

Septic Systems for Homeowners

Environmental Management

El Dorado County

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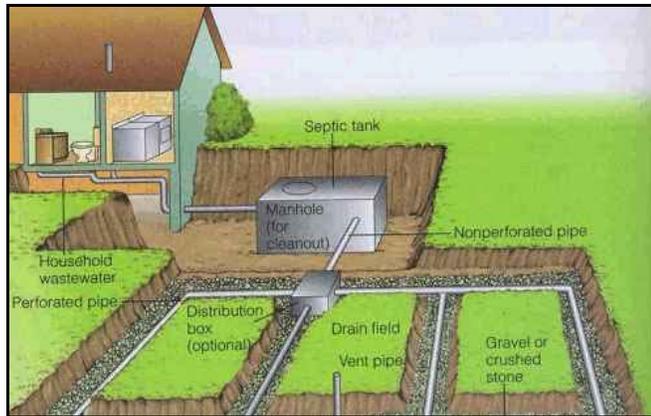
What is a Septic System?

A *septic system* is an underground wastewater system, composed of a septic tank and a leaching field that is used for the disposal of wastewater from structures that do not have access to a public sewer.

The *septic tank* is a watertight two compartment container that is typically constructed of concrete or polyethylene. The *leaching bed* is comprised of a network of rows of perforated pipe, set on a rock layer or leaching chambers.

How do Septic Systems Work?

The septic tank and leaching bed work together to dispose of household wastewater. Household wastewater includes: human body waste; toilet or other bathroom waste, waste from showers and baths, kitchen waste, or laundry waste. Household wastewater exits the home through a pipe and enters the larger, first chamber of the septic tank where the solid portion of the waste settles to the bottom, forming a *sludge layer*, while fats and grease rise to the top forming a *scum layer*. Bacteria and other microorganisms begin the purification process by breaking down the solids and turning them into liquid. Increasing liquid levels flow into the second compartment where more separation and decomposition occurs. As the liquid continues to separate, the wastewater exits the tank to enter the perforated pipes of the leach field where the treated wastewater is pushed along the drain field every time new wastewater enters the tank.



Lastly, the wastewater percolates into the soil which provides the final treatment of removing harmful bacteria, viruses, and nutrients.

Why Should I Maintain my Septic System?

Protect the Investment of your Home



An unusable septic system or one in disrepair will lower your property value

Replacing septic system components damages lawns and landscaping

Save Money \$\$\$ and Time



Failing septic systems are expensive to repair or replace
Sewage that spills from your property requires clean up

Protect Health and the Environment



Prevent spread of infection and disease
Effectively reduce or eliminate most human health or environmental threats posed by pollutants in household wastewater

Avoid Legal Liability: A Properly Functioning Septic System



Complies with California Health and Safety Code Section 5411
Complies with El Dorado County Code Section 15.32.090

Locate Your System

If your property was developed within the last 30 years, contact El Dorado County Environmental Management Environmental Health Division to obtain an "as-built" or site plan of your property. The "as-built" is a line drawing showing major features on your property including the location of the septic tank and disposal field. You may also be able to see the concrete or plastic lids extending to the surface above your septic tank. The septic tank is usually, *but not always*, located approximately 5 to 20 feet from your building. If there are no distinguishing features, your septic tank pumper can help you locate your tank *for an additional fee*.



How Do I Maintain My System?

Pump and Inspect Frequently

Have your septic system **inspected** by a professional at least **every 3-5 years**. **Pump** your tank as recommended by the inspector.

Four major factors influence necessary frequent pumping:



1. Number of people in the household.
2. The amount of wastewater generated.
3. The volume of solids in the wastewater.
4. Septic tank size.

Signs of Failure

The most obvious signs of septic system failures are easy to spot. Notice or look for:

- **Bright green grass over the leach field**
- **Pooling of water near the septic system**
- **Toilets and sinks back up when flushing the toilets or doing laundry**

Risks for Failure

System failures usually occur as a result of problems with the leach field. While problems with the tank do occur, they are less common. Risks for system failure include:

- **Improper design or installation**
 - Undersized leach field**
 - Leach field is not level**
 - Installation in unsuitable soils**
- **Tank is inaccessible**
- **Excess wastewater entering the system**
- **Tank is inaccessible for maintenance**
- **Parking or paving over leach fields**
- **Invasive tree or shrub roots**

Care for the Leach field



Do not confine hooved animals (livestock) in the leach field area. Do not park or drive vehicles on any part of the septic system. Doing so causes compaction of the soils and may damage the pipes and system components.



Plant only grass over and near your septic system. Roots from trees or shrubs may clog and damage the leach field. Remember: *Excessive watering of landscaping may overload the leach field.*



Use Water Efficiently: Choose high-efficiency toilets and showerheads and use faucet aerators. Monitor proper load sizes for doing laundry. Repair leaky plumbing fixtures. Water conservation ensures that your system will not get overloaded and reduces the risk of failure.



Waste Disposal-Chemicals
DO NOT INTRODUCE household chemicals, such as gasoline, pesticides, antifreeze, solvents, paint, or wood stains into the septic system. **These products should be taken to a local hazardous waste collection center for proper disposal.**



Waste Disposal-Household Cleaners
Limit the amount of household cleaners that enter the septic system. Even though some products are less toxic than others, these products may stress or destroy the biological treatment occurring in the system as well as possibly contaminating the ground and surface water. Products labeled **Danger** or **Poison** **should never be flushed into the septic system. These products and their containers must be disposed of at your local hazardous waste collection center.**

For more details on local **Hazardous Waste Collection Centers** in El Dorado County visit us on the web :

www.co.el-dorado.ca.us/emd

Select :

[Solid Waste & Hazardous Materials](#) to learn more.



Hygiene Products
Never flush cotton swabs, dental floss, feminine hygiene products, condoms, baby wipes, or diapers. These products may clog and damage the system components if they get trapped.



Kitchen Products
Limit the amount of solids introduced into the garbage disposal. Never discharge napkins, paper towels, cat litter, cigarette butts, egg shells, or coffee grounds into the septic system. These products may clog and damage the system components if they become trapped.

Troubleshooting Guide

1. Water will not drain from my showers or toilets:

Pump septic tank periodically. Clean effluent filter if one exists.

2. Roots are blocking the pipelines:

Contact commercial root remover services.

3. The system is hydraulically overloaded:

Reduce water usage. Reduce landscape irrigation of the soils near the leach field.

4. High Groundwater:

Obtain a consultant to design a curtain drain or re-route roof drains away from the leach field..

Increase the design capacity of the leach field to meet the demands of the system.

5. Gravel clogged with fine soils. Soils smeared due to construction during wet weather:

Replace the leach field.

6. Surfacing down slope:

(Excessive slope, fractured bedrock, system constructed too close to a cut bank)

Repair suspected area or the entire leach field.

7. Odors coming from the house or the vent:

Atmospheric conditions may prevent dispersion of odors during early morning and late afternoon..

Increase the height of the house vent to provide better dispersion of odors.

Common Myths and Misconceptions

Septic systems last forever and never need replacement.

Reply; Septic systems require maintenance including periodic pumping of the septic tank and occasional replacement of the leach field. A properly designed, installed and maintained leach field may require replacement once every 15 to 30 years. However, a leach field that is not designed and constructed adequately or receives poor maintenance may require replacement much sooner.

Flushing yeast or buttermilk into the septic tank will eliminate the need for pumping.

Reply: It has been a common practice to flush additional organic material into septic tanks that serve vacation homes or other homes which are used infrequently. The additional organic material serves as food for the microorganisms during extended periods when wastewater is not discharged into the septic tank. This organic material **does not help** or hinder the operation of a septic system which is used continuously; however, these products do not enhance or cause degradation of non-biodegradable material which accumulates in the sludge and scum. Therefore, the septic system **must still be pumped** periodically to prevent solids from clogging the leach field.

My septic system is healthy because the grass is bright green over the leach lines.

Reply: A bright green leach field area on the surface could be a sign that the effluent is not percolating through the soil. Look for clear signs of failure, such as standing effluent above the leach lines, or marshy areas.

Weekly Use of commercially available "Lye" products will clean out plumbing and the septic tank.

Reply: DO NOT USE LYE. The use of lye products will destroy the anaerobic bacteria which digest solids in the septic tank. Therefore, the septic tank will require pumping several times each year to prevent solids from flowing into the leach field.

If the septic system appears to be failing, flush the septic tank with large amounts of water.

Reply: Septic system failures are caused by accumulated solids in the septic tank or clogged soil pores. Flushing the septic tank will cause the solids to be forced into the soil absorption system and may cause irreversible damage to the leach field. Flushing water into a clogged leach field will prolong the saturation of the soils and prevent oxidation of organic material in the soil pores.

Washing machine wash water and rinse water should be discharged to the ground surface to protect the leach field.

Reply: NO. The Uniform Plumbing Code and County ordinance requires that all plumbing and fixtures be connected to an approved wastewater system. Water from the washing machine is wastewater and should be treated and disposed of in the same manner as water from the sinks and showers.

