



Governor Tony Evers Dawn Crim, Secretary

April 12, 2022

RedRock Precast LLC
Amanda Middleton
4795 Lavaque Bypass Rd.
Duluth MN 55811

Re: Description: Sewage Tanks, Concrete
Manufacturer: RedRock Precast LLC
Product Name: Three Compartment Holding, Pump or Septic Tanks: 1500/500/500
Model Number(s): Three Compartment Holding, Pump or Septic Tanks: 1500/500/500
eSLA PTO No.: PP-042200013-PTOPHTC

The specifications and/or plans for these concrete sewage tanks have been reviewed and determined to be in compliance with chapters SPS 382 through 384, Wisconsin Administrative Code, and Chapters 145 and 160, Wisconsin Statutes.

The Department hereby issues an approval based on the Wisconsin Statutes and the Wisconsin Administrative Code. This approval is valid until the end of April 2027.

This approval is contingent upon compliance with the following stipulation(s):

1. These tanks shall:
 - a. conform to s. SPS 384.25 (2) (b) Wis. Adm. Code.
 - b. be labeled as required by s. SPS 384.25 (11) (c) Wis. Adm. Code.
 - c. be placed in accordance with s. SPS 383.43(8)(i) Wis. Adm. Code.
 - d. be designed to withstand the pressures to which it they are subjected.
 - e. be fitted with locking manhole covers in accordance with s. SPS 384.25 (7) (h) Wis. Adm. Code. The manhole cover must be secured to the riser using screws which are not standard or Philips head to be considered an effective locking device.
 - f. bear warning labels, that are visible after installation, that conform to s. SPS 384.25 (8).
 - g. be anchored in accordance with s. SPS 383.43 (8) (g) Wis. Adm. Code when installed in areas subject to saturated soil conditions.
 - h. be installed by persons holding the proper license or registration in accordance with Wis. Stats. § 145.
 - i. be installed, maintained and used in strict accordance with the manufacturer's published instructions, Chapters 381-387 Wis. Adm. Code and this product approval. If there is a conflict between the manufacturer's instructions and the Wis. Adm. Code or this Plumbing Product Approval, then the Wis. Adm. Code and this Plumbing Product Approval shall take precedence.

2. Vault privies shall conform to s. SPS 391.12 Wis. Adm. Code.

3. The Romtec toilet riser shall be installed using the stainless-steel safety bar assembly (Part No: 7671).

For other toilet risers, a similar stainless-steel grate assembly shall be used to the limit the effective tank opening to ≤ 8-in. in diameter.

All toilet risers shall have self-closing, tight-fitting, lids.

4. DSPS POWTS plan approval shall be obtained from the department's Private Sewage Section, or the appropriate agent county, for each installation of these tanks.

5. A sanitary permit shall be obtained, in accordance with s. SPS 383.21 Wis. Adm. Code, from the county, or other local authority having jurisdiction, for each proposed installation of these tanks.

No person shall purchase, or install, a private on-site wastewater treatment system unless the owner of the property on which the private on-site wastewater treatment system is to be installed holds a valid sanitary permit issued under § 145.19.

No person shall sell at retail, as defined under § [100.201 \(1\) \(d\)](#), a septic tank for installation in this state unless the purchaser holds a valid sanitary permit issued under § 145.19.

6. Campgrounds shall obtain required permitting from the Wisconsin Department of Health Services under HFS 178 prior to installing or using these tanks.
7. Drain, waste and vent piping used to install these tanks shall conform to s. SPS 384.30 (1), (2) and (3) Wis. Adm. Code.
8. Cleanouts shall be installed in drain piping associated with the installation of these tanks in accordance with s. SPS 382.35 Wis. Adm. Code.
9. Tank contents removed shall be treated as septage and disposed of in accordance with NR 113 Wis. Adm. Code.
10. This approval shall not include consideration of these tanks for any fresh/potable water uses.
11. The manufacturer must keep at the manufacturing plant a set of plans and specifications bearing the department's stamp of approval. The plans and specifications must be open to inspection by an authorized representative of the department.
12. Backfill for these tanks shall:
 - a. be soil material;
 - b. pass a 2-in. screen; and
 - c. be tamped into place.
 - d. minimum of 12-in. on all sides from bottom to top of tank.
13. Bedding for these tanks shall:
 - a. be leveled and compacted;
 - b. be ≥ 4-in. thick, post-compaction;
 - c. be comprised of sand, gravel, granite, limestone or other non-corrosive material; and
 - d. pass a ¾-in. screen.
12. The following are approved for use with these tanks:
 - a. 4-in. and 6-in. I.D. inlet, outlet and vent openings;
 - b. 4 in. and 6-in. ASTM C923/C923M-20 compliant pipe connectors;
 - c. 4-in. and 6-in. ASTM D1785-15 compliant PVC outlet hubs cast in walls;
 - d. watertight electrical openings ≤ 2-in. ID in access risers;
 - e. precast concrete access risers and covers;
 - f. ASTM C990-09 (R2019) compliant preformed flexible joint sealants; and
 - g. approved effluent filters installed in the outlet tee.

Two Compartment Tank Specifications						
Model	Liquid Level (in.)	Gal./in. (gals.)			Gal./day [♦]	Max. Depth of Bury (in.)
1500/500/500	44.0	22.7 (1000)	11.4 (500)	11.4 (500)	720	48

♦ = When Used as a Septic Tank Based on a 3-yr. Service Interval for Residential Wastewater

RedRock Precast LLC
April 12, 2022
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Technical notations:

- a. Manufacturer's website: <https://www.redrockprecastmn.com/resources/>
<https://www.redrockprecastmn.com/products/precast-concrete-septic-tanks/>

The department is in no way endorsing these tanks or any advertising and is not responsible for any situation which may result from their use.

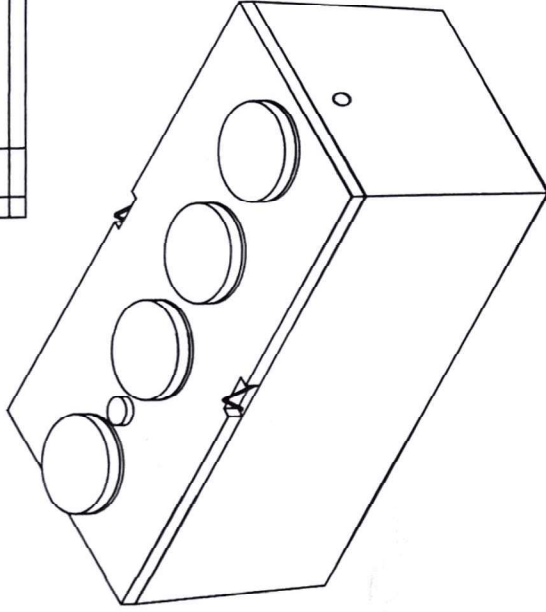
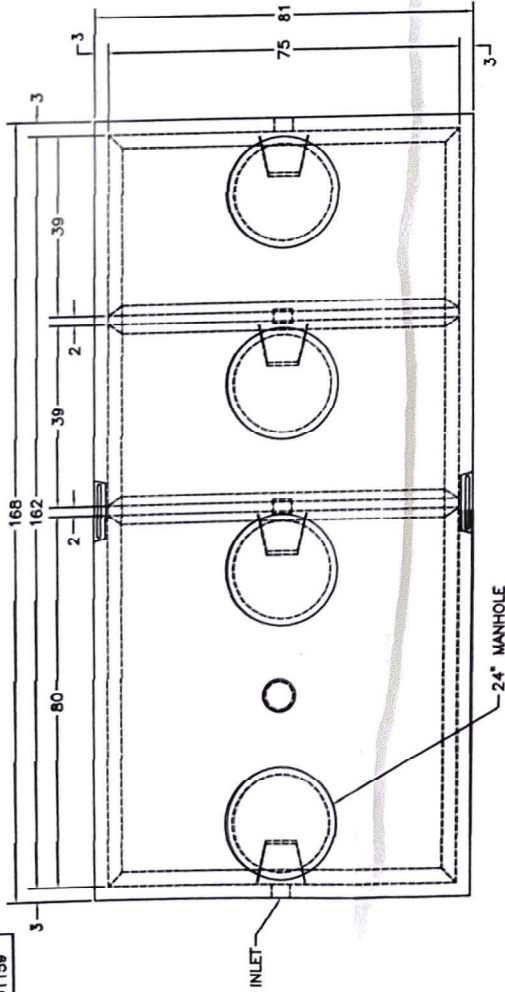
Sincerely,

Glen W. Schlüter
Plumbing Product Reviewer
Department of Safety and Professional Services
Division of Industry Services
Bureau of Technical Services
(608) 267-1401 **Phone**
glen.schlueter@wi.gov **E-mail**
7:45AM-4:30PM CDT M-F **Work Hours**

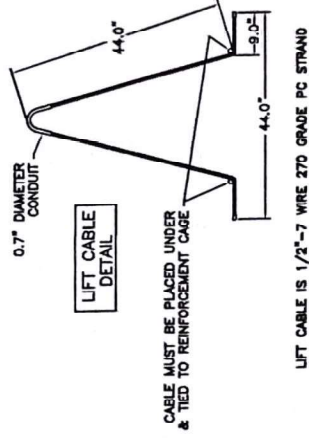
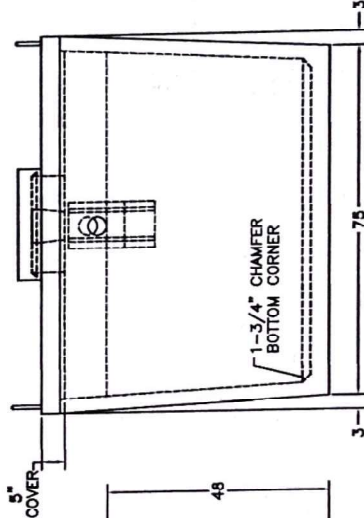
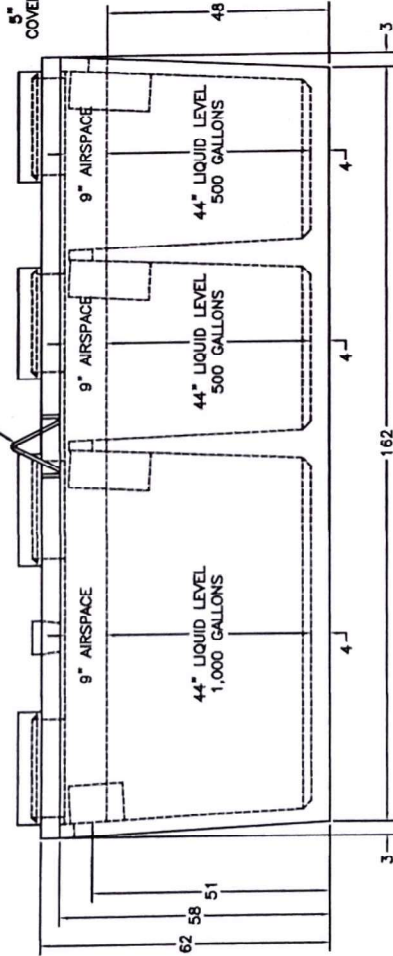
REDROCK PRECAST PHONE NUMBER 218-723-8881
www.redrockprecastmn.com

2,000 GALLON 1,000/500/500 (7)

REV.	DATE	DESCRIPTION	BY	CHKD.



SEE "LIFT CABLE DETAIL"



APPROVED
By Glen Schlueter at 7:47 pm, Apr 12, 2022

COVER: 1.41 CU YD CONCRETE
5,724 LBS.

TANK: 3.0 CU YD CONCRETE
12,050 LBS.

HIGH DENSITY
POLYETHYLENE BAFFLE
LOCATE AS REQUIRED

MATERIAL: REDROCK PRECAST

REDROCK PRECAST
2,000 GALLON SEPTIC TANK
1,500 / 500 / 500 GAL



4795 Lavaque Bypass Rd.
Duluth, MN 55811

TANK INSTALLATION INSTRUCTIONS

SITE CONDITION:

The site must be accessible to large, heavy trucks. Free of items like trees, stumps, overhead wires, etc. That could interfere with delivery or installation and allows trucks to get within 3 to 6 feet of placement excavation.

EXCAVATION:

Excavation should be approximately 12" minimum larger than tank size to allow for adequate backfill. This may vary with soil conditions. Excavation shall have a level bottom so the weight bears on the outside walls of the tank.

BEDDING:

Proper use of bedding materials is important to ensure service life of the tank structure. Bedding must be capable of bearing the weight of the tank. Bedding material shall have the ability of 100% to be able to pass a 3/4" screen. Bedding, thickness shall be 4" minimum compacted (thickness may vary with existing soil conditions).

JOINT SEAL:

Septic tank joint surface to be clean with proper placement of sealant according to manufacturer's recommendations for a 3000 gallon tank or greater.

WATER TABLE:

When tanks are being placed where water levels can potentially be higher than the elevation of the tank cover, an alternate location should be considered.

BACKFILL MATERIAL:

Sidewall of tanks require dry backfill materials that have the ability of 100% to be able to pass through a 2" screen and a minimum of 12" on all sides from bottom to top of tank. Backfill material shall be placed to avoid impact loads on sidewall of tank.

COVER MATERIAL:

Cover material shall be dry soil, material that has the ability of 100% to be able to pass through a 4" screen. Cover material shall be mounded over the tank and around the risers to direct run-off away from both.

INLET & OUTLET:

Pipe not to exceed 1" past interior wall of tank where a baffle is used.

BURIAL DEPTH:

Tanks to be installed to depths according to each model's maximum bury recommendations.

INSTALLER:

ADDRESS:

DELIVERY DATE:

MODEL #: [Click here to enter text.](#)

LIQUID CAPACITY:

MAX. BURIAL DEPTH: [Click here to enter text.](#)

DATE OF MFG:

Do your Part— Be SepticSmart!

A Homeowners' Guide to Septic Systems



septicSMART

U.S. Environmental Protection Agency

Maintaining Your Septic System:

Good for your wallet. Good for your health. Good for the environment.

Did you know that one-quarter of all U.S. homes have septic systems? Yours may be one of them. If you're not properly maintaining your septic system, you're not only hurting the environment, you're putting your family's health at risk—and may be flushing thousands of dollars down the drain!

First Things First:

What Is a Septic System?

Common in rural areas without centralized sewer systems, septic systems are underground wastewater treatment structures that use a combination of nature and time-tested technology to treat wastewater from household plumbing produced by bathrooms, kitchen drains, and laundry.

Do You Have a Septic System?

You may already know you have a septic system. If you don't know, here are tell-tale signs that you probably do:

- You use well water.
- The waterline coming into your home doesn't have a meter.
- You show a "\$0.00 Sewer Amount Charged" on your water bill.
- Your neighbors have a septic system.



How To Find Your Septic System

Once you've determined that you have a septic system, you can find it by:

- Looking on your home's "as built" drawing.
- Checking your yard for lids and manhole covers.
- Contacting a septic inspector/pumper to help you locate it.

Why Should You Maintain Your Septic System?

Maintaining Your Septic System...

Saves You Money

Regular maintenance fees of \$250 to \$300 every three to four years is a bargain compared to the cost of repairing or replacing a malfunctioning system, which can cost between \$3,000 and \$7,000. The frequency of pumping required for your system depends on how many people live in your home and the size of the system.

Protects Your Property Value

An unusable septic system or one in disrepair will lower your property value, not to mention pose a potentially costly legal liability.

Keeps You and Your Neighbors Healthy

Household wastewater is loaded with disease-causing bacteria and viruses, as well as high levels of nitrogen and phosphorus. If a septic system is well-maintained and working properly, it will remove most of these pollutants. Insufficiently treated sewage from septic systems can cause groundwater contamination, which can spread disease in humans and animals.

Improperly treated sewage also poses the risk of contaminating nearby surface waters, significantly increasing the chance of swimmers contracting a variety of infectious diseases, from eye and ear infections to acute gastrointestinal illness and hepatitis.

Service provider coming? Here's what you need to know.

When you call a septic service provider, he or she will inspect for leaks and examine the scum and sludge layers in your septic tank.

Your septic tank includes a T-shaped outlet which prevents sludge and scum from leaving the tank and traveling to the drainfield area. If the bottom of the scum layer is within six inches of the bottom of the outlet, or if the top of the sludge layer is within 12 inches of the outlet, your tank will need to be pumped. Remember to note the sludge and scum levels determined by the septic professional in your operation and maintenance records, as this will help determine how often pumping is necessary.

The service provider should note any repairs completed and the tank condition in your system's service report. If additional repairs are recommended, be sure to hire someone to make them as soon as possible.

The National Onsite Wastewater Recycling Association (NOWRA) website has a septic locator that makes it easy to service professionals in your area. Visit www.septiclocator.com and enter your ZIP code to get started!

Beware of septic tank additives!

Some makers of septic tank additives claim their products break down septic tank sludge in order to eliminate the need for pumping. But the effectiveness of additives has not been determined; in fact, many studies show that additives have no significant effects on a tank's bacterial populations.

Septic tanks already contain the microbes they need for the effective breakdown of household wastewater pollutants. Periodic pumping is the only true way to ensure that septic systems work properly and provide many years of service.

Protects the Environment

More than four billion gallons of wastewater is dispersed below the ground's surface every day. That's a lot of water! Groundwater contaminated by poorly or untreated household wastewater doesn't just pose dangers to drinking water—it poses dangers to the environment. Malfunctioning septic systems release bacteria, viruses, and chemicals toxic to local waterways. When these pollutants are released into the ground, they eventually enter streams, rivers, lakes, and more, harming local ecosystems by killing native plants, fish, and shellfish.

Maintaining Your Septic System:

The Basics

Septic system maintenance isn't complicated, and it doesn't need to be expensive. Upkeep comes down to four important elements:

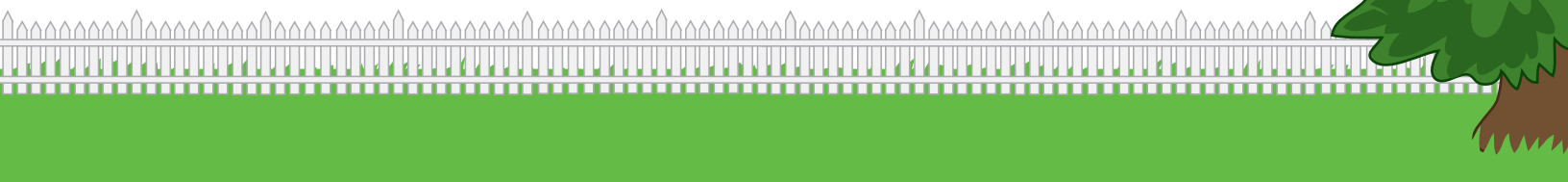
- Inspection and pumping
- Water efficiency
- Proper waste disposal
- Drainfield care

Inspect and pump frequently

The average household septic system should be inspected at least every three years by a septic service professional. Household septic tanks are typically pumped every three to five years. Alternative systems with electrical float switches, pumps, or mechanical components need to be inspected more often, generally once a year. A service contract is important since alternative systems have mechanized parts.

Four major factors influence the frequency of septic pumping:

- Household size
- Total wastewater generated
- Volume of solids in wastewater
- Septic tank size



Use water efficiently

Did you know that average indoor water use in a typical single-family home is nearly 70 gallons per individual, per day? And just a single leaky toilet can waste as much as 200 gallons of water per day?

All of the water a household sends down its pipes winds up in its septic system. This means that the more water a household conserves, the less water enters the septic system. Efficient water use can not only improve the operation of a septic system, but it can reduce the risk of failure as well. Learn more about simple ways to save water and water-efficient products by visiting EPA's WaterSense Program at www.epa.gov/watersense.

- **High-efficiency toilets:** Toilet use accounts for 25 to 30 percent of household water use. Most older homes have toilets with 3.5- to 5-gallon reservoirs, while newer, high-efficiency toilets use 1.6 gallons of water or less per flush. Replacing existing toilets with high-efficiency models is an easy way to quickly reduce the amount of household water entering your septic system.
- **Faucet aerators and high-efficiency showerheads:** Faucet aerators help reduce water use as well as the volume of water entering your septic system. High-efficiency showerheads or shower flow restrictors also reduce water use.
- **Washing machines:** Washing small loads of laundry on your washing machine's large-load cycle wastes water and energy. By selecting the proper load size, you'll reduce water waste. If you're unable to select a load size, run only full loads of laundry.

Another tip? Try to spread water use via washing machine throughout the week. Doing all household laundry in one day might seem like a time-saver, but it can be harmful to your septic system, as it doesn't allow your septic tank time to adequately treat waste and could potentially flood your drainfield.

Consider purchasing an ENERGY STAR® clothes washer, which uses 35 percent less energy and a whopping 50 percent less water than a standard model. Learn more about ENERGY STAR appliances by visiting www.energystar.gov.

Small leaks can lead to big problems!

When it comes to water fixtures, a couple of quick fixes can save you serious problems down the road!

Check to see if your toilet's reservoir is leaking into your toilet bowl by adding five drops of liquid food coloring to the toilet reservoir before bed. If the dye is in the toilet bowl the next morning, the reservoir is leaking and repairs are needed.

Think a leaky faucet is no big deal? Think again. A small drip from a faucet adds gallons of unnecessary water to your septic system every day.

To see how much a leak adds to your water usage, place a cup under the drip for 10 minutes. Multiply the amount of water in the cup by 144 (the number of minutes in 24 hours, divided by 10). Just one cup of leaky faucet water every 10 minutes equals 36 wasted gallons of water a day—and they all end up in your septic system.

New faucets and toilet reservoirs are easily accessible and inexpensive. Choose to make a small investment for a big difference in your septic system.

- **Proper waste disposal:** Whether you flush it down the toilet, grind it in the garbage disposal, or pour it down the sink, shower, or bath, everything that goes down your drains ends up in your septic system. And what goes down the drain can have a major impact on how well your septic system works.

Toilets Aren't Trash Cans!

Your septic system is not a trash can. An easy rule of thumb? Don't flush anything besides human waste and toilet paper.

Never flush:

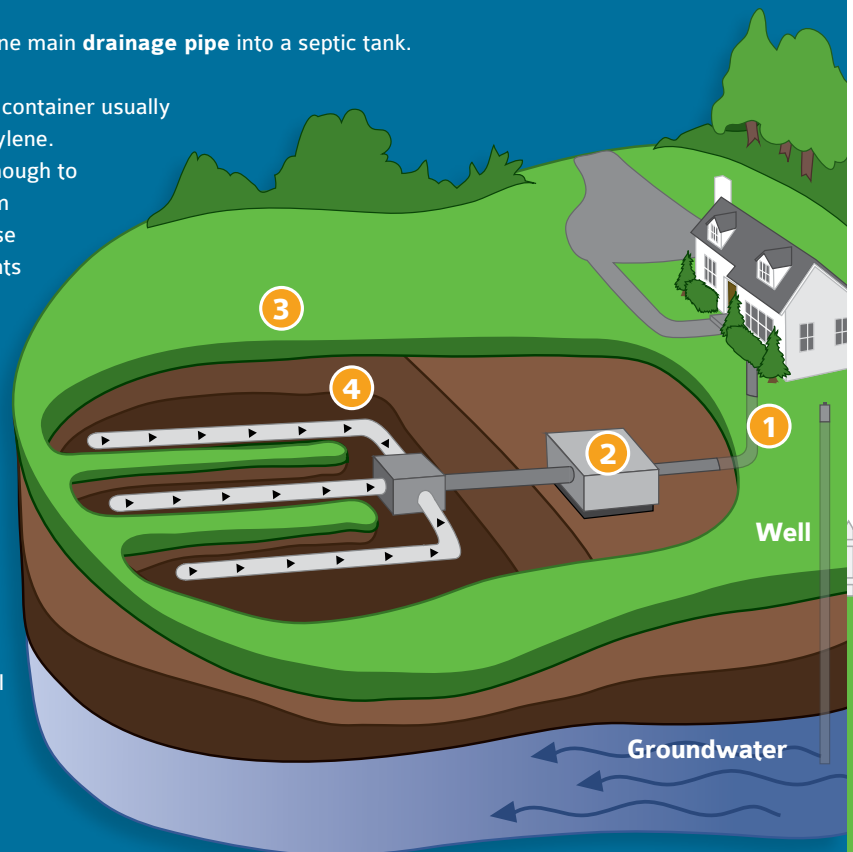
- Feminine hygiene products
- Condoms
- Dental floss
- Diapers
- Cigarette butts
- Coffee grounds
- Cat litter
- Household chemicals like gasoline, oil, pesticides, antifreeze, and paint
- Pharmaceuticals

For a complete list, visit water.epa.gov/septicsmart.

How does a septic system work?

This is a simplified overview of how a septic system works.

- 1 All water runs out of your house from one main **drainage pipe** into a septic tank.
- 2 The **septic tank** is a buried, water-tight container usually made of concrete, fiberglass or polyethylene. Its job is to hold the wastewater long enough to allow solids to settle down to the bottom (forming sludge), while the oil and grease floats to the top (as scum). Compartments and a T-shaped outlet prevent the sludge and scum from leaving the tank and traveling into the drainfield area.
- 3 The liquid wastewater then exits the tank into the **drainfield**. If the drainfield is overloaded with too much liquid, it will flood, causing sewage to flow to the ground surface or create backups in toilets and sinks.
- 4 Finally, the wastewater percolates into the **soil**, naturally removing harmful bacteria, viruses, and nutrients.



Own an RV, boat or mobile home?

If you spend any time in a recreational vehicle (RV) or boat, you probably know of the problem of odors from sewage holding tanks. Learn more about proper and safe wastewater disposal—download EPA's factsheet at www.epa.gov/region9/water/groundwater/uic-pdfs/rv-wastewater.pdf or call The National Small Flows Clearinghouse's Septic System Care hotline toll-free at 1-800-624-8301.

Take care at the drain

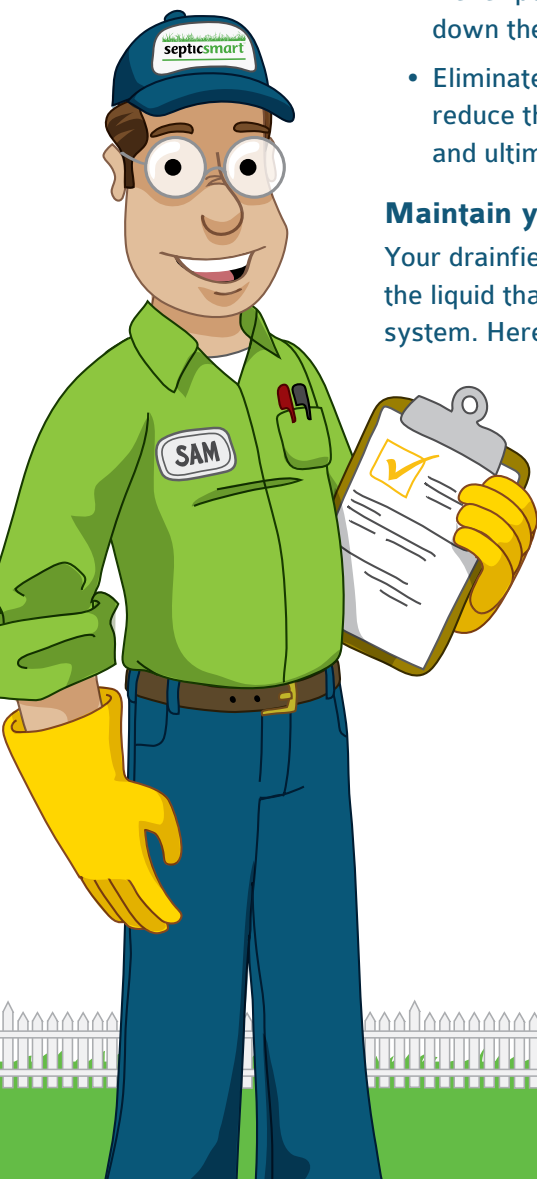
Your septic system contains a collection of living organisms that digest and treat household waste. Pouring toxins down your drain can kill these organisms and harm your septic system. Whether you're at the kitchen sink, bathtub, or utility sink:

- Avoid chemical drain openers for a clogged drain. Instead, use boiling water or a drain snake.
- Never pour cooking oil or grease down the drain!
- Never pour oil-based paints, solvents, or large volumes of toxic cleaners down the drain. Even latex paint waste should be minimized.
- Eliminate or limit the use of a garbage disposal, which will significantly reduce the amount of fats, grease, and solids that enter your septic tank and ultimately clog its drainfield.

Maintain your drainfield

Your drainfield—a component of your septic system that removes contaminants from the liquid that emerges from your septic tank—is an important part of your septic system. Here are a few things you should do to maintain it:

- Never park or drive on your drainfield.
- Plant trees the appropriate distance from your drainfield to keep roots from growing into your septic system. A septic service professional can advise you of the proper distance, depending on your septic tank and landscape.
- Keep roof drains, sump pumps, and other rainwater drainage systems away from your drainfield area, as excess water slows down or stops the wastewater treatment process.



Failure Causes

Pouring household and home improvement chemicals down your drains, flushing garbage down toilets, excessive water use, and failure to provide proper maintenance aren't the only culprits for septic system failure. Take note of these additional causes of septic failure:

Hot tubs

Hot tubs may be a great way to relax, but when it comes to emptying them, your septic system should be avoided. Emptying a hot tub into your septic system stirs the solids in the tank, pushing them into the drainfield, causing it to clog and fail.

Drain cooled hot tub water onto turf or landscaped areas far away from your septic tank and drainfield, and in accordance with local regulations. Use the same caution when draining swimming pools.

Water purification and softening systems

Some freshwater purification systems, including water softeners, unnecessarily pump water into septic systems. Such systems can send hundreds of gallons of water to septic tanks, causing agitation of solids and excess flow to drainfields. When researching water purification and softening systems, check with a licensed plumbing professional about alternative routing for such treatment systems.

Garbage disposals

Consider eliminating or limit the use of garbage disposals. While convenient, frequent use of garbage disposals significantly increases the accumulation of sludge and scum in septic tanks, resulting in the need for more frequent pumping.

Improper design or installation

The proper design and installation of a septic system is essential for it to correctly function. A home's groundwater table, soil composition, and a properly leveled drainfield are just a few factors to ensure a well-functioning septic system. Be sure to do your research when hiring septic professionals.



Failure symptoms: Mind the signs!

A foul odor isn't always the first sign of a malfunctioning septic system. Call a septic professional if you notice any of the following:

- Wastewater backing up into household drains.
- Bright green, spongy grass on the drainfield, even during dry weather.
- Pooling water or muddy soil around your septic system or in your basement.
- A strong odor around the septic tank and drainfield.

Mind the signs of a failing system. One call to a septic professional could save you thousands of dollars!



U.S. Environmental Protection Agency

For more information on how you can
be SepticSmart, please visit:

www.epa.gov/septicmart

EPA-832-B-12-005
September 2012