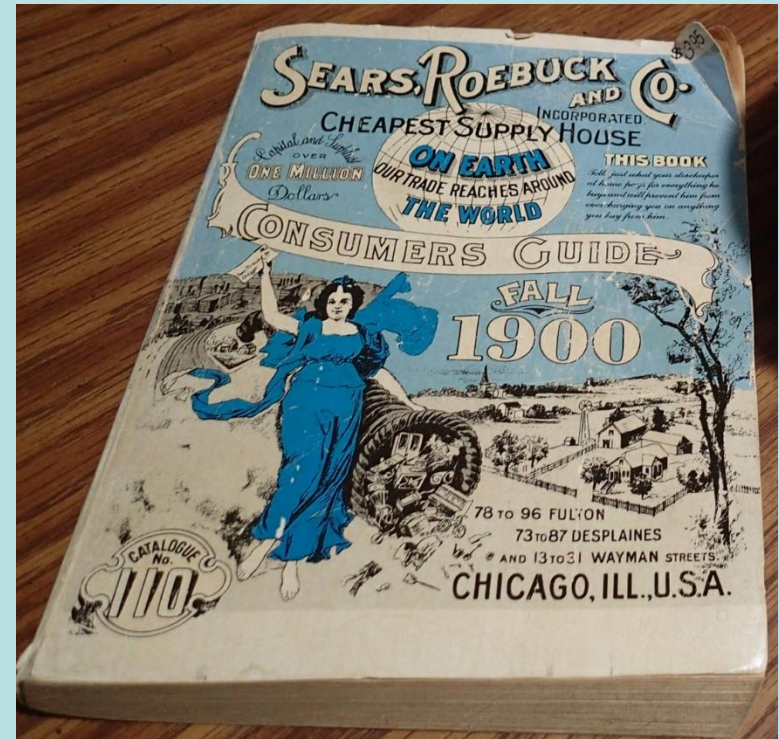


From Rick & Ron Shaw's "Little Brown Building"

*"And I'd sit me down to rest
Like a snowbird on his nest.
And read the Sears and
Roebuck Catalogue."*



Understanding Septic Systems Webinar



May 5, 2020

Now that we are all at home more we could be creating an extra load on our septic systems because of :

- more usage: toilets, showers and laundry

- more usage: toilets, showers and laundry
- More cooking, including fats oils and greases going down the drain

- more usage: toilets, showers and laundry
- More cooking, including fats oils and greases going down the drain
- Increased usage of disinfectants that can kill off the GOOD bugs in the septic tank



- In many cases septic systems are one of the more costly components of a rural home, costing thousands of \$ to install and maybe even more to replace

- Septic systems can fail in only a few years of use or can last for generations depending on several factors

Factors affecting septic system life:

- Design
- Construction
- Usage
- Maintenance

- They are typically out of sight and out of mind until something goes wrong...

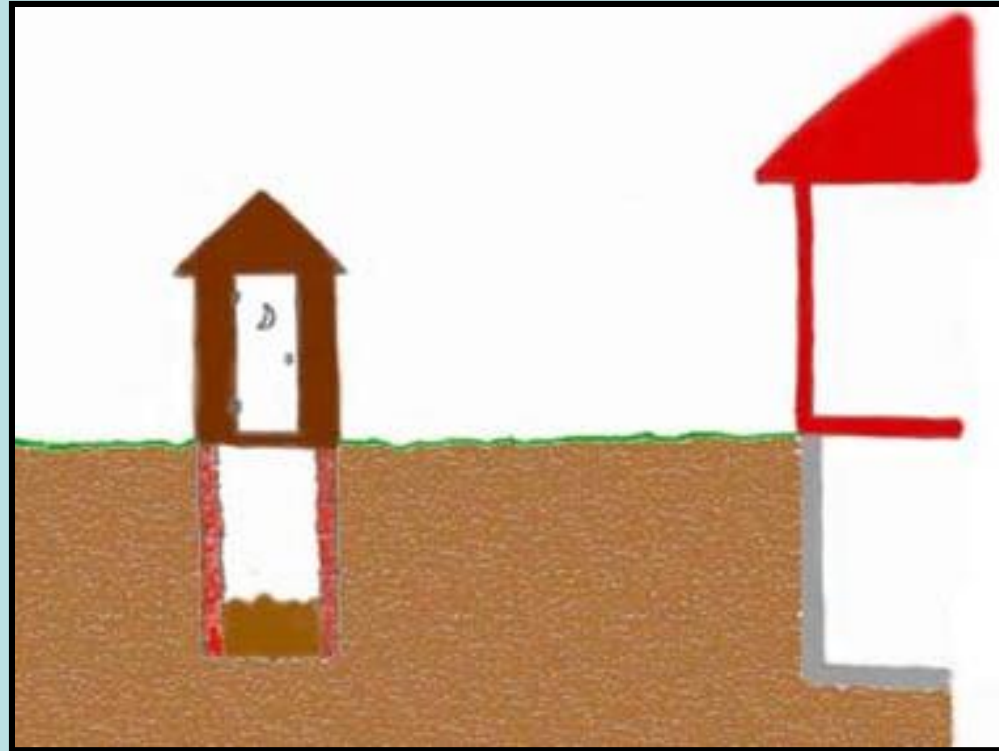
The frantic call:

I think I have a crushed pipe in
my leach field because water is
backing up into the basement

But first,
how we got there

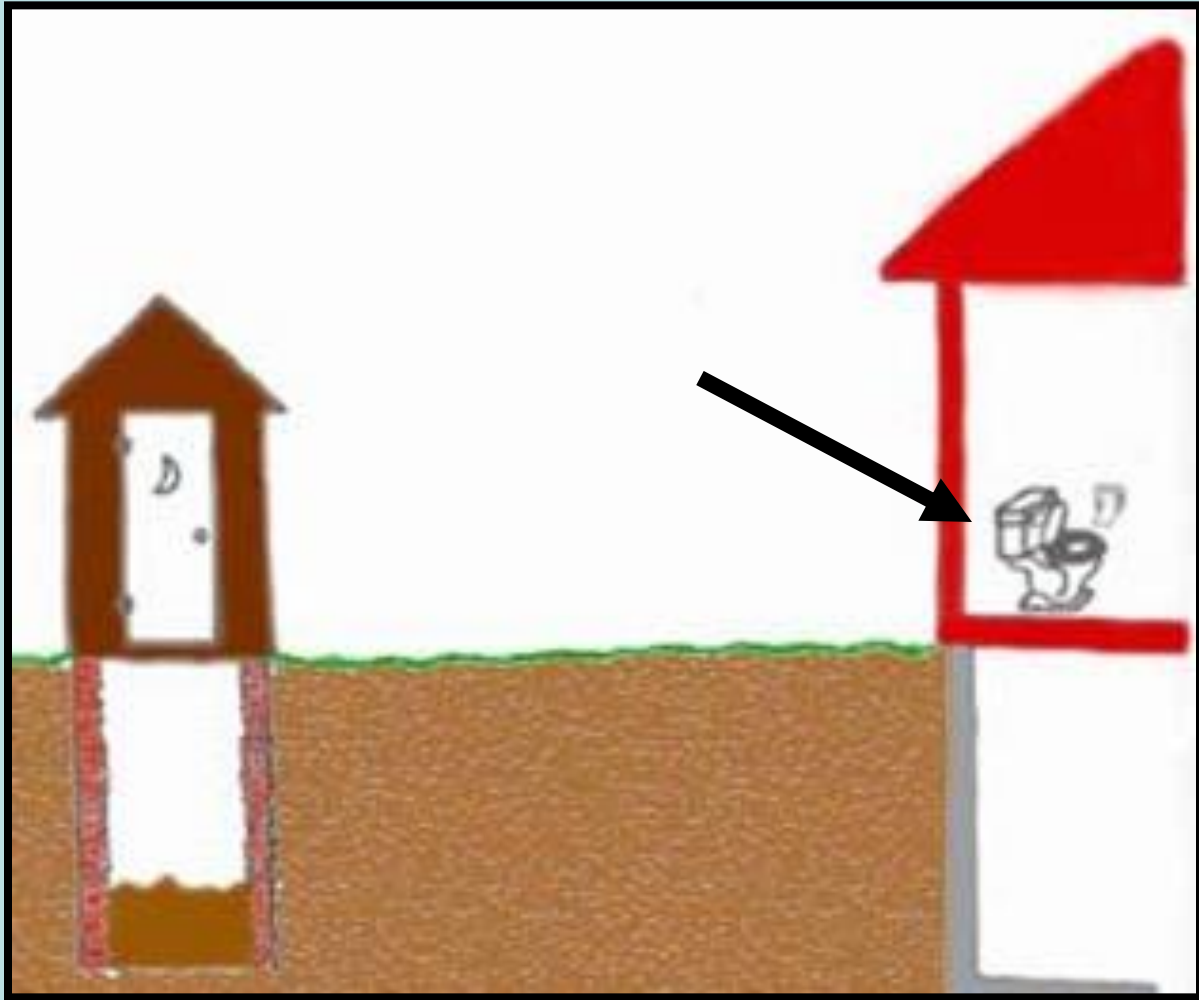
Evolution of the septic system

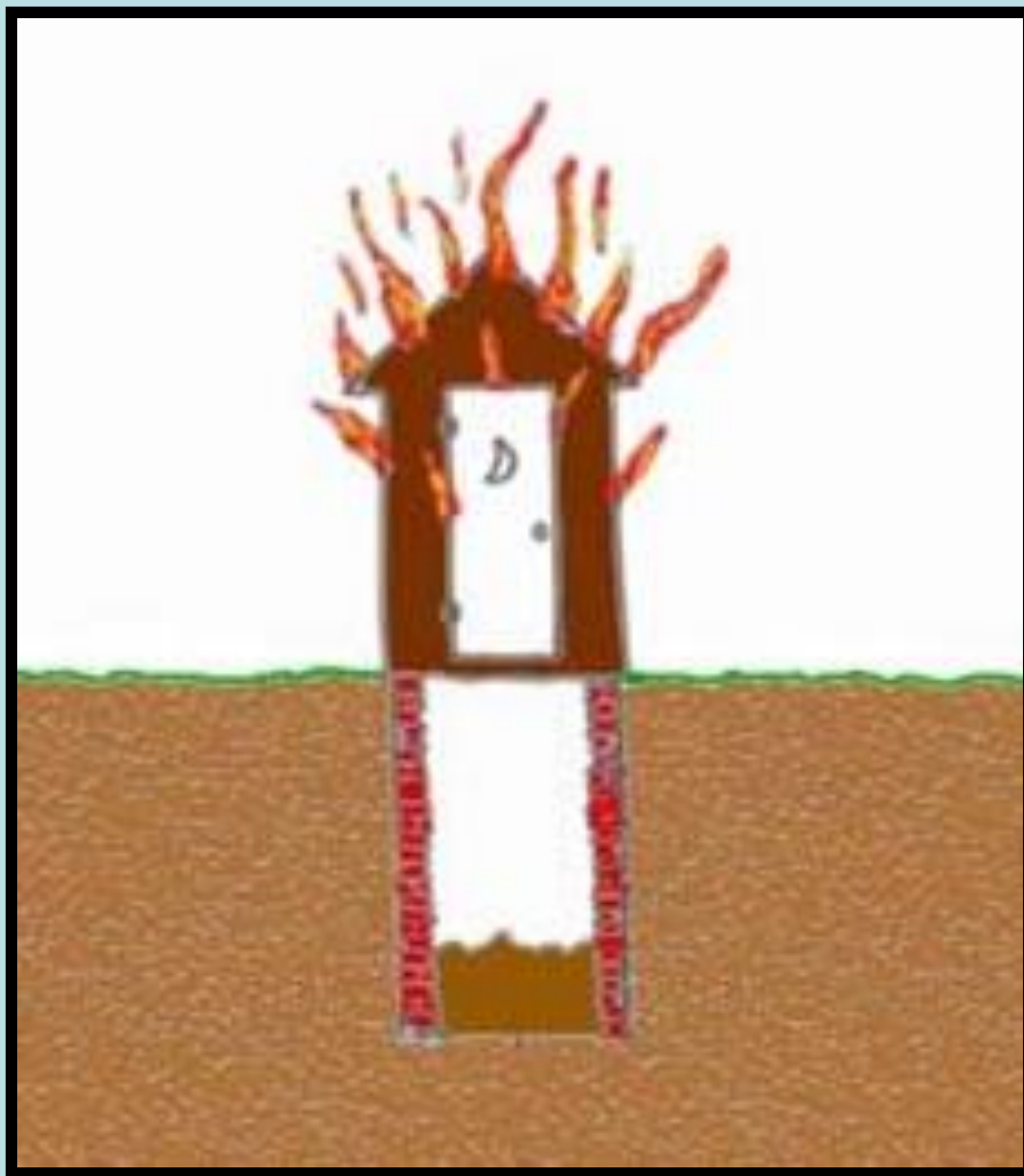
Note that your system (any sewage disposal system) fits somewhere into this evolutionary chart

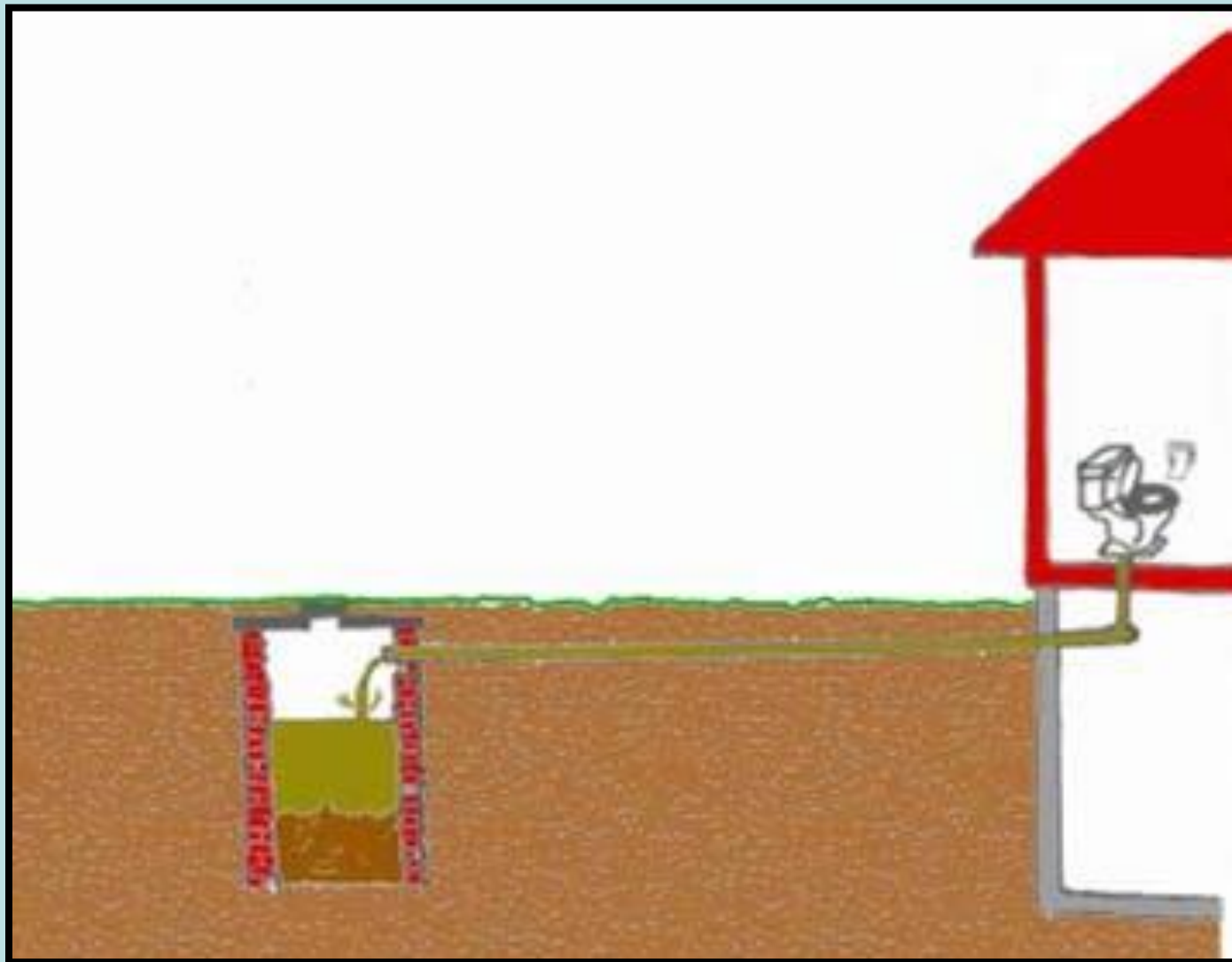


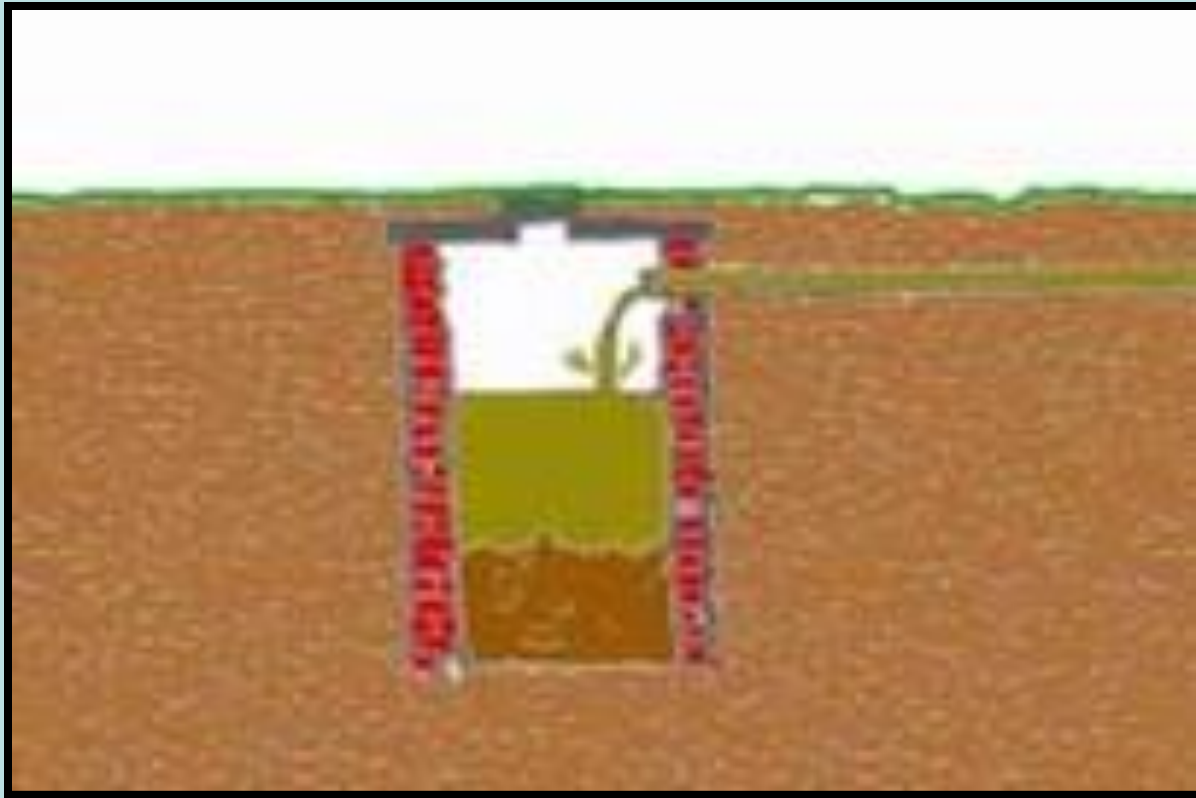
Outhouse

Then, Sir Thomas Crapper
perfected the appliance that
now often bears his name...



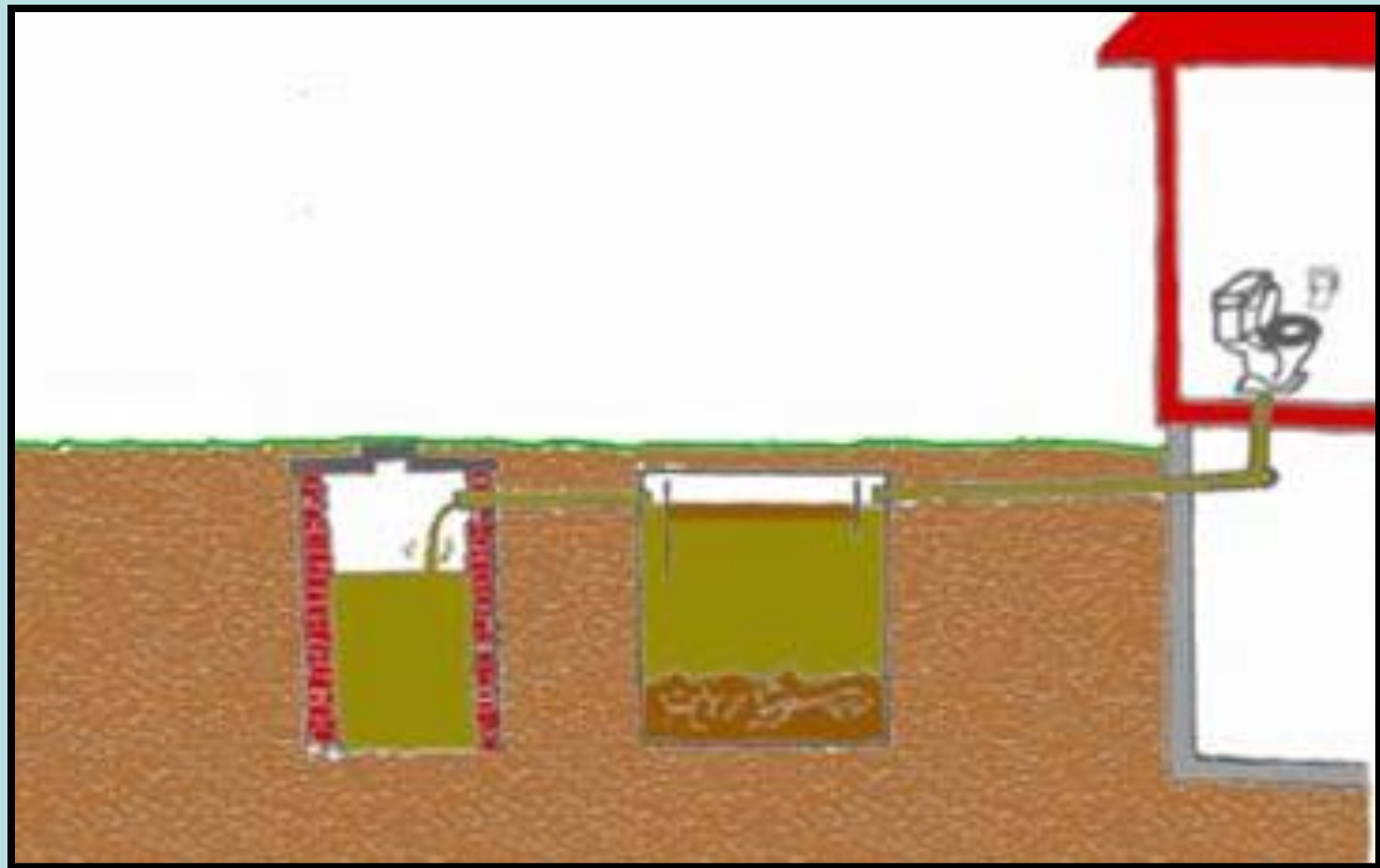


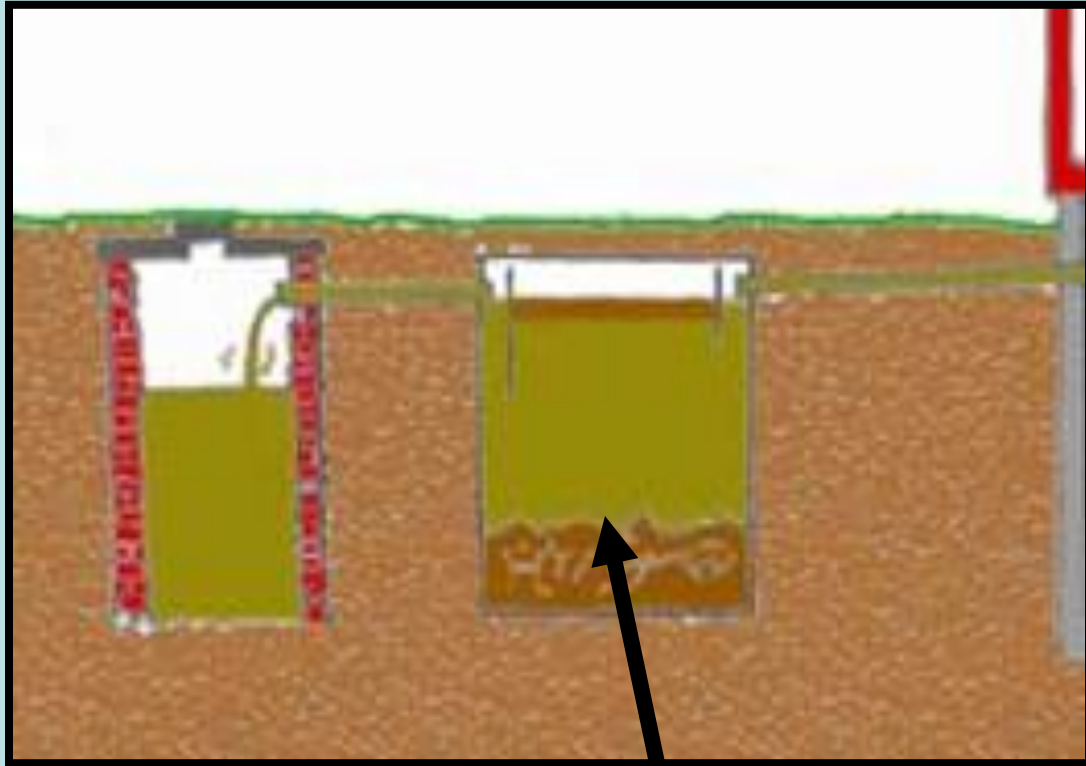




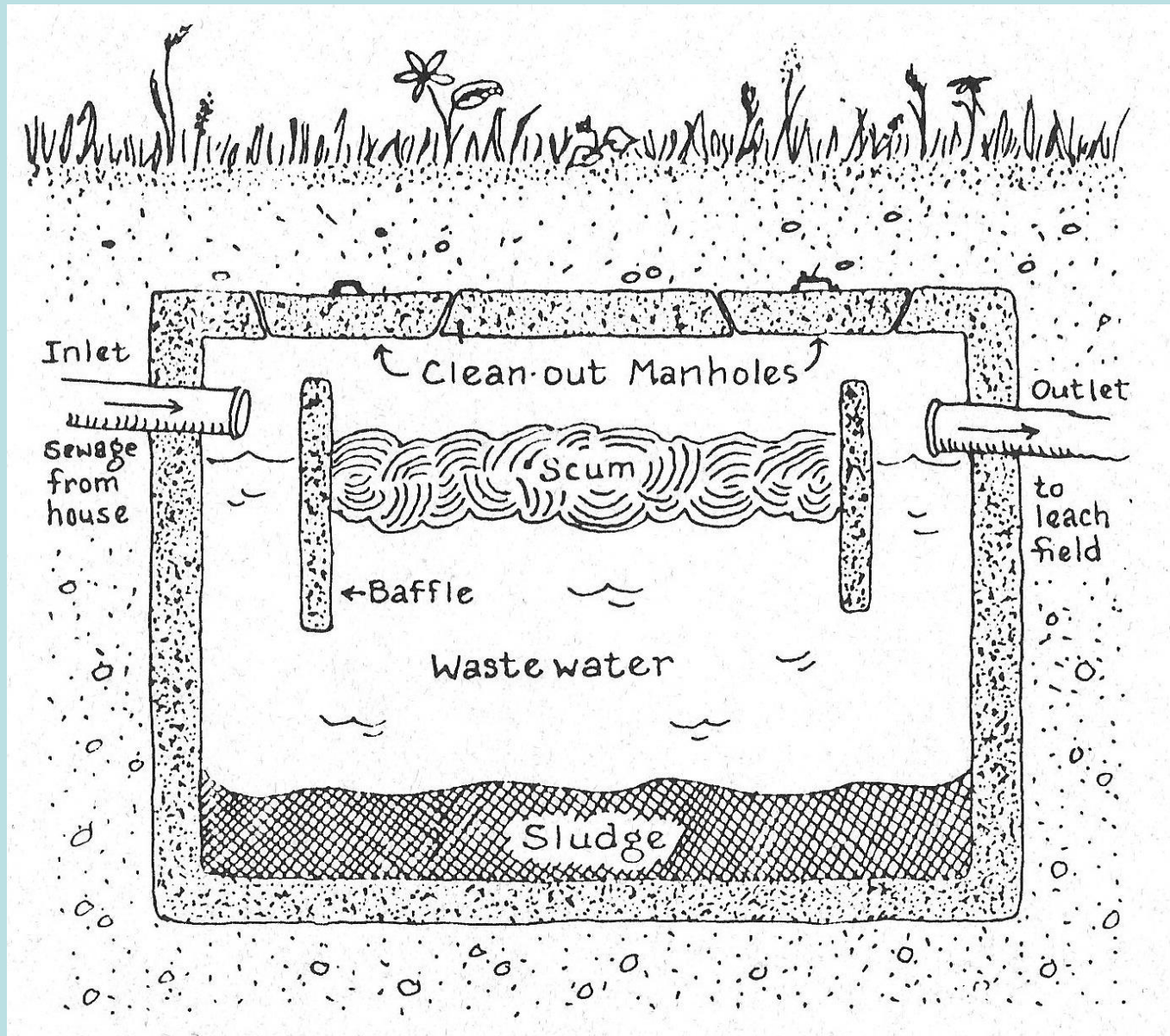
Cesspool

Too much water for the
cesspool to handle...

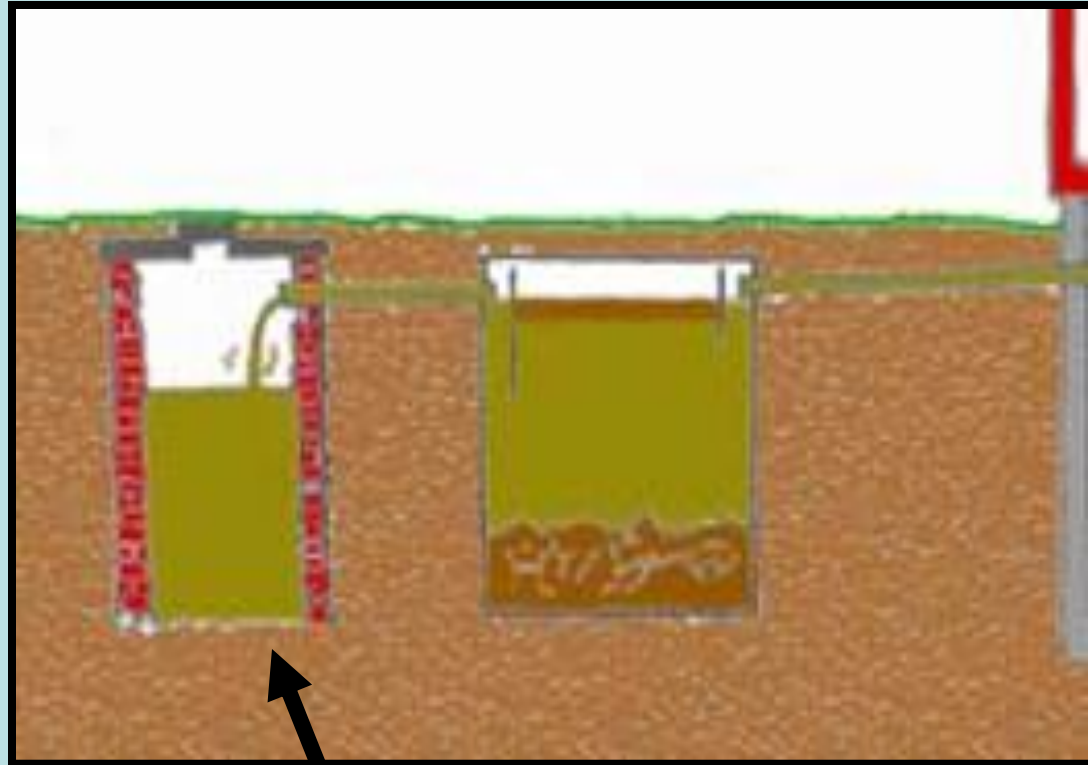




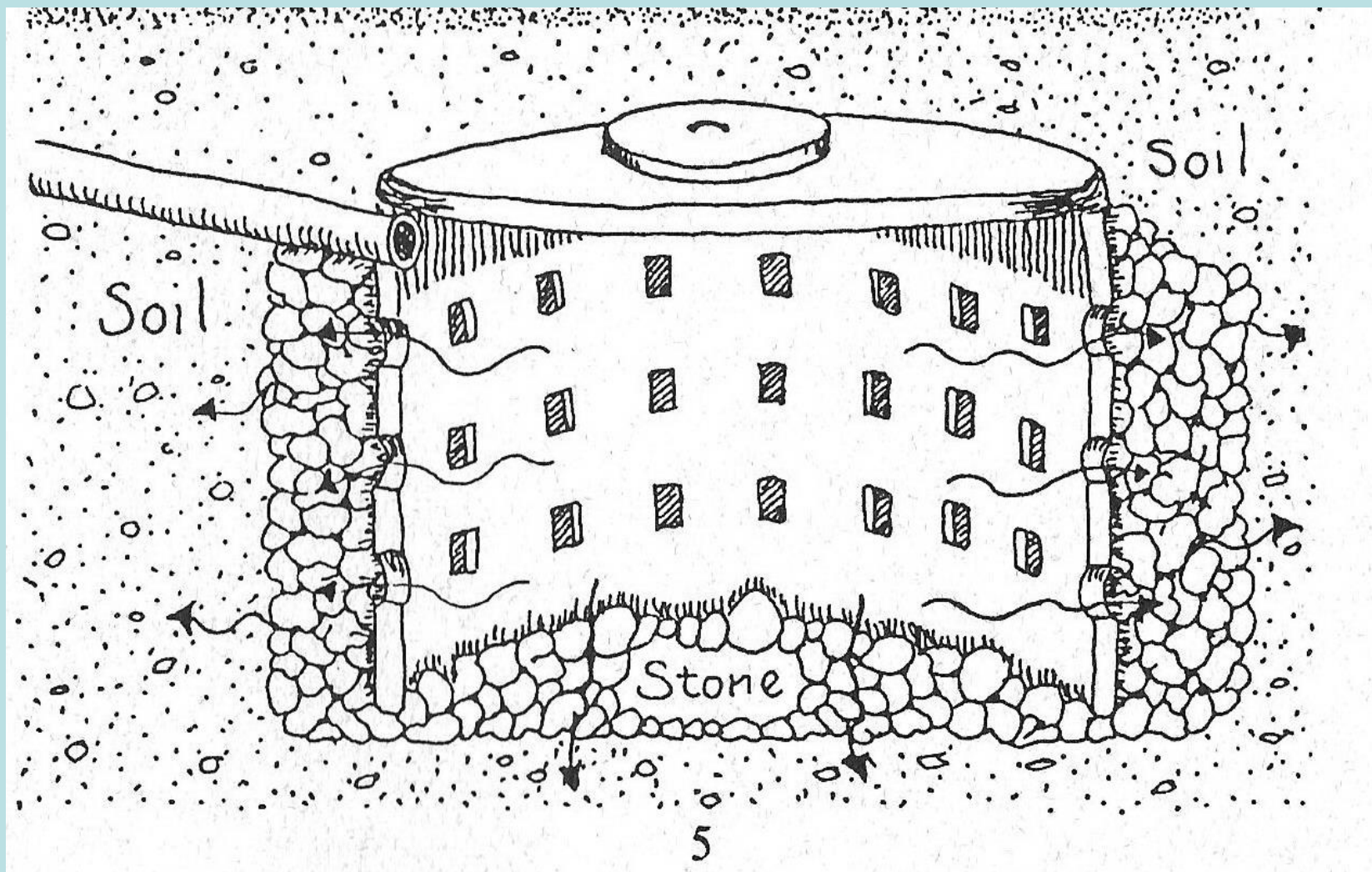
Septic Tank



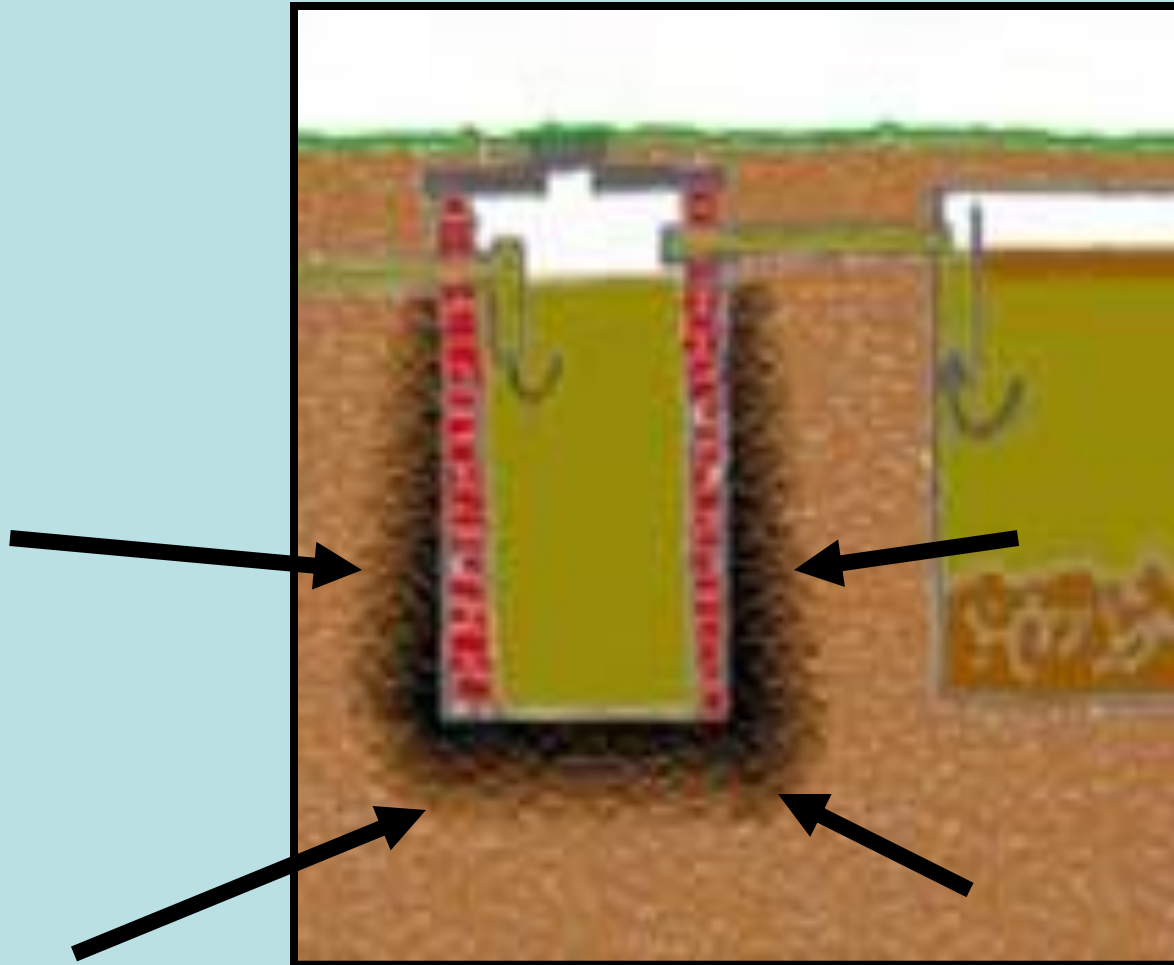
The cesspool became a:



Drywell

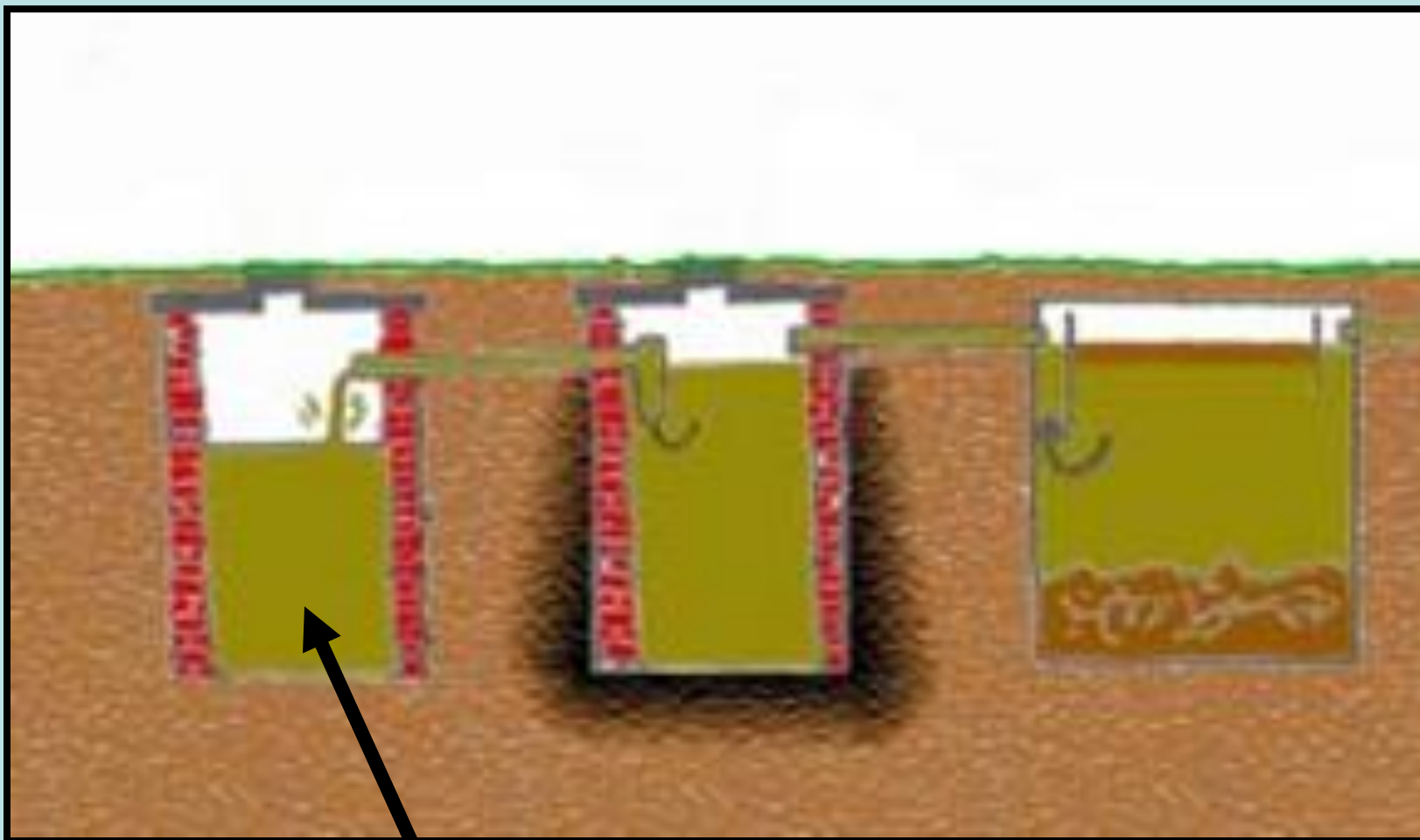


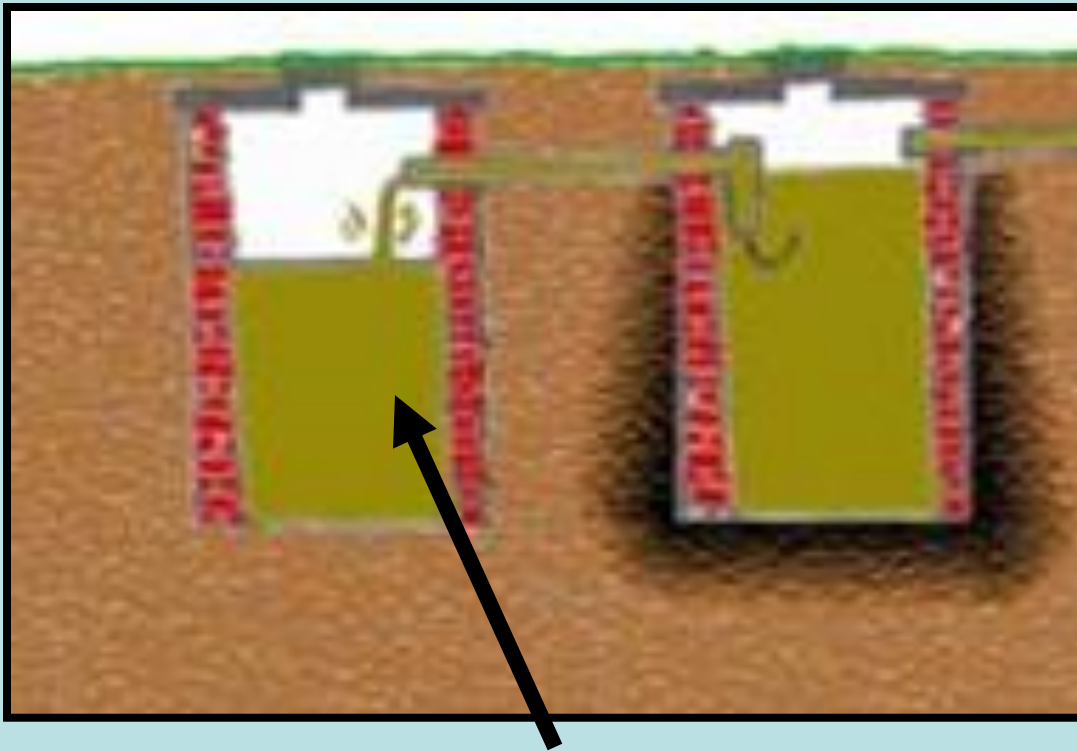
“Biomat” buildup









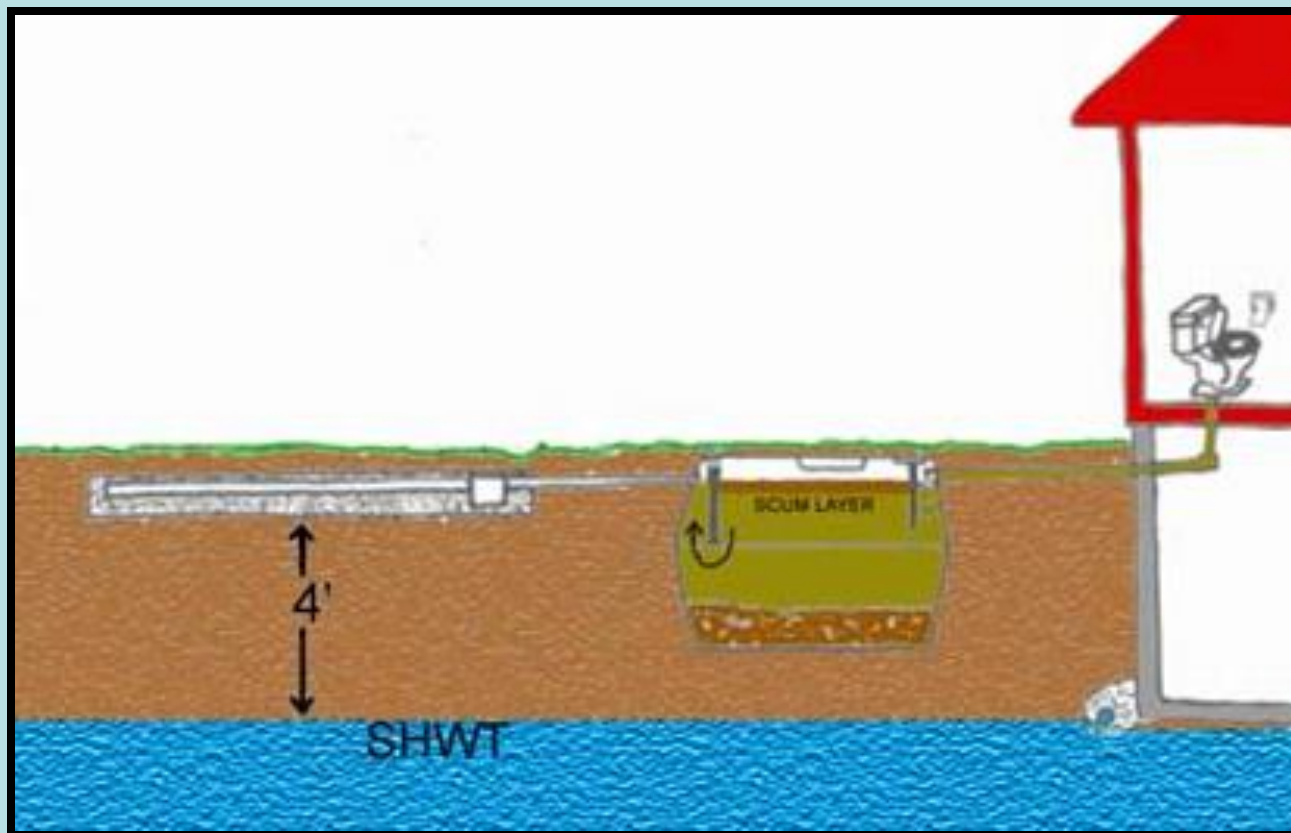


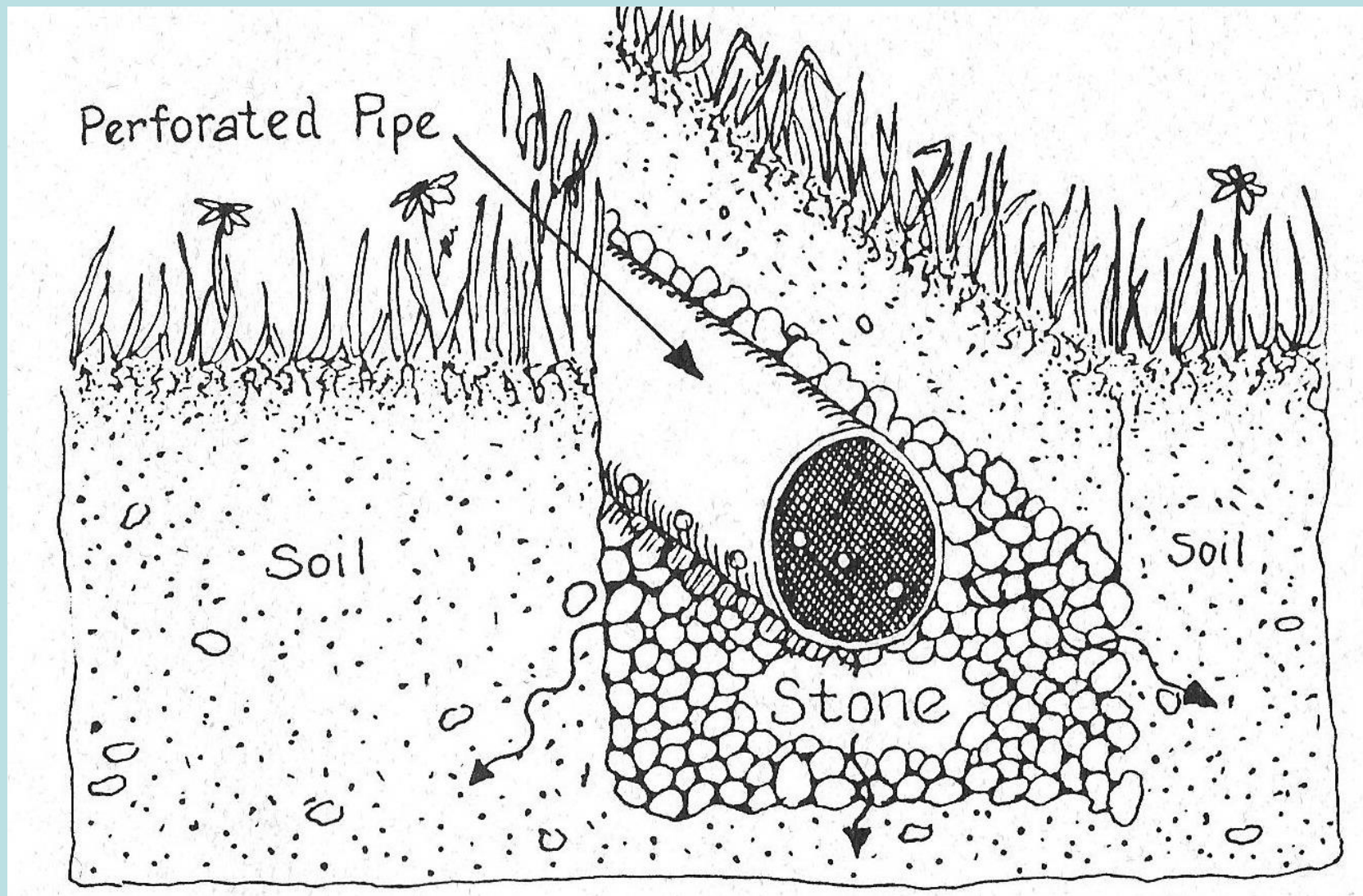
This secondary drywell is still built just like the original pit below the outhouse but receives only effluent that has been much more “clarified.”

NH RSA 149-E

1967

DES Subsurface Bureau

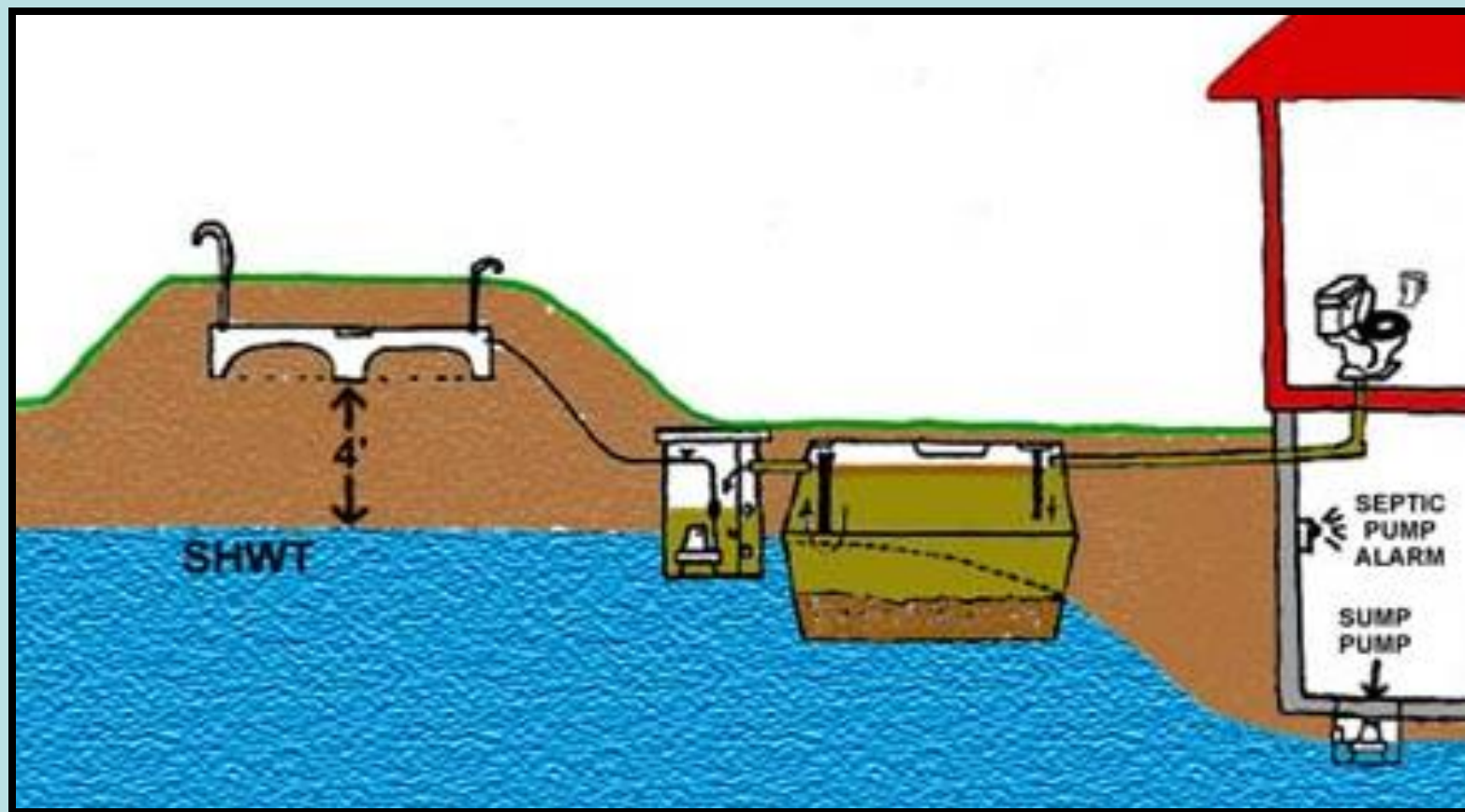


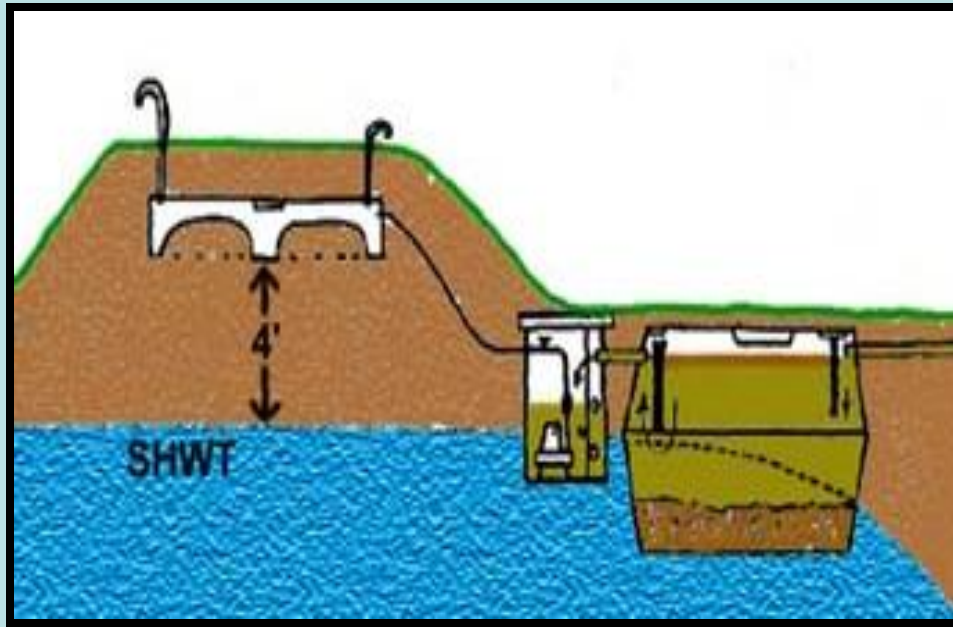


SHWT

Seasonal High Water Table

The most critical factor governing
today's septic systems



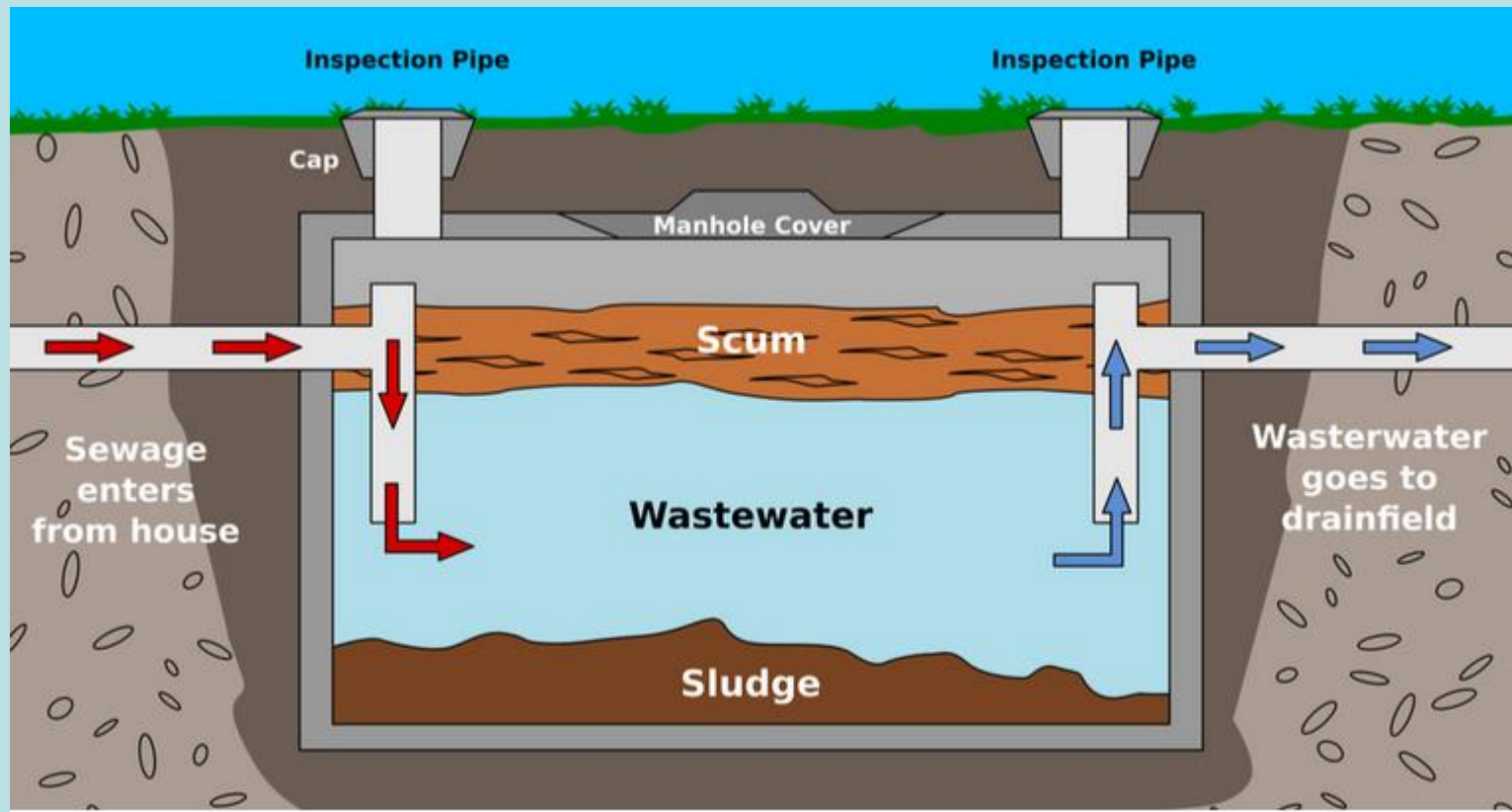


Mound or Raised Systems:
to get the bottom of the leaching
area above the SHWT





The modern septic tank







And still some of these...







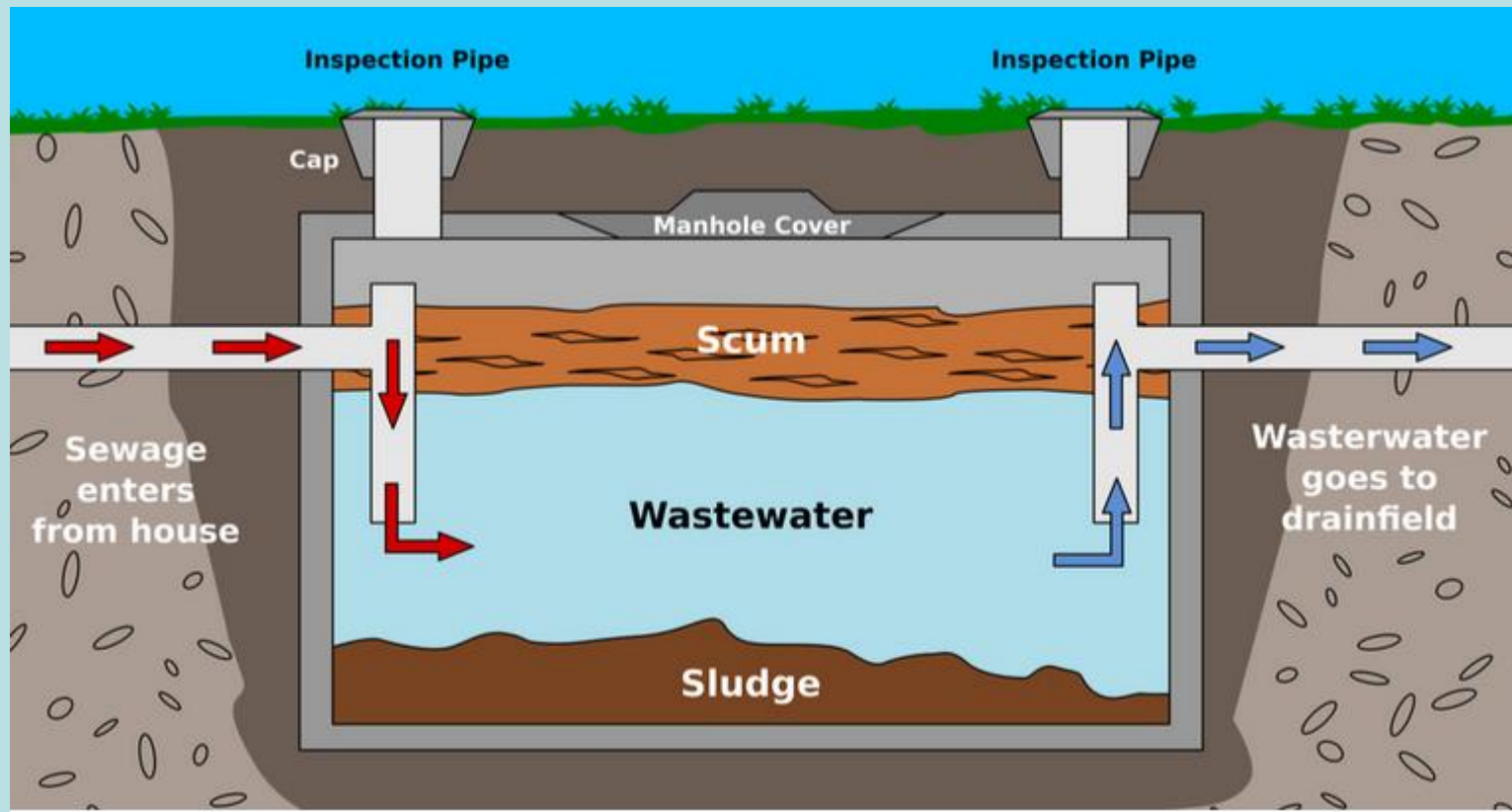




Outlet baffle:



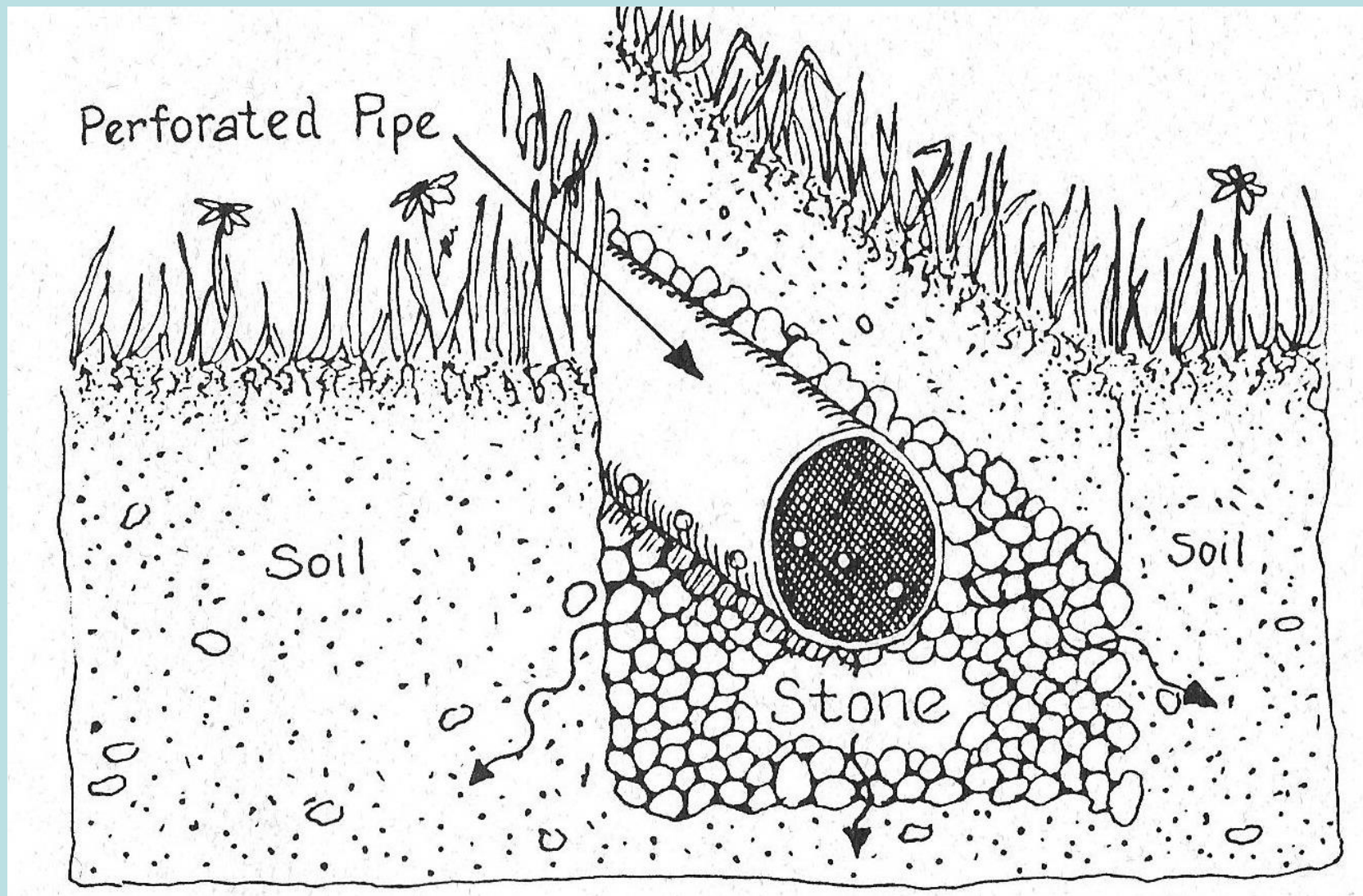












Plastic chambers



NH designed and manufactured



Enviro-Septic®

This revolutionary onsite treatment system treats wastewater contaminants, recycling clean water and recharging natural water supplies.



Concrete chambers



What constitutes failure?


Rural Home Technology

Presented By Russ Lanoie



TROUBLESHOOTING FLOWCHART

BE CAREFUL TO AVOID UNDERGROUND UTILITIES. BEFORE DIGGING, CONTACT YOUR LOCAL UNDERGROUND DAMAGE PREVENTION SYSTEM.

 SEPTIC

TROUBLESHOOTING
GLOSSARY

Septic System Troubleshooting Guide

Items in **bold** are explained in the Glossary
Items numbered are explained in accompanying notes

ROUTINE
INSPECTION

POOR
FLUSH

TOILET AND
DRAIN BACKUP

ODOR OR WATER
ON GROUND

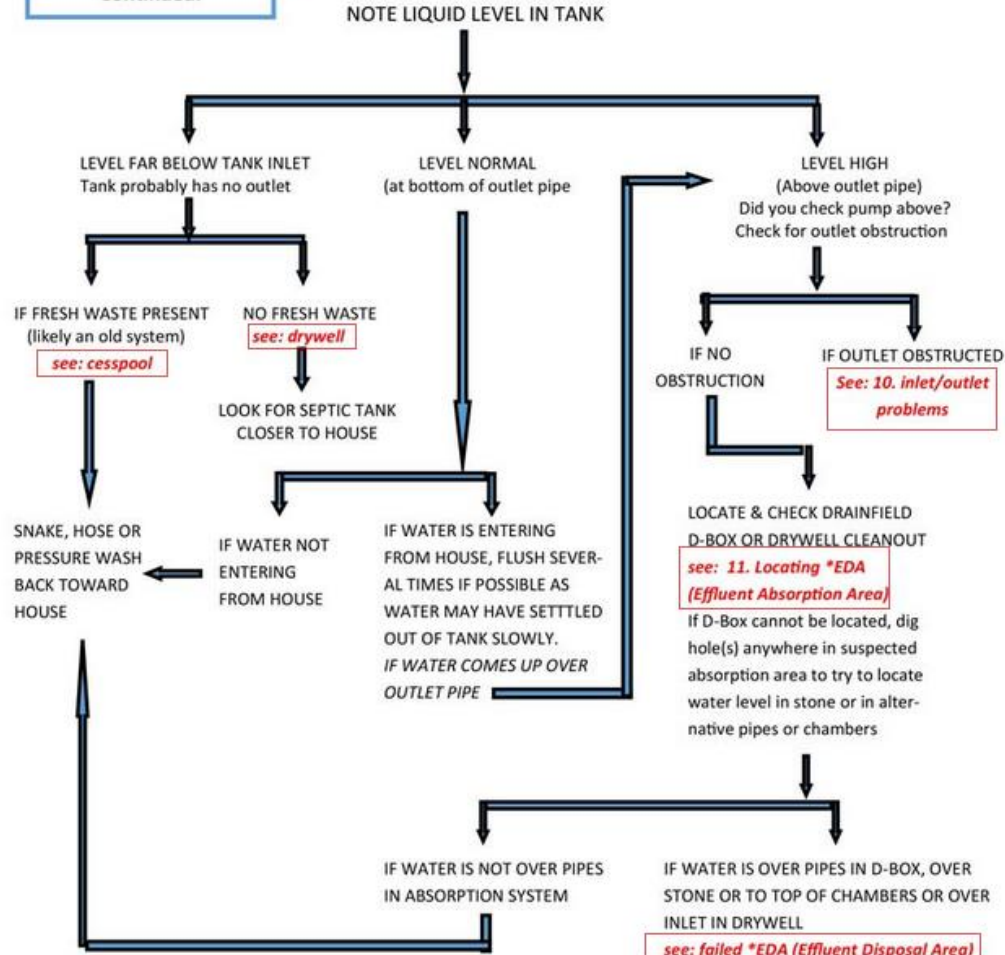
5. Failed EDA Field: Usually means soil plugged due to age, overuse, underdesign, lack of maintenance, or a combination of these. Requires field replacement or rest. See: Glossary: Alternating Fields.

6. Failed EDA Drywells: Usually means soil plugged due to age, overuse, under design, lack of maintenance, or a combination of these. Requires field replacement or rest. Drywells can sometimes be excavated around and repacked with crushed stone to create a new soil surface for absorption. Check codes.

LEACHFIELD or DRYWELL

see: *5. failed EDA field or
6. failed EDA drywell*

Continued:



This guide works best for older septic systems. Modern systems, especially in difficult conditions, may have a proprietary treatment system that will require contacting the manufacturer, designer or installer for information regarding its operation and maintenance.

What constitutes failure?

- Sewage backup into the house?



Settled inlet pipe traps solids





Roots can clog a system











What constitutes failure?

- Sewage backup into the house?
- Smelly puddles on the lawn?

Yes, this still happens





Conventional stone & pipe system



Biomat is that black gooey stuff
that forms a layer where
wastewater reaches the soil

- Is an important part of the treatment of wastewater as it leaves the system
- Too much buildup can cause wastewater to backup
- Too little can let wastewater back into the soil with little treatment



Biomat buildup





New system, wrong sand





Ironically, systems that fail to allow water to go back into the ground have failed as far as the homeowner is concerned, but typically do little to pollute groundwater because they allow very little or no effluent to leave the system

Tank alarm, usually in the basement



Does NOT mean it is time to
pump the septic tank!

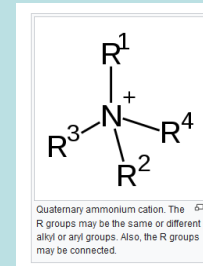
But that you have a problem
with your septic pump





What NOT to put down the toilet or drain

- Quaternary ammonia-



disinfectants, surfactants, fabric softeners

Use baking soda, vinegar or borax

What NOT to put down the toilet or drain

- Quaternary ammonia- Use baking soda, vinegar or borax
- Antibacterial soaps

What NOT to put down the toilet or drain

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- Drain cleaners

What NOT to put down the toilet or drain

- Quaternary ammonia- Use baking soda, vinegar or borax
- Antibacterial soaps
- Toilet bowl cleaners
- Drain cleaners
- Bleach

And it is everywhere!



Reduce the amount of strong cleaning chemicals and antibacterial soaps used in the home. Bleach and other antibacterial products can kill the beneficial bacteria in the septic tank, reducing the rate of solids decomposition

What NOT to put down the toilet or drain

Do not dump fats, oils and grease down the drain; instead, put them in the garbage.

Garbage disposals and dishwashers with food grinders add unnecessary solids to a septic tank. Minimize the use of the garbage disposal or eliminate its use altogether by placing food scraps into a compost bin or trash can. Scrape all dishes well before placing them in the dishwasher.

Toilet is not a trash can. Nothing but human waste and toilet paper should be flushed.

No tissues, hygiene products, cigarette butts, etc.

Do not flush unused or expired medications. These products can kill the beneficial bacteria in the septic tank.

- Chemotherapy: designed to kill bad cells can have the same effect on septic tank bacteria
- Unfortunately, not much can be done about this

Do not use products advertised as septic additives or septic cleaners. These products are not necessary and may kill the beneficial bacteria in your septic tank.

Septic tank additives



Homeowner used RidX !



A rule to follow:

- If you wouldn't put it through your own digestive system, DON'T put it down the toilet or drain

Large volumes of wastewater generated in a short period of time can result in turbulence in the septic tank:

Parties

Weddings

Hot tubs

Leaks

Spread wash loads throughout the week and wash at times when there is not a lot of water being used in the home. Do not run multiple water-using devices at the same time, such as showering or running the dishwasher while doing the laundry.

Washing machines can add a significant amount of lint. Avoid this by placing a simple lint filter on the end of the outlet hose

Reroute water treatment devices such as iron filters and water softeners from the septic system. The discharge water from these devices may add extra solids in the case of iron filters and affect settling in the case of softeners.

**VACATION HOME
FOR RENT**

47 EIDELWEISS DR.

SLEEPS 12 / For Availability:

VRBO.COM 1360704

What you *should* do to
protect your system...

Conserve water

- Yellow is mellow, if it's brown you know the rest.
- Dual flush toilets
- Water saving showerheads



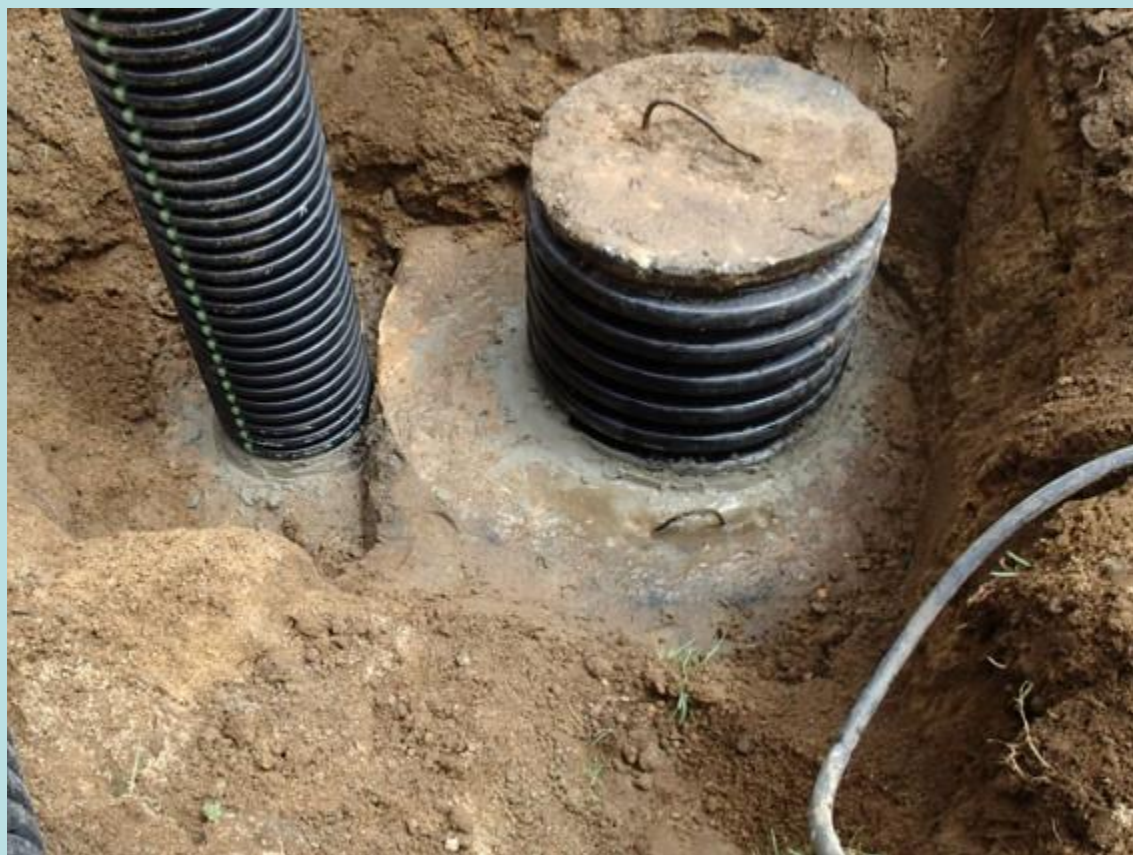
- Locate your system and its components and make the tank inlet and outlet accessible, especially for emergencies

(town hall may have your plan)











Be careful, not everyone pays attention to where your septic tank is





- Make a sketch with the dimensions to the tank cleanout and post it in your utility room or next to where the waste pipe exits your basement or crawl space



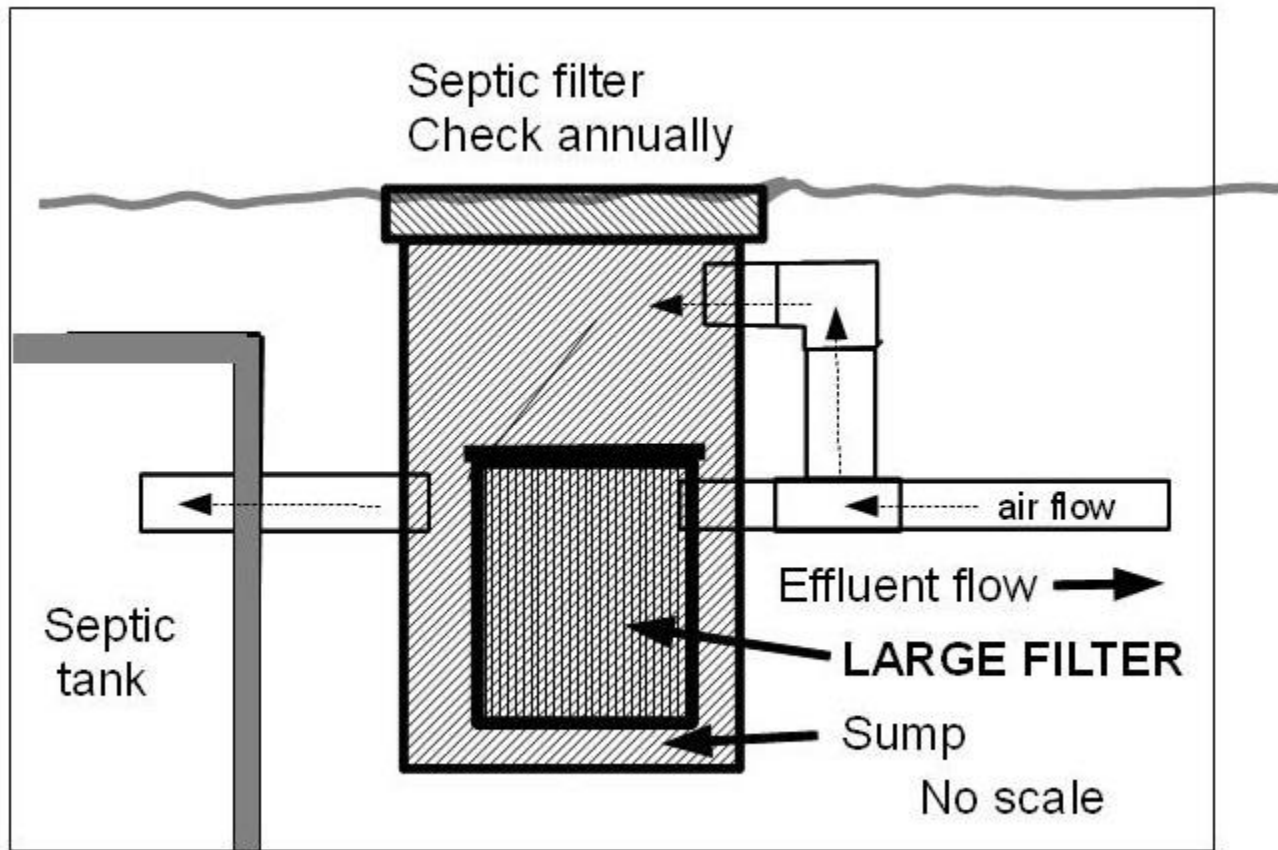
Septic filters,
a good idea

Plastic baffles & filters











Keep the area over your leach field
clear of trees and shrubs



And the area around the leach field
because roots tend to travel



And the elephant in the room:
How often do you need to
pump your tank?



Checking how well a system
draws air through it









Dirty Bird Septic Vent Cover





NHDES rules:

- Where an Individual Sewage Disposal System that serves a residence needs to be repaired or replaced the system owner *must now submit a complete application for review and approval to the DES by the homeowner or by a permitted (licensed) septic designer.*

Foundation drains

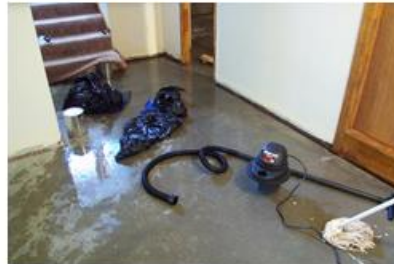




Keeping your Home's Feet Dry

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www.RuralHomeTech.com
russlanoie@gmail.com



How to dry out existing basements
and
Keep new basements from
ever getting wet



A Ditch In Time

**An owner's manual for
those who live and travel
on dirt and gravel roads
by Russ Lanoie, Conway, NH**



**Includes a complete Troubleshooting Guide and Quick Tips
for low cost/no cost things you can do right away to
improve your unpaved road or driveway**







Toto

Washlet A100 Electronic Cotton White Elongated Heated Bidet Toilet Seat - SW2014#01

SKU# 21011 | MODEL# SW201401

Regular Price: \$484.95

Our Price: ~~\$299.99~~

Sale Price: \$269.99

-	1	+
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In Stock

Usually Ships in 1 day

ADD TO CART

And that crushed pipe
in the leach field...

Granite State Designers and Installers Association

www.gsdia.org