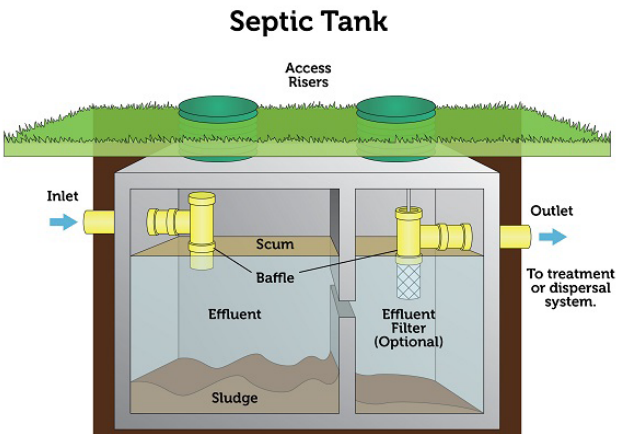
# BE SEPTIC SAFE

## A USER'S GUIDE TO TAKING CARE OF BUSINESS

COOPERATIVE EXTENSION
College of Agriculture, Forestry and Life Sciences

## CARING FOR YOUR SEPTIC SYSTEM

Septic systems, also known as septic tanks or on-site wastewater treatment systems, are commonly used to treat household wastewater, particularly in rural areas. Water that goes down a sink drain, laundry drain, or flushes down the toilet are examples of household wastewater that flows to the septic tank. Here, separation occurs and then flows out through a drainfield, where it is filtered through the soil. When functioning properly, they can often be an afterthought and go unnoticed. However, when septic systems are not well maintained, they can fail and pollute nearby surface water or groundwater. Learn the three W's of septic system care to keep your system healthy and be prepared for any septic issues!



# CARING FOR YOUR SEPTIC SYSTEM

## *What* IS THE ISSUE?

Septic systems operate like a smaller version of a wastewater treatment plant; both receive wastewater, treat it, and discharge clean water back into the environment. Issues arise when septic systems, through aging or lack of maintenance, no longer function properly and fecal bacteria leeche out into the environment. When fecal coliform bacteria (such as E. coli) are present at high levels, waterbodies like lakes, creeks, and drinking water sources can become contaminated. Waterbodies affected by bacteria pollution may be unsafe for swimming, fishing, harvesting shellfish, or supplying drinking water.

## *Where* DOES IT MATTER?

Septic issues can occur anywhere there are septic systems. To function at their best, septic systems depend on well-drained soils and adequate separation between the bottom of the drainfield and the groundwater table. Septic systems in coastal regions face additional risks due to rising sea levels, groundwater tables, and hurricanes. Failing septic systems can pose a threat to human health when someone comes in contact with contaminated water or eats shellfish (e.g., oysters, clams, and mussels) harvested from contaminated waterbodies.

Scan here to view **South Carolina Department of Environmental Services Conditional Shellfish Harvest Closures** and check out the status of local shellfish harvesting areas.

## *Why* IS IT IMPORTANT?

Proper maintenance of these systems is key! It is important to be proactive with your septic upkeep to prevent future problems. Regular system checkups and pump outs will:

- Prevent wastewater from backing up into your home
- Keep pollution out of the environment
- Reduce the chance of system failures, saving you money in the long run
- Protect your property's value
- Protect the health of your family, neighbors, and community

Did you know?! Bacteria is currently the most common type of water pollution in SC, with over 300 impaired waterbodies found through the state.

# HOW A CONVENTIONAL SEPTIC SYSTEM WORKS

## STEP 1

Wastewater travels from your home to one main pipe line that leads to your septic tank.

## STEP 2

A septic tank's primary function is to hold wastewater long enough to allow the separation of solids (also known as sludge) to the bottom of the tank, liquid wastewater (also known as effluent) in the middle, and a scum layer floating at the top. In addition, microbes in the septic tank break down the solid waste.

**PRO TIP:** Septic tanks are designed with holding compartments and a T-shaped outlet to only allow effluent to flow out and down to the drainfield. Backups into the home can occur as a result of improper installation and/or use, lack of maintenance, and broken parts.

## STEP 3

Next, the effluent flows to the drainfield. The drainfield is an area of land where engineered soil is used to capture the partially treated wastewater discharged from the septic tank and filters it through the soil.

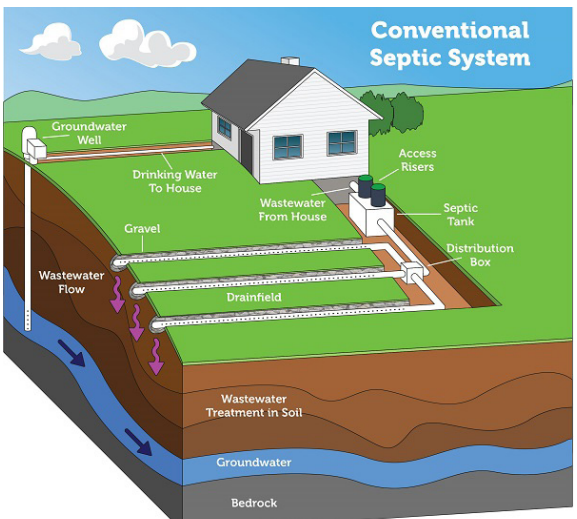
**PRO TIP:** When the drainfield's soil becomes saturated with liquid from heavy rains, excessive water use in the home, and/or rising groundwater levels, it can no longer receive, treat, and disperse wastewater as designed. This can lead to backed up toilets and sinks in the home.

## STEP 4

Lastly, as the effluent flows through the engineered soil, the water is filtered and treated by natural processes that remove any remaining nutrients, bacteria, or viruses.

**PRO TIP:** Fecal coliform bacteria can be found in the intestines of humans and other warm-blooded animals. Ingesting contaminated water can cause illness and gastrointestinal distress.

## CONVENTIONAL SEPTIC STYSTEM




Please note: Septic systems vary. Diagram is not to scale.

Scan here to view **Environmental Protection Agency's "About Septic Systems"** for information on other types of septic systems.

Scan here to view **Guadalupe-Blanco River Authority** to see an animated, interactive model of how a household septic system works.

# LOCATING THE SEPTIC TANK AND DRAINFIELD

## *Who* SHOULD YOU CONTACT?

For assistance locating a septic tank and drainfield, contact:

- Local SCDES or county records office for property records
- The previous property owner
- Neighbors, as their septic systems could be placed in a comparable area
- Local septic contractors who may have previously serviced the unit
- A licensed installer who can locate the tank using a probe rod

## *When* SHOULD YOU LOCATE YOUR SEPTIC TANK?

Make sure you know the location of your septic tank:

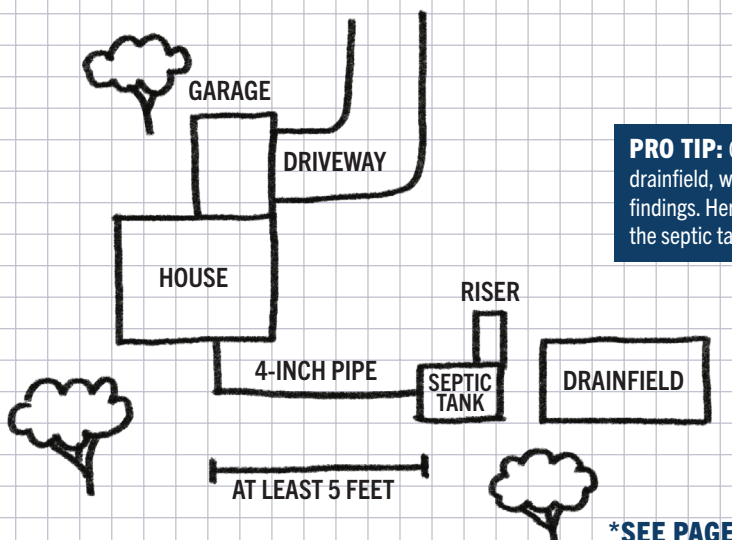
- Upon taking possession of the home
- Before you have signs of failure

## *What* SHOULD YOU LOOK FOR?

When locating a septic tank & drainfield:

- Review documents from when the home was built or purchased
- Look for a sewer pipe (usually a 4-inch pipe) in the basement or crawl space and trace it to where it leaves the structure and enters the yard
- Identify an area at least 5 feet from the home and a few inches to a few feet below ground, parallel to the sewer pipe exiting the home
- Look for an area a little higher or lower than its surroundings with a lid

## DIAGRAM: SEPTIC TANK, DRAINFIELD, AND CONNECTIONS




**PRO TIP:** Once you have located the septic tank and drainfield, we recommend that you document your findings. Here is a sample sketch showing a house with the septic tank, drainfield, and connections marked.

*SEE PAGE 13 TO CREATE YOUR OWN DIAGRAM

# BE SEPTIC SAFE EVERYDAY

## *Who* CAN HELP?

Every resident and guest in the home can contribute to the septic system's health. The simplest way everyone can help is by reducing water use. Reducing water use lowers the risk of septic failure by limiting strain on the system and reducing the chance of clogs. Easy ways to reduce water use include:

- Install high-efficiency appliances and low-flow fixtures
- Run one appliance at a time and only when they have a full load
- Turn off the tap while brushing teeth, shaving, or washing hands

**PRO TIP:** Conserving water is especially important during and after rainstorms. Rainwater can saturate the septic system drainfield, making it more prone to failure if overloaded.

## *When* SHOULD YOU PROTECT YOUR SYSTEM?

You should be taking steps to protect your system from stress every day! This is especially true of the drainfield. If your drainfield becomes saturated, clogged, or compacted, sewage can back up in your home, pond in your yard, or flow into a nearby waterway. To help prevent this mess:

- Never park vehicles, store equipment, or build structures on the drainfield
- Never plant trees, shrubs, or vegetables in the drainfield

**PRO TIP:** We recommend planting turf grass to cover your drainfield; however, fertilizers can reduce the drainfield's efficiency, so keep the area fertilizer-free!

# KILLERS AND CLOGGERS

## *What* SHOULD YOU AVOID?

Killers and cloggers cause many septic system problems, ranging from more frequent pump-outs to total system failure. A killer is a product or practice that can harm the biological community in the septic tank that is needed for wastewater treatment. A clogger is excess solid matter that blocks the septic's drainfield. Be septic safe and avoid putting these items down the drain and into your system.

### KILLERS

- Fingernail polish remover
- Gasoline
- Liquid/Chemical drain openers
- Medicine
- Non-septic-safe household cleaners
- Oils
- Other household chemicals
- Paint
- Paint thinners
- Raw meat
- Sugar
- Yeast

**PRO TIP:** Garbage disposals can add 50% of solid matter to septic systems. Kitchen scraps do not break down easily and quickly form clogs. Be septic safe by reducing your garbage disposal use, or better yet, not using it at all!

### CLOGGERS

- Bones
- Candle wax
- Cat litter
- Cigarette butts
- Coffee grounds
- Condoms
- Cooking fats, oils, and grease
- Cotton balls
- Dental floss
- Diapers
- Food
- Hair (human or pet)
- Paper towels
- Tampons/pads
- Q-Tips
- Wipes (flushable or otherwise)

# SEPTIC SYSTEM CHECK UPS AND PUMP-OUTS

## *When* SHOULD YOU CONTACT A PROFESSIONAL?

- At least every two years for a system checkup
- Every three to five years for tank pump-out
- Anytime you experience septic system failure symptoms

### FAILURE SYMPTOMS:

- 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 drainfield
- A strong odor around the septic drainfield area

**PRO TIP:** Keeping a maintenance log can help organize information regarding past services and remind you of when your next check up should be! **A sample maintenance log is provided on page 12.**

## *Why* GET A PUMP-OUT?

- Ensure your system is functioning properly
- Protect water quality and the environment
- Save money
- Protect your property value
- Keep your community healthy

## *What* INFLUENCES THE TIMING OF A PUMP-OUT?

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

# ADDITIONAL INFORMATION AND RESOURCES

**SCAN HERE**

Scan the QR code to access the latest information and resources including:

- Clemson's Be Septic Safe Website
- SCDES Septic Tank Overview
- SCDES Find a Septic Contractor
- SCDES Septic System Permits and Licenses
- EPA Funding for Septic Systems
- Clemson Extension Water Resources Agents

For information on regulations, permits, licenses and financial resources:

- Contact your local Public Works, Code Enforcement or Planning Departments
- **SCDES Nonpoint Resource Coordinator** (803)-898-4401

*To learn more about water quality issues or to order another guide, contact your local Clemson Extension Water Resources Agent*

## SEPTIC MAINTENANCE LOG

| DATE | SERVICE PERFORMED | CONTRACTOR CONTACT INFO | COST | COMMENTS |
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## DRAW YOUR OWN DIAGRAM: SEPTIC TANK, DRAINFIELD, AND CONNECTIONS