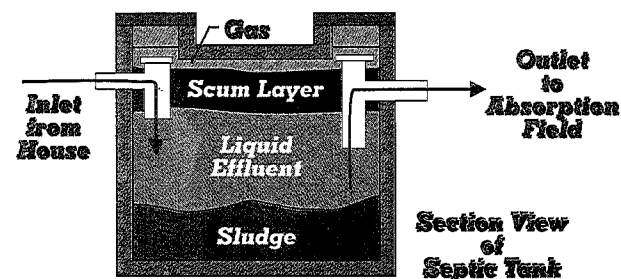


## WHAT IS A SEPTIC TANK AND WHAT IS THE PURPOSE OF IT?

The septic tank is nothing more than a large settling chamber where semi-solid materials settle to the bottom of the tank (sludge) and buoyant materials such as greases, fats and paper products float on the liquid surface of the tank (scum). The septic tank is constructed out of either concrete, steel, fiberglass or polyvinyl chloride (PVC). All new septic tanks sold in Oregon maintain a minimum liquid capacity of 1,000 gallons. The 1,000 gallon septic tank has sufficient capacity to process effluent flows from a one bedroom to a four bedroom single family residence. Larger capacity septic tanks with liquid capacities exceeding 1,500 gallons are installed where wastewater flows exceed the discharges that would typically be generated by a four bedroom maximum single family residence. Septic tanks pre-dating an installation date of 1980 may have liquid capacities of 500 gallons, 750 gallons or 1,000 gallons.

The purpose of a septic tank is really quite simple. As previously stated, it is a large settling chamber. Primary, anaerobic (without oxygen), treatment of the effluent takes place in the septic tank. Plumbing fixtures in the structure served by a septic system discharge liquid and semi-solid wastes to the septic tank. Wastes, both liquid and semi-solid, are detained in the septic tank for approximately two to three days. This time period allows the semi-solid matter to settle to the bottom of the septic tank. Greases, fats, and other buoyant materials such as toilet paper accumulate on the liquid surface of the tank. A turbid, semi-clear zone of liquid referred to as effluent forms between the sludge and scum layers. The effluent is then discharged by gravity flow or by an effluent lift pump to either a pretreatment unit such as a sand filter or directly to the absorption field.



## HOW OFTEN SHOULD I HAVE A LICENSED SEPTIC TANK PUMPER PUMP THE SEPTIC TANK?

The septic tank is designed to detain and store solid and semi-solid matter as well as various buoyant materials. Over time, these materials will accumulate and build up in the septic tank. If the materials are allowed to accumulate for an excessively long period of time, they will eventually reduce the volume of the effluent zone in the septic tank. At this point sludge and scum can be discharged directly to the pretreatment unit or the absorption field. The discharge of these materials directly to a pretreatment unit or to the absorption field is the single leading cause of septic system failures in Tillamook County. Therefore, regular pumping of the septic tank which will remove these materials is required. The septic tank should be pumped at intervals of approximately four (4) years by a licensed septic tank pumper. Regular septic tank pumping is the cheapest form of insurance you can purchase that will guarantee the long term satisfactory operation of your septic system.

## HOW CAN I FIND A LICENSED SEPTIC TANK PUMPER?

Septic tank pumpers advertise in the phone directory Yellow Pages under **Septic Tanks & Systems - Cleaning**. The companies in this section of the Yellow Pages should all be licensed septic tank pumpers. Verification of a current septic tank pumping license can be obtained by calling the Tillamook County Community Development Department, On-Site Sanitation Division, phone number (503) 842-3409. The Tillamook County Community Development Department, On-Site Sanitation Division also maintains a current list of septic tank pumpers operating in Tillamook County. You can obtain this list by either visiting our office in the Tillamook County Courthouse, 201 Laurel Avenue, Tillamook, OR, or contact us by phone at (503) 842-3409.

## WILL A GARBAGE DISPOSAL ADVERSELY AFFECT THE OPERATION OF A SEPTIC SYSTEM?

There are no State statutes or administrative rules limiting the use of a garbage disposal when a septic system is used to process sewage wastes. However, it is strongly recommended that you do not use a garbage disposal when you discharge sewage wastes to a septic system. Excessive use of a garbage disposal can cause a septic system to prematurely fail. The septic system failure results from the garbage disposal discharging a finely ground mix of solid matter that will not completely settle in the septic tank. This fine material passes through the septic tank and then either completely clogs the distribution network of a pretreatment unit or clogs the distribution network of an absorption field.

If you do use a garbage disposal, use this unit sparingly. One suggestion to avoid the use of a garbage disposal would be to use a composting bin. Reuse of the compost wastes benefits not only the plants where the compost is spread but it also benefits the environment by reusing materials that could cause a septic system failure.

## WILL SEPTIC TANK ADDITIVES PREVENT MY SEPTIC SYSTEM FROM FAILING?

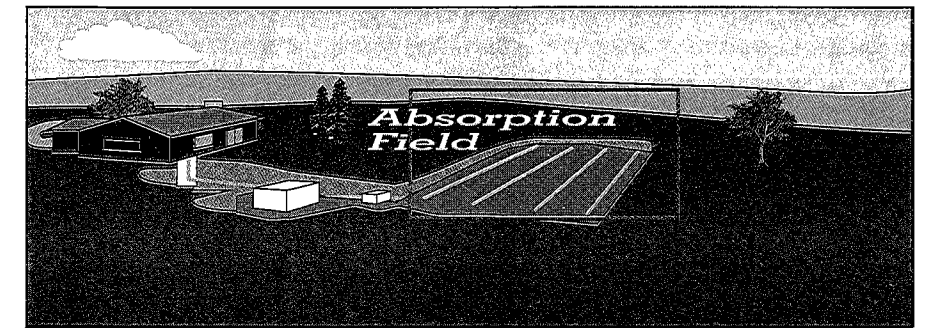
There are many types of septic tank additives on the market. Many claim to provide thorough cleaning of the septic tank which will result in the septic tank not requiring periodic pumping. Other products attest to their ability to enhance digestion of the septic tank contents by introducing bacteria or enzymes to the septic tank effluent. A great many of these products claim to be the only product available which will prevent a complete failure of the septic system from occurring. All these claims are unsubstantiated.

The septic tank is designed to operate satisfactorily with all the discharge components from the plumbing system of a commercial structure or a single-family residence. The septic tank is designed to settle and remove materials from the effluent waste stream that could adversely affect a pretreatment unit or an absorption field. The septic tank is not designed to provide a high level of digestion and treatment of the effluent contained in the tank. In fact, the anaerobic environment of a septic tank is not conducive to the complete digestion and treatment of the effluent in the septic tank. The addition of chemical additives, bacterial additives or enzymes will not stimulate the chemical and biological properties inherent in the septic tank to digest and treat the effluent more efficiently. A recent study by the EPA clearly showed that septic tank additives are not effective in producing effluent discharges from septic tanks that were radically different than septic tanks into which no additives were introduced. Simply stated, do not waste your money on septic tank additives. Save the money you may spend on septic tank additives and use it to have the septic tank pumped on a regular basis by a licensed septic tank pumper. A septic tank pumper can advise you about the length of time you can safely wait before the septic tank must be pumped.

## WHAT IS AN ABSORPTION FIELD AND WHAT IS THE PURPOSE OF IT?

The absorption field is also called a drainfield, leachfield or subsurface disposal field. The absorption field consists of a series of trenches containing an approved drainfield media into which effluent is discharged from the septic tank. The approved drainfield media consists of either clean drainrock with the rock ranging in size from 3/4 inches to 2 1/2 inches, gravel-less PVC chambers or Styrofoam bundles. Trenches utilizing drainrock or Styrofoam bundles discharge effluent through a perforated pipe into the drainrock or the Styrofoam bundles and then into the soil. Trenches utilizing gravel-less PVC chambers discharge effluent directly through the chamber to the soil.

The purpose of the absorption field is to utilize the unsaturated portion of the soil to provide aerobic (with oxygen) treatment of the effluent through the chemical, physical, and biological properties of the soil. Viruses, parasitic worms, pathogenic microbial organisms and various chemicals and chemical compounds are effectively treated and removed by passage of the effluent through the unsaturated soil surrounding the absorption field trenches. Research has shown that the passage of effluent through as little as twelve inches of unsaturated soil removes all of the harmful constituents contained in the effluent. The effluent has been effectively cleansed, leaving only water. The soil absorption field provides secondary and final treatment of the effluent discharged directly from a septic tank or tertiary and final treatment of effluent discharged from a pretreatment unit such as a sand filter.



## HOW CAN I MAINTAIN MY SEPTIC SYSTEM?

Since you own a septic system, it is important that it be properly maintained. How often you need to pump the solids out of your septic tank depends on three major factors:

1. The number of people in your household; and
2. The amount of wastewater generated (based on the number of people in the household and the amount of water used); and
3. The volume of solids in the wastewater (e.g., using a garbage disposal will increase the amount of solids).

Although your septic tank absorption field generally does not require maintenance, you should adhere to the following rules to protect and prolong its functional life:

- Do not drive over the absorption field with cars, trucks, or heavy equipment.
- Do not plant trees or shrubbery in the absorption field area, because the roots can clog the pipes in the absorption field.
- Do not cover the absorption field with hard surfaces, such as concrete or asphalt. Grass is the best cover, because it will help prevent erosion and help remove excess water.
- Do divert surface runoff water from roofs, patios, driveways, and other areas away from the absorption field.

Homeowners wanting to take good care of their septic systems should make note of the following items that should never be flushed down the drain or toilet. These items can overtax or destroy the biological digestion taking place within the system or clog pumps and pipes.

Take care not to flush the following:

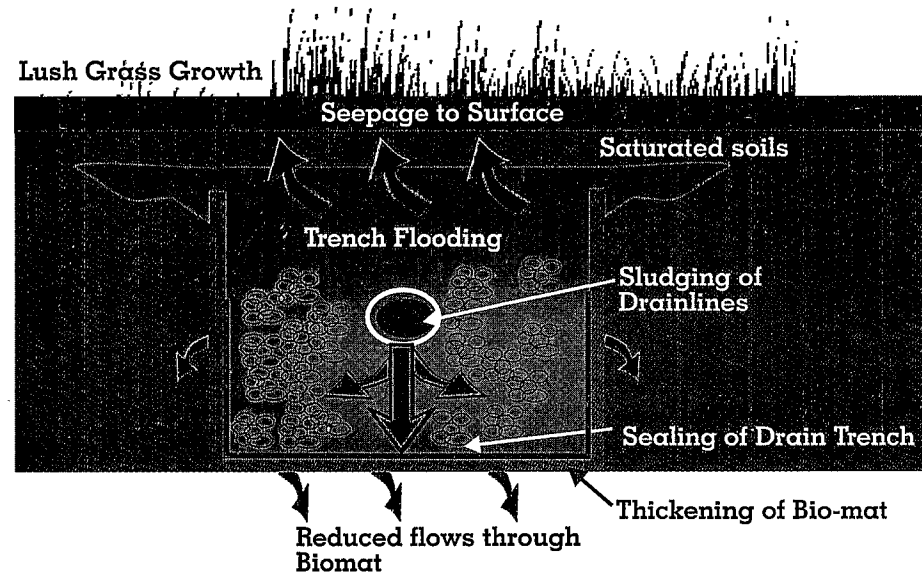
- hair combings
- coffee grounds
- dental floss
- disposable diapers
- kitty litter
- sanitary napkins/tampons
- cigarette butts
- condoms
- gauze bandages
- fat, grease, or oil
- paper towels

and **NEVER** flush chemicals that could contaminate surface and groundwater, such as:

- paints
- varnishes
- thinners
- waste oils
- photographic solutions
- pesticides

## WHAT IS A SEPTIC SYSTEM FAILURE?

A septic system failure occurs when untreated or partially treated sewage wastes discharge either directly to the ground surface or indirectly to surface water or groundwater resources. A septic system failure can have many causes. If you suspect your septic system has failed, you should immediately contact a septic system professional to assess the system. Personnel from the Tillamook County Community Development Department, On-Site Sanitation Division, septic tank pumpers and septic system installers all are available to assist you in evaluating the operating performance of your septic system. If your septic system is found to be failing, the Tillamook County Community Development Department, On-Site Sanitation Division will help you start the repair permit process.



## HOW DOES TILLAMOOK COUNTY DETERMINE WHAT TYPE OF SEPTIC SYSTEM MUST BE INSTALLED?

Tillamook County maintains a contract with the Oregon Department of Environmental Quality (DEQ) which enables personnel employed by the Tillamook County Community Development Department, On-Site Sanitation Division to administer and regulate the State mandated requirements for the installation of new and repair septic systems. Part of this administration and regulation is associated with the proper siting and installation of a septic system as it applies to the soil and site conditions within the parcel boundaries and directly surrounding the parcel boundaries of a proposed or existing development site.

Establishing the proper septic system for installation within the bounds of a parcel requires that test pits must be dug in the area of the proposed absorption field installation site. Direct observation of the soil profile and close attention to features in the soil indicating where a water table perches along with a detailed mapping of the parcel are all utilized to establish the type of septic system that must be installed. The review and description of a soil profile is accomplished by personnel from the Tillamook County Community Development Department, On-Site Sanitation Division physically entering the test pits and describing the soils exposed on the side walls of the test pits. The test pits are usually dug by a backhoe and have minimum dimensions of two (2) feet wide by three (3) feet long by five (5) feet deep.

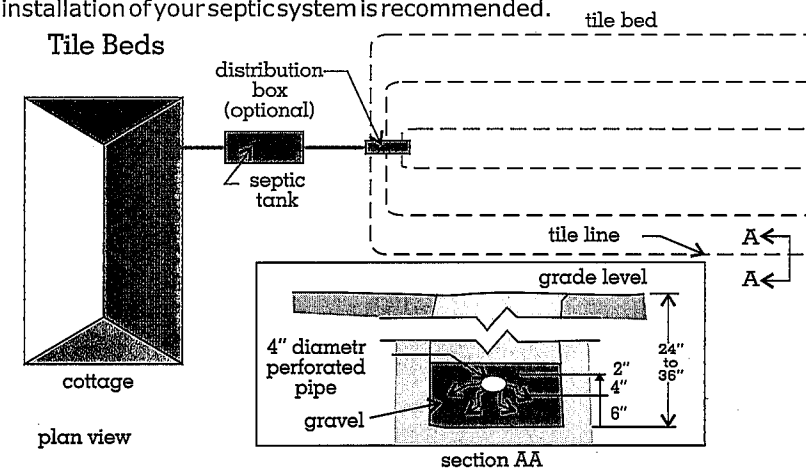
## WHAT IS THE DIFFERENCE BETWEEN A STANDARD AND ALTERNATIVE SEPTIC SYSTEM?

A standard septic system is a system that has a septic tank that discharges effluent by either gravity flow or by an effluent pump discharging effluent under low pressure to an absorption field where the effluent is distributed to the absorption field trenches by gravity flow. The absorption field trenches contain a twelve (12) inch depth of drain media and the depth of the trenches, based upon soil and site conditions, ranges from a maximum depth of thirty-six (36) inches to a minimum depth of eighteen (18) inches.

The alternative septic system designation applies to all other septic systems that deviate from a standard septic system configuration. The alternative septic tank can discharge effluent by either gravity flow or by an effluent lift pump. A pretreatment unit, such as a sand filter, can be installed between the septic tank and the absorption field. The absorption trenches, depending on soil and site conditions, can contain drain media that ranges in depth from twelve (12) inches to thirty (30) inches. Gravel-less, shallow installation, low pressure distribution chambers can be installed, in some sand filter system installations, that have no drain media in the trenches and are no deeper than ten (10) inches below the ground surface. The minimum burial depth for an alternative septic system absorption trench, again depending upon soil and site conditions, can be ten (10) inches to the base of the trench and a maximum burial depth of forty-two (42) inches to the base of the absorption trench.

## CAN I BUILD MY OWN SEPTIC SYSTEM?

Oregon Administrative Rules authorizes the legal parcel owner or a licensed septic system installer to install a standard system or an alternative system once a construction installation permit has been issued. The successful construction of your own septic system requires that you thoroughly understand the septic system. Failure to fully comprehend the installation requirements for a septic system will result in construction delays and increased installation costs associated with equipment rental and the correction of improperly installed septic system components. The use of a septic system installer to complete the installation of your septic system is recommended.



## HOW DO I CONTACT A LICENSED SEPTIC SYSTEM INSTALLER?

Septic system installers advertise in the phone directory Yellow Pages under **Septic Tanks & Systems - Contractors, Designers & Dealers**. Most of the companies in this section of the Yellow Pages should be licensed septic system installers. Verification of an installer's current septic system installation license can be obtained by calling the Tillamook County Community Development Department, On-Site Sanitation Division, phone number (503) 842-3409. The Tillamook County Community Development Department, On-Site Sanitation Division also maintains a current list of licensed septic system installers operating in Tillamook County. You can obtain this list by visiting our office in the Tillamook County Courthouse.

## OTHER QUESTIONS?

Do you want to know more about your septic system? Stop by our office or call us:

**Tillamook County Courthouse**  
**Community Development Department**  
**201 Laurel Avenue**  
**Tillamook, OR 97141**  
**(503) 842-3409**  
 -or-  
**(800) 488-8280**

# SEPTIC SYSTEM Owner's Manual



*Tillamook County's mission is to enhance the quality of life for its citizens by promoting and preserving public health and safety, maintaining a stable economy, encouraging wise use of resources, and providing services in the most efficient and cost-effective manner possible.*

**TILLAMOOK COUNTY**  
**Community Development Department**  
 On-Site Sanitation Division