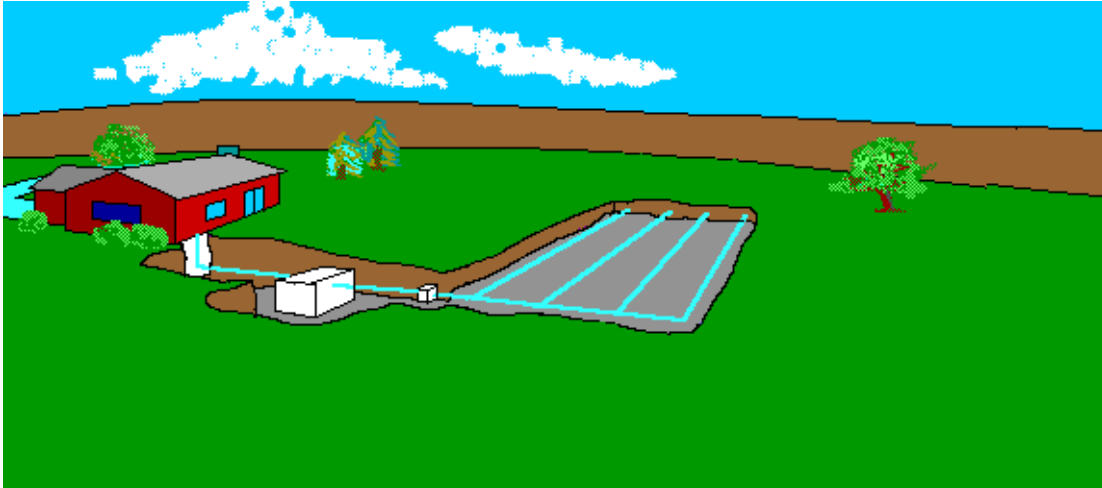
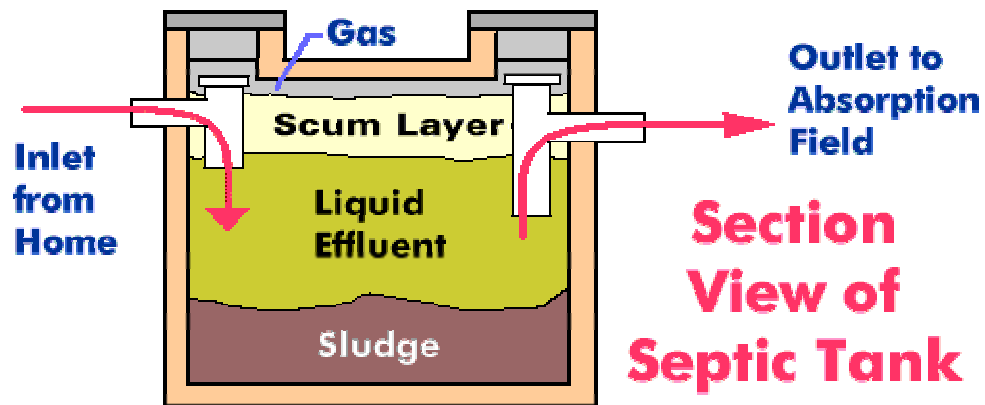


Septic Tank

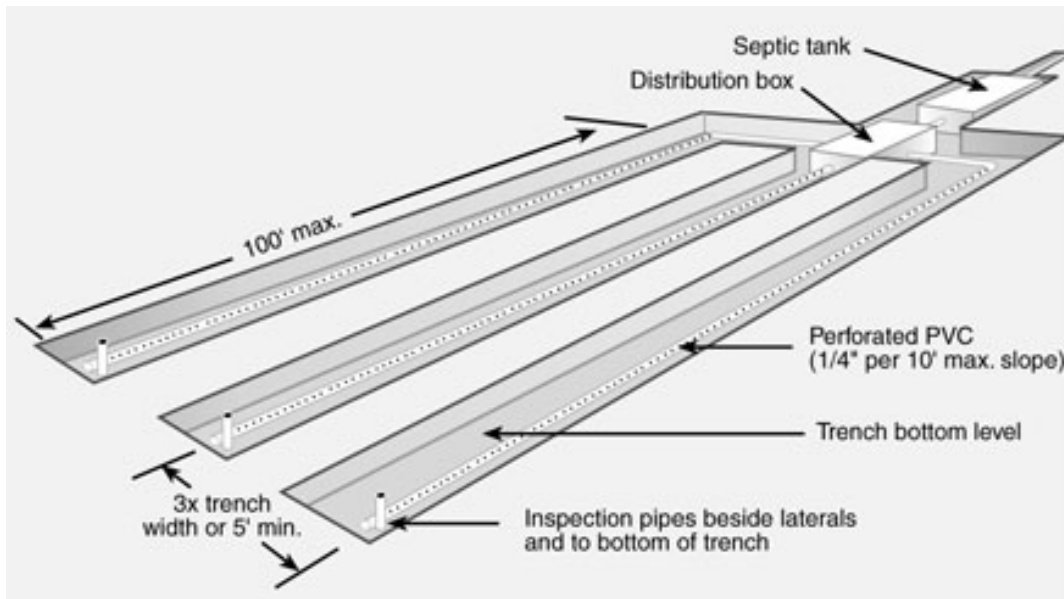


Best Management Practice Manual

How Septic Tanks Work



Wastewater from toilets, sinks, dishwashers, garbage disposals, sump pumps, etc. flows from the house into the septic tank via an inlet baffle and is directed down into the tank. Heavy materials are deposited on the bottom as sludge. Lighter materials float to the top and form scum. Bugs eat both the sludge and the scum and form gas. Clarified water (the middle layer), commonly called effluent, flows through the outlet baffle to the absorption field.



Liquid effluent flows by gravity from the septic tank through a distribution box to the drain field (also called an absorption field). The water flows through perforated pipe that is laid on top of a gravel bed and slowly works its way down through native soil. Any contaminants are either attached to the soil particles or treated by bugs in the soil. Nutrients react with other chemicals that exist in the soil or decompose by the bugs that live in the soil.

What Can Go Wrong?

Septic Tanks

- Damage to septic tank due to ground movement, age
- Bugs killed by too many chemicals in too large a quantity
- Too much water washes out scum and/or sludge
- Failure to properly pump out tank on a regular basis

Absorption Field

- Clogging of pipes
- Incorrectly designed absorption field
- Placing too much weight on absorption field

How Much Will It Cost Me?

New Septic Tank:	\$3,000-\$5,000
New Drain Field:	\$5,000-\$10,000
Septic Tank Pump Out:	\$100-\$300
Septic Tank Inspection:	\$50-\$100

How Can I Tell If I Have a Problem?

These are signs that you have a problem:



- You have standing sewage over your absorption field or around your septic tank.
- You have a distinct sewage odor around your septic system.
- You have areas of soil that are collapsing over your septic system.
- You have a very slow draining or stopped up sink or toilet.
- Sewage backs up into your house.

How Can I Protect My System?

Get it pumped out regularly!

Follow the schedule below:

Tank Size* (Gals)	Household Size (number of people)									
	1	2	3	4	5	6	7	8	9	10
500	5.8	2.6	1.3	1.0	0.7	0.4	0.3	0.2	0.1	—
750	9.1	4.2	2.6	1.8	1.3	1.0	0.7	0.6	0.4	0.3
900	11.0	5.2	3.3	2.3	1.7	1.3	1.0	0.8	0.7	0.5
1000	12.4	5.9	3.7	2.6	2.0	1.3	1.2	1.0	0.8	0.7
1250	15.6	7.5	4.8	3.4	2.6	2.0	1.7	1.4	1.2	1.0
1500	18.9	9.1	5.9	4.2	3.3	2.6	2.1	1.8	1.5	1.3
1750	22.1	10.7	6.9	5.0	3.9	3.1	2.6	2.2	1.9	1.6
2000	25.4	12.4	8.0	5.9	4.5	3.7	3.1	2.6	2.2	2.0
2250	28.6	14.0	9.1	6.7	5.2	4.2	3.5	3.0	2.6	2.3
2500	31.9	15.6	10.2	7.5	5.9	4.8	4.0	4.0	3.0	2.6

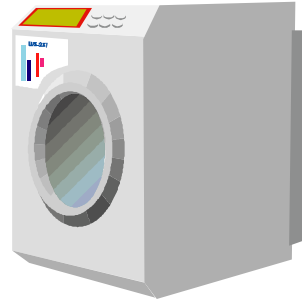
** Your local health department may be able to tell you the size of your tank.*

As your septic tank ages, the scum and sludge layers build up and the area devoted to the liquid effluent decreases. At some time these layers may merge and the scum and sludge may be sent to the drain field where it will clog up the pipes and cause them to fail. A new absorption field is the only option. Pumping out your septic tank removes any accumulated sludge and scum. It also removes nutrients, such as phosphorous and nitrogen, that could otherwise find their way to the local ground water or surface water and degrade these.

Do not flush excess water through your system.

Excess water can flush out the scum and sludge layers and clog up your absorption field pipes.

Spread out clothes washing evenly over the week, and switch to a front loading washer.



Wash only full loads of dishes and clothes. Install a filter between the washer and the septic tank.



Do not allow storm water to enter your septic system or absorption field. Drain rainwater from gutters and let it enter your storm water system, not your septic system.

Do not put your pool water through your septic system.



Do not put your water softener water through your system.

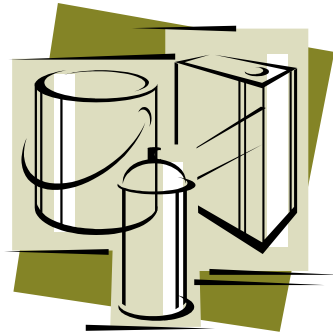


Use low flow showerheads, faucets, toilets, etc. or use them less often, and stop all drips and leaks.

Keep Chemicals Out of Your Septic System

Chemicals can kill the bugs that treat the sludge and scum. They can also find their way into the groundwater and contaminate your drinking water or the surrounding water that could be someone else's drinking water.

Do not pour cleaners, solvents, paints, pesticides, inks, antifreeze, prescription drugs, or any other chemicals down any drains or sinks.



Use natural drain cleaners such as vinegar and baking soda to unclog drains. Use non-phosphate or biodegradable detergents when washing clothes and dishes.

Do not use any additives, chemicals or biological enzymes that claim to improve your septic tank's operation; they do not work.



What Can I Do In My Kitchen?

There are some other procedures that you can use in the kitchen to help improve your septic system operation.

Do not use a garbage disposal. Garbage disposals add 50% more solids to your septic system and will cut the time between pump outs in half.



Do not pour cooking fats, oils, and greases (FOG) down your kitchen or any other sink. FOG can build up in your pipes and cause clogs. In addition, FOG will increase the scum level in your septic tank and may require you to pump it out more frequently.

Handwash dishes whenever possible.

Scrape food off plates, pots, etc. before washing.

What Can I do In My Bathroom?

There are a number of things you can do in your bathroom.

Install low flow showerheads, faucet aerators, and toilets.

Take shorter showers.

Do not take baths.

Do not run your water while brushing teeth or shaving.

Flush toilets less often.

Do not use toilet bowl disinfectants and drain cleaners.

Do not flush excessive toilet paper.

Do not flush tissues, paper towels, personal hygiene products, or cigarette butts into the septic system.

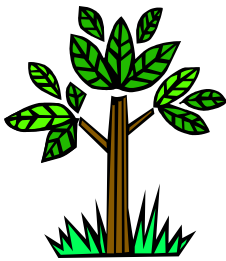
Do not allow hair to flush down the sink drain.



How Can I Protect My Drain Field?

Drain fields, also called absorption fields, should not have anything substantial placed over them.

Do not park cars, trucks or other heavy equipment over a drain field.



Do not plant trees or bushes over the drain field. Only grass should be planted over one.

Do not place buildings, sheds, porches, pools or other structures over the drain field.



Do not cover drain fields with asphalt, concrete, or other impermeable materials.

Do not allow storm water from roof drains, sump pumps, etc. to flow over the drain field.

SEPTIC TANK

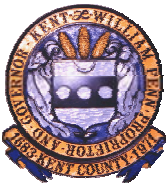
DO'S

- Conserve water whenever and wherever you can, the more water that enters the system, the less effective the treatment system is. Conserve water by:
 - Fixing leaks and faucet drips;
 - Using low flow toilets, showerheads, and faucets;
 - Controlling the number of loads of clothes washed per day;
 - Taking shorter showers;
 - Reducing the amount of water running while brushing teeth, shaving, and bathing, etc.
- Flush toilets less often;
- Replace old appliances with modern water-efficient models;
- Use moderate amounts of toilet paper;
- Take showers instead of baths, and make them shorter;
- Wash only full loads of dishes and clothes, and evenly distribute the loads over the week;
- Use liquid detergent in the dishwasher;
- Use a front loading washer;
- Install a filter on the washer to remove lint;
- Use no-phosphate detergent;
- Handwash dishes whenever possible;
- Use biodegradable detergents;
- Pour cooking fats, oils and greases in a container and place in trash;
- Route roof drains, storm drains, and sump pumps away from the septic system drain field;
- Consider replacing your toilet system with a composting or incinerating toilet;
- Landscape the absorption field with grass; not trees or bushes;
- Properly design for septic system expansion if additional bedrooms, bathrooms, or other water generating additions are planned;
- Have your septic tank system inspected annually; and
- **PUMP IT OUT** every three years, but more frequently, if required.

SEPTIC TANK

DON'TS

- Use an excessive amount of water;
- Use toilet bowl disinfectants, they can kill the bacteria that treat the wastewater in the septic tank;
- Flush facial tissues, paper towels, personal hygiene products, or cigarette butts;
- Flush prescription drugs or over the counter medications, they can kill the bacteria that treat the wastewater in the septic tank, and can contaminate local groundwater or surface water;
- Use drain cleaners indiscriminately;
- Allow hair or other material to enter drains;
- Use a garbage disposal, such use could result in the need to pump the system twice as frequently;
- Pour cooking fats, oils or greases down the sink drain;
- Wash more than two clothes washer loads per day, this will keep the water from flushing through the septic tank;
- Send water softener water to the system;
- Send chlorine-treated pool water through the system;
- Drive or place heavy equipment on an absorption field;
- Cover over an absorption field with concrete, asphalt, or other impermeable materials;
- Build on an absorption field, such as a storage shed, addition, garage, or swimming pool;
- Allow storm drains, sump pumps, and other water to drain over the absorption field;
- Plant trees, bushes, etc. over an absorption field that could penetrate to the pipes and clog or destroy them;
- Enter a septic tank; toxic and explosive gases are formed in the tank, and could disable or kill;
- Use septic system additives such as starter enzymes, feeders, cleaners, degreasers, or chemicals designed to prevent pump-outs, they don't work and can contaminate local groundwater or surface water;
- Wash latex paint brushes or rollers in the sink; and
- Flush solvents, paints, antifreeze, and other chemicals, they can kill the bacteria that treat the wastewater in the septic tank, and can contaminate local groundwater or surface water.



This brochure is written by Jim Newton, and provided by
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