:

Incorrectly designed and constructed septic systems usually fail in a few months because they are inadequately sized, installed in impermeable soils or not properly constructed.

The soil is the most important part of the septic system and must be properly evaluated and protected. If the soil layer is not deep enough, the wastewater will not be treated adequately before it enters the ground-water. If the soil particles are too tight, they will not absorb all the wastewater, forcing it to the surface.

When constructing a septic system it is essential that all components of the drainfield be level. If one of the perforated pipes that deliver effluent from the tank to the drainfield lies at too steep a grade or if the distribution system is not level, the effluent will not be evenly distributed to all portions of the field.

What You Can Do:

- During construction, fence off the area designated for septic/drainfield use.
- Keep heavy equipment away from the drainfield.
- Constructing a system during rainy periods can cause excessive soil compaction.
- Contact San Juan County Health & Community Services for current regulations.

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