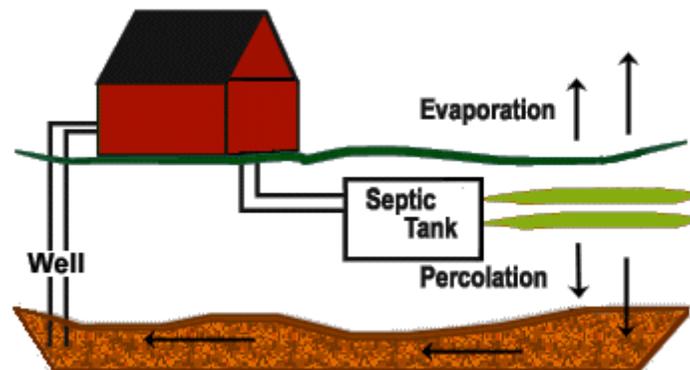


What Is An On-Lot Sewage Disposal System?

Most rural homes and communities in Monroe County are not served by a public sewer system. In order to dispose of the wastewater (sewage) generated by homes and commercial facilities in these communities, "on-lot" sewage disposal systems are usually installed to serve individual properties. Pennsylvania law requires you to obtain a permit from your township before you repair or construct a building for which a sewage disposal system will be needed.

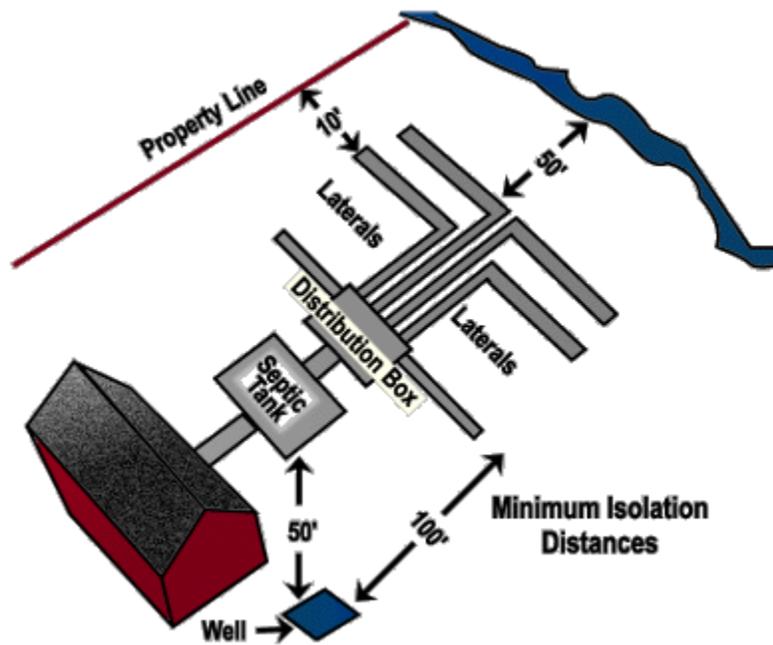
A properly designed, installed, and maintained on-lot sewage disposal system - septic system- can provide years of trouble free service. Properly operated on-lot systems also allow recycling of treated water into the ground, an environmental benefit.



How does an On-Lot Sewage Disposal System work?

The Treatment of Sewage Primary treatment units may be either a Septic Tank or an Aerobic Treatment Unit. Septic tanks break down the sewage solids in the absence of air and form a sludge and scum layer in the tank.

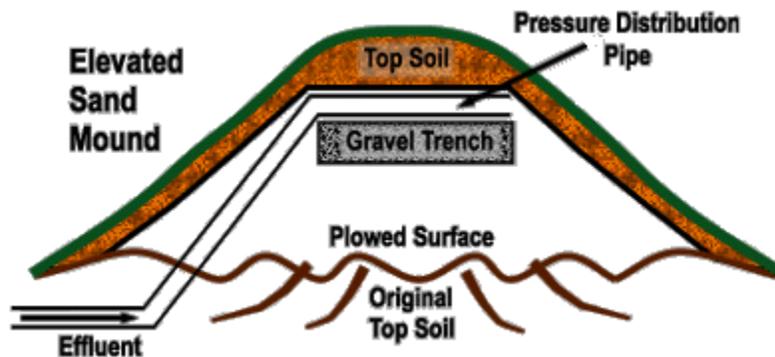
A modern on-lot sewage system consists of two basic units. A **Primary Treatment Unit** (septic tank) receives the wastewater and provides initial treatment, or decomposition of the sewage. The partially treated liquid from the primary unit flows to a **Secondary Treatment Unit** (drain field) where the liquid is absorbed into the ground and soil organisms further break down the sewage. Older on-lot sewage disposal systems may consist of only one unit, commonly called a Cesspool, which serves as both a primary and secondary treatment unit. Cesspools are no longer permitted for new installations.



A Typical On Lot Septic System

Are there different types of On-Lot Systems?

Yes, and you should be aware of the type of system on your lot in order to maintain it properly. Secondary treatment unit absorption areas may be either absorption trenches or seepage beds of either a conventional (in-ground) design or elevated sand mound design. Special modifications of these types are also occasionally used. Elevated sand mounds are needed on most Pocono sites where soils are shallow. Some land is not suitable for any kind of on-lot system.



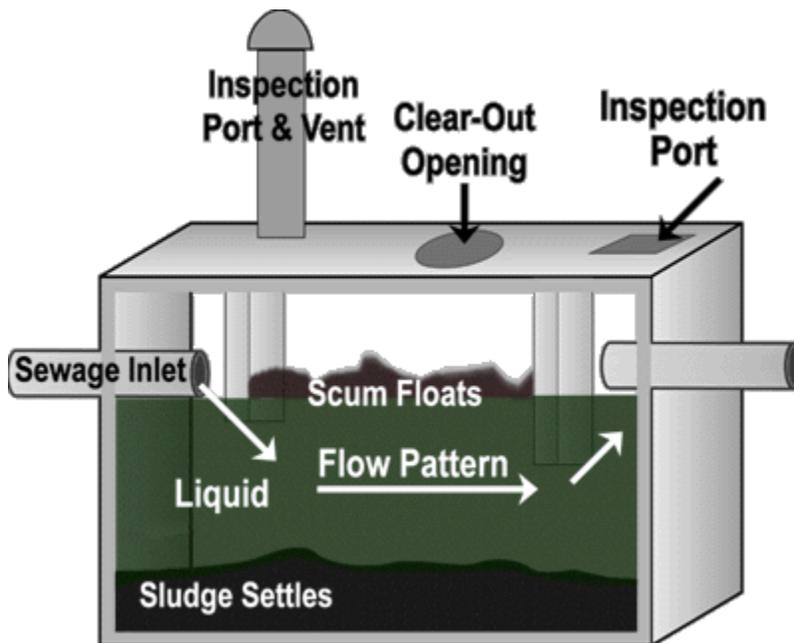
Elevated Sand Mound

What should be done to keep On-Lot Systems functioning properly?

The best designed and properly installed on-lot sewage disposal system still can malfunction if the homeowner does not properly operate and maintain the system. In addition to requiring costly repairs, malfunctioning systems can contaminate surface and ground waters, cause various health problems and create unsightly messes and foul odors when raw sewage surfaces or backs up into the home.

On-lot systems not only treat and dispose of domestic sewage from toilets, they also receive wastewater from various other household fixtures, including baths, showers, kitchen sinks, garbage disposals, automatic dishwashers and laundries.

Conserving water and reducing the amount of waste flow from these household activities is an important step to ensuring long-term use. The more water using devices in a household, the greater the burden is on the on-lot system.



Every homeowner can take a few simple steps each year to assure that the system will remain trouble-free and to prevent unsanitary and costly septic system failures:

Reduce water usage and spread out water usage. Limit use of washing machines to two loads a day. Too much wastewater flowing into the drain field results in overflow on the ground surface or sewage backup into the home.

Reduce solids going into the septic tank. Disposable diapers, sanitary napkins, cigarette, and solids from garbage grinders all build up rapidly in septic tanks and can clog the drain field pipes. Avoid putting these items in your system.

Keep oil and grease out of the system. These do not decompose in the system and can rapidly clog the drain fields.

Keep harsh chemicals and acids (pesticides, disinfectants, paint thinner, medicines, some cleaners) out of the system. These will destroy the bacterial action of the tank. Chemical or enzyme septic system cleaners have not proved to be of any significant value and should never be used as a substitute for pumping.

Have the septic tank pumped at least every 3-5 years, depending upon tank capacity and usage.

Aerobic tanks use air bubbled through the sewage to break down the solids.

NOTE: For a detailed description of the construction and operation of the various types of systems in use in Pennsylvania, obtain a copy of publications listed at the end of this document.

HOUSEHOLD SIZE:		1	2	3	4	5	
TANK SIZE, GALLONS	500	5.8	2.6	1.3	0.8	0.5	Below PA minimum tank size
	750	9.1	4.2	2.6	1.8	1.3	
	900	11	5.2	3.3	2.3	1.7	
	1000	12.4	5.9	3.7	2.6	2	
	1250	15.6	7.5	4.8	3.4	2.6	
	1500	18.9	9.1	5.9	4.2	3.3	
	1750	22.1	10.7	6.9	5	3.9	
	2000	25.4	12.4	8	5.9	4.5	

Septic Tank Pumping Frequency(In Years)

Example: If there are three persons in a household year-round, and the household has a 1000 gallon tank, it should be pumped every 3.7 years. If a garbage grinder has been installed, frequency of pumping should be increased to every two years (almost twice the indicated frequency).

Do Not:

Add excessive amounts of harsh chemicals to the system.

Normal household cleaners in normal amounts will not harm the system.

Physically damage the system by driving over the units with heavy vehicles, digging up the system for other utility lines, etc.

Connect a garbage grinder to the system. Such wastes place a greater burden on the septic system. If you have garden space, compost the material instead of using a garbage grinder. Pour cooking oil, fat, motor oil, etc. down the drain.

Connect cellar drains, sump pumps or rain downspouts to the system. Put disposable diapers, sanitary napkins, tampons or other materials containing non-biodegradable substances into the system

Use excessive amount of water in the home. Bathe and wash clothes at the same time, or do repeated loads of washing, one after the other.

Plant trees over or near the absorption area. Roots will enter and clog the pipes.

Do:

Protect the system from surface drainage. Divert downspouts and surface water away from the system.

Check scum and sludge levels in a Septic Tank at least once each year and pump if necessary. (See suggested reference publication No. SW-44). For a typical home, a septic tank will need cleaning every 3 to 5 years but it depends upon loading and material put into the system.

Check for proper operation of AEROBIC TANKS weekly following manufacturer's instructions. It is extremely important to make sure that all components are functioning properly and that air is being continually supplied to the unit. Do not shut off aerobic tanks for vacations or other extended absences from home.

Protect the system and surrounding area from damage. This is especially important for elevated sand mound systems.

Keep grass cut to allow sun heat to evaporate moisture.

Keep a record of the location and dimensions of your system. If you are purchasing a new home, obtain the location and other pertinent information from the previous owner.

Install water saving devices. Try to operate your washing machine/dishwasher with full loads only. Take showers rather than baths.

What if the System malfunctions?

In some cases the home owner may be able to determine the cause of the system failure. For example, if the problem is in the primary treatment unit, sewage backup may occur. The home owner should check to see if:

The tank is full.

**Any mechanical equipment (pump or compressor) has failed.
The septic tank has been filled with sludge or scum. (see suggested reference publications).**

If one of the above problems occur, the home owner should contact a septic tank cleaning service or contractor. Secondary absorption failures are usually evidenced by a surface breakout. However, determining the cause generally requires an experienced professional. Causes of secondary absorption failures may include: Broken or crushed pipes. A tilted or settled distribution box. Sludge buildup in the piping preventing liquid absorption into the ground. Surface water running over the absorption area or into the treatment unit. (The home owner can usually correct this by diverting surface water away from the system).

If the above checks fail to reveal the cause of the problem, the malfunction is probably due to a high water table, clogging of the soil or poor soil permeability. The correction of these problems may require special consultation. You should contact your Township Sewage Enforcement Office to determine if a permit is required for the alteration or repair.

Map Your System

Keep a record of where your septic tank and drainfield are so you can take proper care of them. Locate pipes that go from the house to the tank and the tank to the drainfield and any clean-outs. Check with your builder, the township Sewage Enforcement Officer or the previous owner. In the winter look for an area where snow melts quickly to locate the tank. If all else fails, a septic tank pumper contractor should be able to find the tank.

It's also a good idea to keep a record of maintenance and repair activities. This should include, at the very least: Work Performed, Date of Work, Performed By (Include Tel. #). This simple log may save you

many hours of expensive digging or repair. Include any other notes that seem pertinent to septic or plumbing repairs.

Suggested Reference Publications

The following publications are excellent reference documents. They are published by Pennsylvania State University and are available from County Cooperative Extension Service offices.

F-161 Septic Tank Pumping

F-162 Preventing On-Lot Septic System Failures

F-163 Soil Media and the Percolation Test

F-164 Mound System for Waste Water

F-165 Septic Tank Soil Absorption System