



# Do Your Part – Be SepticSmart!



**Geauga Soil and Water  
Conservation District**



# THE BASICS

## 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, dishwasher and laundry.

It is the end point of your home's plumbing system like your furnace is for your heat and AC!



# Do You Have a Septic System?

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

- You use well water (not a 100% guarantee for having septic).
- You do not receive a sewer bill.
- The water line 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.

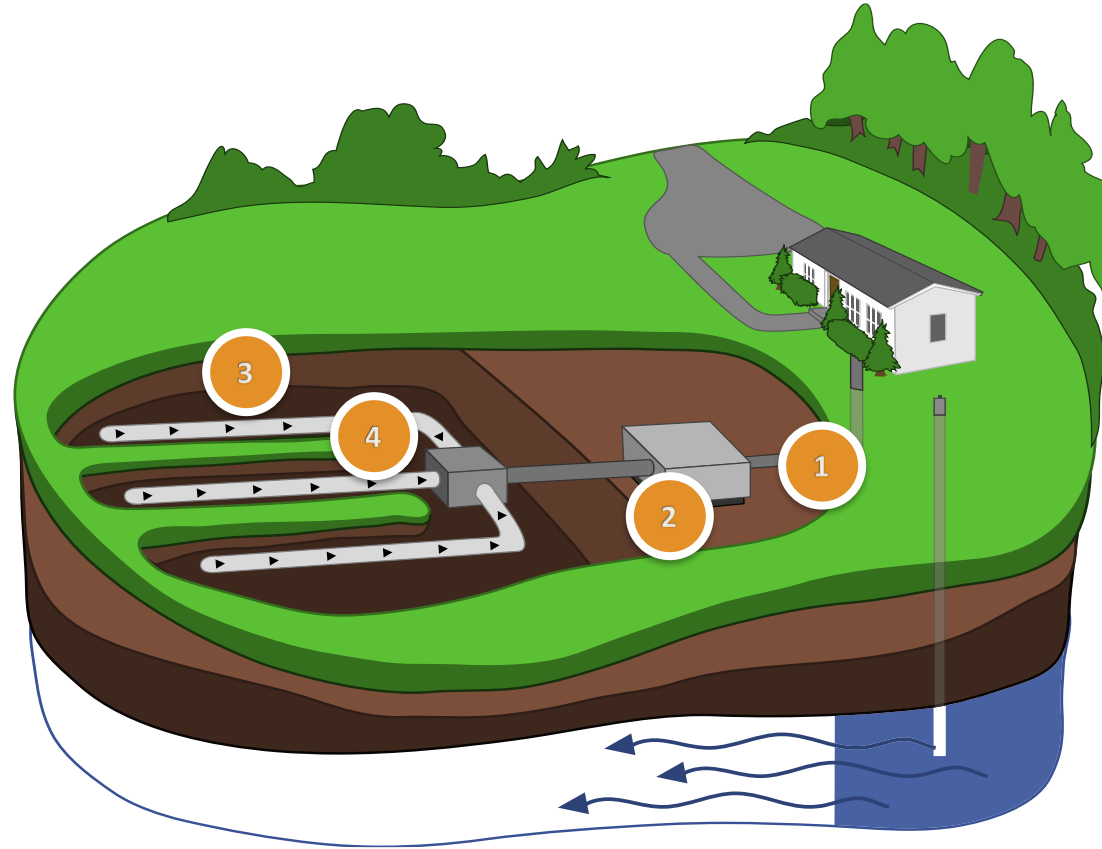
If you have a septic it is YOUR responsibility to maintain it!



# How does a septic system work?

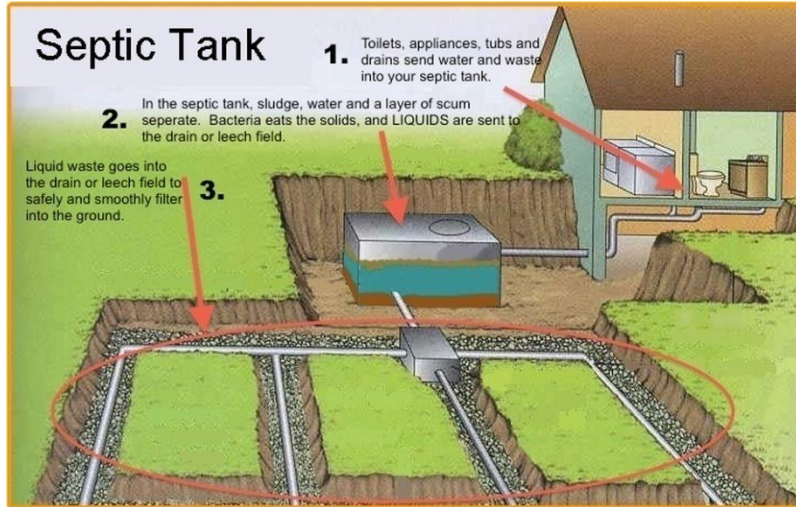
*This is a simplified overview of how a septic system works.*

- 1 All wastewater runs out of your house through **drainage pipe(s)** 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.

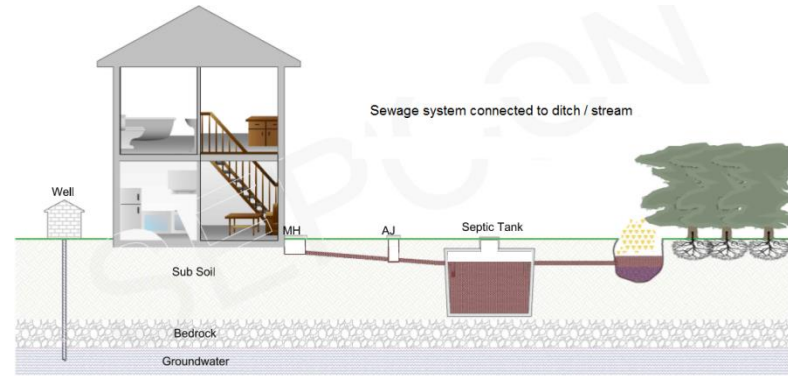


*Groundwater = source of your well water*

# Basic Type of Systems



## ON SITE SOIL ABSORPTION SYSTEM



## TREATMENT & DISCHARGE OFF SITE SYSTEM



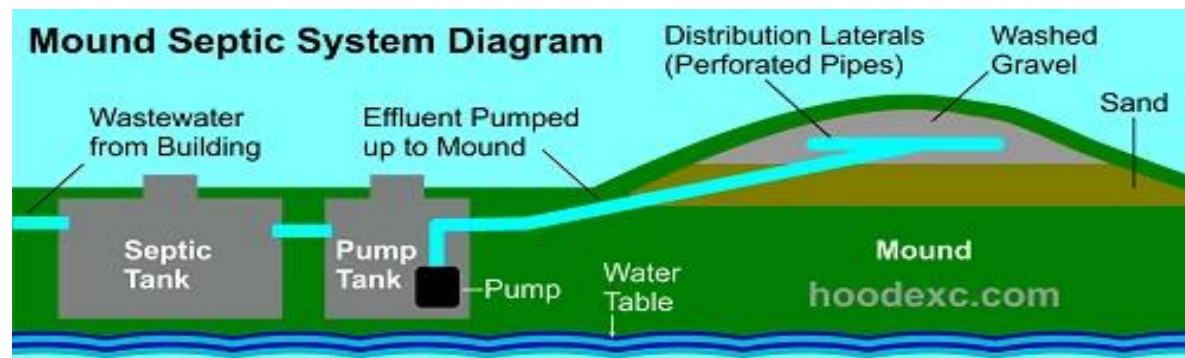
# Trench

- Type of on-lot sewage treatment system
- Most common type of septic system that has been installed in Geauga County
- Can be installed in any type of soil, but under new Ohio Administrative Code Regulations, must maintain a VSD of 6" away from the perched seasonal water table\*
- \*there are exceptions to every rule.



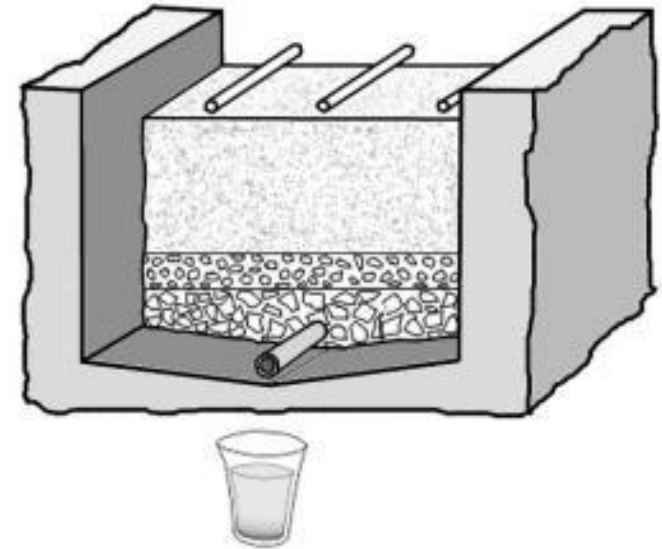
# Pressurized Sand Mounds

- A type of on-lot septic system
- Usually installed in severe soils that have a dense clay content
- Mounds raises where septic effluent is introduced into sand, to filter the septic effluent before it passes into the existing grade



# Sand or Gravel Filter Bed

- A type of off lot septic system
- Septic effluent will filter through a subsurface filter bed that either contains various layers of gravel or sand
- Once the effluent is filtered through the media, the effluent will discharge into a free flowing stream, road ditch, storm water culvert, etc.
- This type of system is no longer approved to be installed for discharging system.





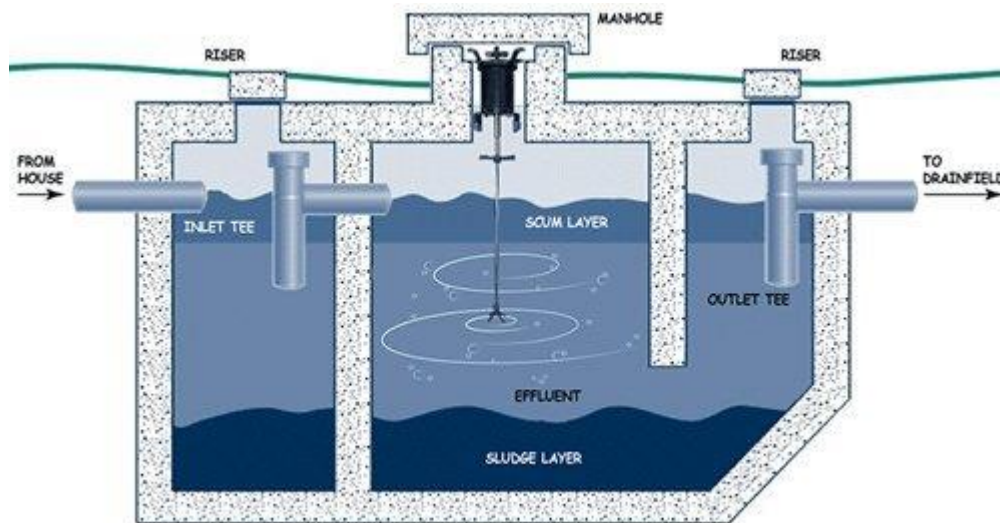
## NSF Class 1 Aeration Unit w/ Surface Filters

- Typically aeration unit followed by dual alternating surface sandfilters.
- Disinfection process of either chlorination tablets, contact tank, neutralizing tablets or UV Light.



# NPDES

- A type of off-lot septic system
- Currently is the only type of off-lot septic system that can be permitted
- Older style off lot septic systems were not filtering the effluent effectively, which has been polluting water ways with harmful bacteria, solids, and depleting the oxygen from the waterways
- The Clean Water Act- each individual system is not supposed to hurt water quality or people's health



Unit Installation Diagram



# WHY MAINTAIN?

- **Saves you \$**
  - A few hundred dollars every 3-5 years for maintenance or ranging ~\$8k - ~25k to replace.
- **Protects your property value**
  - Homes with failing septic systems could be more difficult to sell.
- **Protects your and your neighbors' well water**
  - A failing septic can contaminate well water; test your well water quality (*untreated to your tap*)
- **Protects your and your neighbors' health**
  - A failing septic can bring wastewater above the surface, creating a health hazard for you, your neighbors and animals.



# PROPER CARE

## Inspection & Pumping

Inspection - Alternative systems with electrical float switches, pumps, or mechanical components need to be inspected more often, generally once a year.

Pumping and Servicing your System - Five major factors influence the frequency of septic pumping:

- 1.** *Household size*
- 2.** *Total wastewater generated*
- 3.** *Volume of solids in wastewater*
- 4.** *Septic tank size*
- 5.** *What is being flushed or put down the drain*

Household septic tanks are typically pumped every three to five years.

Call a qualified professional and/or follow your state/local health department's recommendations.



# Do's and Don'ts...

## Think at the Sink!



What goes down your drain has a big impact on your septic system. Avoid harsh chemicals and use cleaners/detergents in moderation. Learn more at [www.epa.gov/septic](http://www.epa.gov/septic).



# Don't Strain Your Drain!



Use water efficiently and stagger use of water-based appliances (such as a washing machine) to avoid a back up of your septic system into your house. Learn more at [www.epa.gov/septic](http://www.epa.gov/septic).



# Don't Overload the Commode!

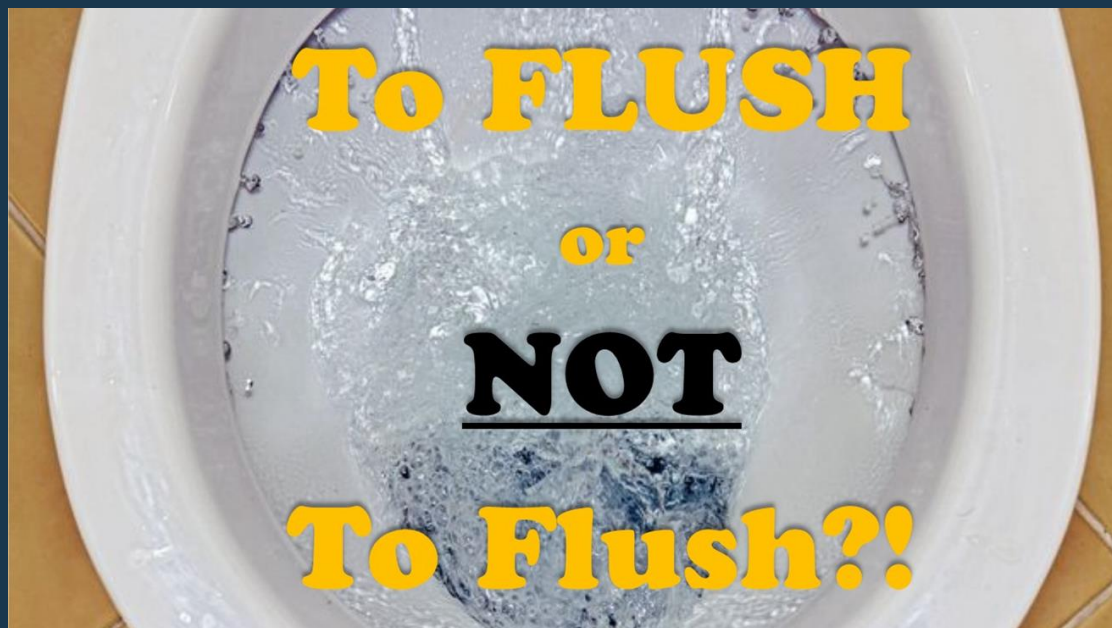


A toilet is not a trashcan. Disposable diapers and wipes, feminine hygiene products, cigarette butts, cat litter and much more can damage your septic system. Learn more at [www.epa.gov/septic](http://www.epa.gov/septic).





# Be SepticSmart!





# Shield Your Field!



Tree and shrub roots, cars, and livestock can damage your drainfield. Learn more at [www.epa.gov/septic](http://www.epa.gov/septic).



# Protect It and Inspect It!



Regular septic system maintenance can save homeowners thousands of dollars and protect public health. Learn more at [www.epa.gov/septic](http://www.epa.gov/septic).



# Pump Your Tank!



Ensure your septic tank is pumped at regular intervals as recommended by a professional and/or local permitting authority. Learn more at [www.epa.gov/septic](http://www.epa.gov/septic).



# Keep it Clean!



If you have a well, many things can contaminate your drinking water, such as a failing septic system. Test your well water regularly! Learn more at [www.epa.gov/septic](http://www.epa.gov/septic).



# WHAT TO PLANT OVERTOP OF YOUR SEPTIC SYSTEM



**Proper Landscaping On and Around Your Septic System**

The drainfield is a vital part of your septic system. Having the right landscaping on and around your system is important, as tree and shrubbery roots can grow into the drain lines. Also, other heavy items like cars and livestock can break drain lines. Strong roots and heavy items can cause the drainfield to fail. And if the drainfield fails, your system fails.

**Here are some tips to keep your drainfield out of harm's way.**

Locate your septic tank and drainfield. Then make sure the area is clear of:

- Underground sprinkler lines
- Decks and patios
- Sports courts
- Storage sheds
- Swing sets
- Sand boxes
- Driveways
- Vehicles
- Swimming pools

Plant native, drought-tolerant plants. These are some of the best for your septic system and its drainfield:

**Grass:**

- Fescue
- Lawn
- Ornamental grasses
- Wildflower meadow mixes

**Groundcovers for sun:**

- Bugleweed (Ajuga)
- Carpet heathers (Calluna Vulgaris)
- Cotoneaster (Cotoneaster)
- Ground ivy (Glechoma)
- Kinnikinnick (Arctostaphylos)
- Periwinkle (Vinca)

**Groundcovers for shade:**

- Bunchberry (Cornus)
- Chameleon (Houttuynia)
- Ferns
- Mosses
- Sweet woodruff (Galium Odoratum)
- Wild ginger (Asarum)
- Wintergreen (Gaultheria)

**Follow Septic Sam's landscaping do's and don'ts:**

**Don't:**

- Plant a vegetable garden on or near the drainfield.
- Put plastic sheets, bark, gravel or other fill over the drainfield.
- Reshape or fill the ground surface over the drainfield and reserve area. However, just adding topsoil is generally OK if it isn't more than a couple of inches.
- Make ponds on or near the septic system and the reserve area.

**Do:**

- Plant grass or keep existing native vegetation. These are the best covers for your drainfield.
- Direct all surface drainage away from the septic system.
- Use shallow-rooted plants (see plant list above). Tree and shrub roots can grow into the drainlines, clogging and breaking them.
- Avoid water-loving plants and trees.
- Make sure the tank lid is secure.

For more SepticSmart tips, visit [www.epa.gov/septicmart](http://www.epa.gov/septicmart)



# Failure Symptoms – Mind the Signs!

A foul odor isn't always the first sign of a malfunctioning septic system.

Call a qualified 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.

One call to a qualified professional could save you thousands of dollars!

Contact your local or state health department for more information.



# SepticSmart Resources

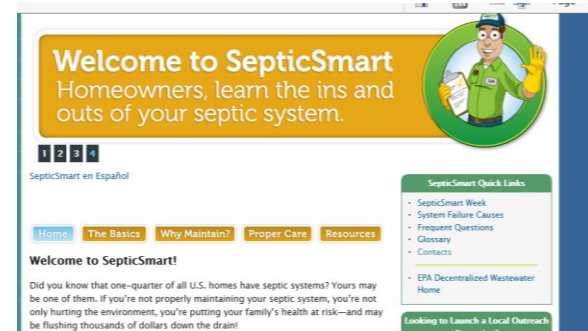
## Environmental Protection Agency

[epa.gov/septic/septicsmart-week#ssw2023](http://epa.gov/septic/septicsmart-week#ssw2023)

## Toolkit Materials

[epa.gov/septic/septic-systems-outreach-toolkit](http://epa.gov/septic/septic-systems-outreach-toolkit)

- *Homeowners' Guide*
- *Do's and Don'ts (for conventional and advanced systems)*
- *Proper Landscaping*
- *Top 10 List*
- *Suggested Activities for Homeowners*



## Geauga Public Health

<http://gphohio.org/Environmental-Health/Sewage>

## Ohio Department of Health

<https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/sewage-treatment-systems/INFORMATION-FOR-HOMEOWNERS/>



# Annual SepticSmart Week

*Third week of September each year*

SepticSmart Week is nationally recognized & showcases the importance of proper care and maintenance of our home sewage treatment systems.

**MARK YOUR CALENDARS**  
and make this your annual time  
of year to **GET PUMPED!!**







# Questions?

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[www.epa.gov/septicSMART](http://www.epa.gov/septicSMART)



**Geauga Soil and Water  
Conservation District**



*Promoting and Protecting Community Health*



# Thank you for being SepticSmart!

