# How Your Septic System Works

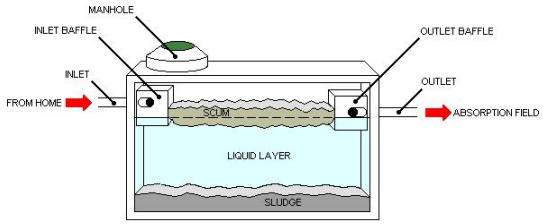
If your home sits in a rural area, chances are pretty good that your home uses a septic system to dispose of your household waste. A septic system is an individual wastewater treatment system that uses a septic tank and the soil to treat wastewater. When the sewage leaves your home it enters into a septic tank where the flow is interrupted by a baffle which allows the solids to separate from the liquid.

The inorganic solids will then sink to the bottom of the tank where they will begin to be decomposed by the bacteria that reside in the tank. The solid material that gathers at the bottom of the tank is commonly referred to as the "sludge layer". The organic solids that were separated from the liquid by the baffle should float to the surface to form a layer commonly referred to as the "scum layer". This scum at the surface should eventually be broken down by the bacteria and converted to liquid, any byproducts from the bacterial decomposition will sink to the bottom of the tank. The solids that cannot be decomposed by the bacteria can only be removed from the septic tank by having your tank pumped and cleaned by a professional septic tank pumper. Failure to have the tank pumped and cleaned when needed could result in solid materials overflowing the septic tank and exiting into the soil absorption system. If solid materials are allowed to overflow into the soil absorption system for an extended period of time, it will eventually cause the septic system to fail.

Once the separation of solids and liquid has taken place, the liquid then flows through a pipe into the distribution box. The purpose of this box is to separate the effluent flow evenly into the individual trenches in the soil absorption field. Each individual trench consists of a gravel bed which is three feet wide and one foot deep with a minimum of one foot of soil over the top. Each trench is excavated as level as possible from beginning to end. This is done to ensure that the effluent will remain distributed evenly on the trench bottom, and not all flow to any low areas in the trench.

There is a four inch PVC pipe running through the middle of the gravel bed which has drainage holes at the 4 o'clock and 8 o'clock positions. This pipe should be installed level throughout the length of each trench. This will ensure that the effluent has been distributed evenly throughout the length of the gravel bed. Once the liquid leaves the PVC pipe, it enters the gravel bed where it will sit until it gradually seeps into the soil for further treatment. This treatment should destroy all the disease causing pathogens and filter out any of the fine solids that were not removed earlier in the process.

# Cross Section of Typical Septic Tank




# How Often Should You Pump Your Tank ?

*The following Table depicts how often your septic system should be pumped, depending on the number of people living in the household and the size of the tank.*

| **Tank Size** (gals) | **Household Size** (number of people) | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 500 | 5.8 | 2.6 | 1.5 | 1.0 | 0.7 | 0.4 |
| 750 | 9.1 | 4.2 | 2.6 | 1.8 | 1.3 | 1.0 |
| 900 | 11.0 | 5.2 | 3.3 | 2.3 | 1.7 | 1.3 |
| 1000 | 12.4 | 5.9 | 3.7 | 2.6 | 2.0 | 1.5 |
| 1250 | 15.6 | 7.5 | 4.8 | 3.4 | 2.6 | 2.0 |
| 1500 | 18.9 | 9.1 | 5.9 | 4.2 | 3.3 | 2.6 |
| 1750 | 22.1 | 10.7 | 6.9 | 5.0 | 3.9 | 3.1 |
| 2000 | 25.4 | 12.4 | 8.0 | 5.9 | 4.5 | 3.7 |
| 2250 | 28.6 | 14.0 | 9.1 | 6.7 | 5.2 | 4.2 |
| 2500 | 31.9 | 15.6 | 10.2 | 7.5 | 5.9 | 4.8 |

***Estimated Septic Tank Pumping Frequencies in Years***
*(Source: Pennsylvania State University Cooperative Extension Service)*

# How to Protect Your Septic System

- Do not drive any vehicles over the absorption field.
- Do not cover the absorption field with a hard surface such as concrete or asphalt.
- Divert surface runoff water away from the absorption field.
- Do not use commercial septic tank additives.
- Do not flush or dump nondegradables down your drains.
- Do not overload your system. Use water sparingly and spread out your washing machine use.
- Do not allow hoofed animals to graze on the absorption field.
- Do not farm or garden over the absorption field.
- Do not place swimming pools over the absorption field.
- Do not dispose of Household Hazardous Wastes into your septic system. Paints, varnishes, thinners, waste oil, photographic solutions, pesticides, and other organic chemicals can destroy the biological digestion taking place within your system.
- Plastics, cat box litter, cigarette filters, condoms, tampons, sanitary napkins, paper towels, and facial tissues should not be disposed of in your septic system.
- Do not dump grease or fats down your kitchen drain. They will solidify and block your system.
- Do not allow roof drains, sump pumps, or water softeners to discharge into your septic system or perimeter drain.
- Do not plant trees or shrubbery in the absorption field.

## *Warning Signs of a Failing Septic System*

- Thick green grass over the absorption field.
- Slow draining toilets and/or drains.
- Sewage odors around the absorption field.
- Sewage odors in your home.
- Black water surfacing over the absorption field and/or the septic tank.

## *Frequently Asked Questions*

Q: How can I find out where my septic system is?

A: The Health Department has inspection records on file that date back to 1960. You can contact the Health Department to see if a record exists.

Q: What should I do if I think my septic system is failing?

A: Contact the Health Department immediately.

Q: Do I need to get a permit from the Health Department to do repair work on my septic system?

A: Yes. Because of the extreme risk to human health associated with raw sewage, there are many laws and ordinances which require a permit be obtained from, and an inspection completed by the Local Health Department.

Q: If I want to build an addition on to my house, how far do I have to be from my septic system.

A: Any permanent structure must be ten feet from the absorption field or tank.

Q: How often should I put septic tank additives in my system?

A: Most experts agree that septic tank additives are not needed

## *Frequently Asked Questions*

Q: I need to drill a new well, how far does it have to be from my septic system?

A: A private water supply well must be a minimum of fifty feet from any part of the septic tank, dosing tank, lift station, or soil absorption system.

Q: Can I run my downspout drains into my perimeter drain?

A: No. Not only is it a violation of State Code, it also overburdens the perimeter drain at the worst possible time which may cause your system to prematurely fail.

Q: I want to put in a swimming pool, what do I need to do concerning my septic system?

A: A drawing showing the exact size and proposed location of the swimming pool needs to be submitted to the Health Department. The Department will then review the plans to make sure that the pool will not adversely affect your septic system. You must get Health Department approval before you can obtain a permit for the pool from the Building Department.

## *For More Information*

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West Virginia University
P.O. Box 6064
Morgantown, WV 26506-6064
1-800-624-8301

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Purdue University
1150 Lilly Hall of Life Sciences
West Lafayette, IN 47907-1150
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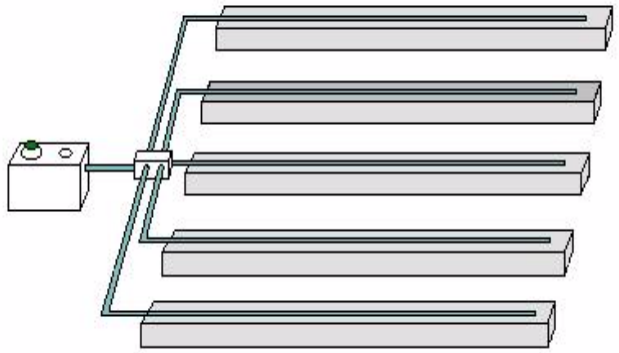
# *Everything You Ever Wanted To Know About Your Septic System*

***And other things you probably didn't want to know***



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