

Septic Tank: Primary Treatment

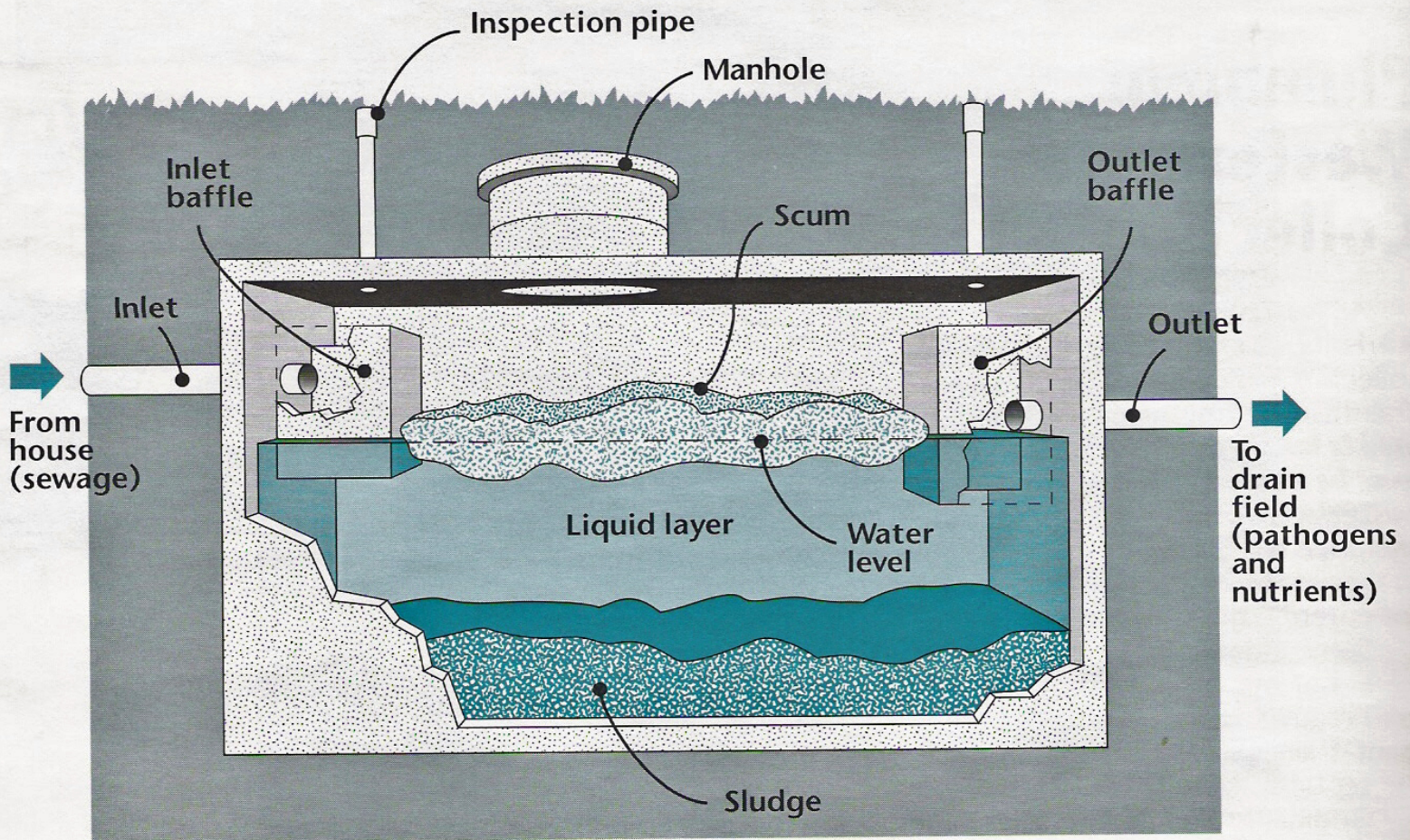
How the Tank Works

The contents of the septic tank separate into three layers:

- **Floating scum layer** - soaps, greases, toilet paper, etc.
- **Liquid layer** - water, liquid, and suspended solids
- **Sludge** - heavy organic and inorganic materials at the bottom of the tank.

Naturally-occurring bacteria in the sewage begin to break down organic materials in the tank. This is often referred to as **primary treatment**. Pathogens in the waste are NOT destroyed in the septic tank. Bacteria in the septic tank prepare the wastewater for final treatment in the drainfield.

Figure 1 – Septic tank



A typical Minnesotan uses about 110 gallons of water per day. About 60 percent of that water is used in the bathroom. Reducing water use conserves the water resources and helps the septic system.

Home Management Ideas to Improve Septic System performance:

Bathroom

- ❖ Install a new low-flow toilet.
- ❖ Repair leaky faucets and toilets immediately.
- ❖ Do not flush facial tissues, paper towels, or personal hygiene products down the toilet.
- ❖ Do not flush cigarette butts or unwanted prescription or over the counter medications down the toilet.
- ❖ Take showers instead of tub baths. Showers use less water than tub baths (about 5 gallons per inch in tub).
- ❖ Install low-flow showerheads.
- ❖ Shut off water while shaving and brushing teeth (save up to 5 gallons per minute).

Kitchen

- ❖ Install low-flow faucets
- ❖ Repair leaky faucets
- ❖ Use low-phosphate (0 to 5%) dishwasher soaps.
- ❖ Do not use a garbage disposal or dispose of vegetables, meat, fat, oil, coffee grounds and other undigested food products in the septic system. (Use composting or garbage service.

Laundry

- ❖ Wash only full loads. Adjust load level settings for small loads.
- ❖ Distribute wash loads evenly throughout the week to avoid overloading the system with large volumes of water.
- ❖ Use no-phosphate laundry detergents.
- ❖ Use liquid detergents (powdered detergents add fine particles to the sludge accumulation).

Basement and Utility Rooms

- ❖ Reroute the water softener recharge water outside the septic system. It does not need to be treated.
- ❖ Route roof drains and basement drainage tile water (sump pumps) outside of septic system and away from the drain field.
- ❖ Never let wash water from latex paint on brushes or rollers go down the drain and into the septic system.
- ❖ There is no quick fix or substitute for proper operation and regular maintenance. Do not use starters, feeders, cleaners and other additives.

Cleaning Frequency Guidelines

How often a septic tank needs to be cleaned depends on the tank's design and how it is operated. In this chart, the negative factors that affect the cleaning frequency are called EFFECTS and the positive factors that reduce the frequency of cleaning are called CREDITS.

Consider the frequency guideline from this worksheet and the conditions observed when the tank is cleaned to decide when the tank will next need cleaning. No tank should go more than 36 months between cleanings!

EFFECTS

FACTORS

Enter 10 points for wastewater that enters the septic system for each of these appliances:

- Water conditioning unit (water softener or iron filter) _____
- Garbage disposal _____
- Automatic clothes washer _____

Enter 10 points if you have:

- An in-home business (such as daycare, beauty shop) _____
- More than 4 over-night guests at a time, several times per year _____
- A laundry pattern of doing three or more loads/day _____

Enter 10 points if your septic tank is smaller than indicated for the size of the house:

HOUSE SIZE	TANK CAPACITY
2-3 bedrooms	1000 gallons
4-5 bedrooms	1500 gallons
6-7 bedrooms	1750 gallons
8-9 bedrooms	2000 gallons

Enter the points indicated if the last cleaning was:

FREQUENCY	POINTS
1-2 years ago	0
3-5 years ago	5
6-10 years ago	10
more than 10 years ago	12

The number of people living and using water in the household affects the cleaning frequency. Enter the number of people for the house size and do the calculation.

HOUSE SIZE	# OF PEOPLE	LOAD
2 bedroom	_____	- 3 = _____
3 bedroom	_____	- 4 = _____
4 bedroom	_____	- 5 = _____
5 bedroom	_____	- 6 = _____
6 bedroom	_____	- 7 = _____
7 bedroom	_____	- 8 = _____

x3 = _____
(subtract if number is negative)

TOTAL EFFECTS

CREDITS

FACTORS

Enter 10 points if you:

- Use a suds-saving or front-loading clothes washer, or do 4 or fewer loads of laundry spread throughout the week _____
- Have two full-size septic tanks or one tank with 150% or more of the capacity required for your house _____

Enter 5 points if you:

- Are ULTRA-CONSERVATIVE on water use (see chart, p. 13) _____
- Use low-volume toilets (3 gallon or less per flush) _____
- Use low-flow shower heads _____
- Have two or fewer people in the house and bathe fewer than five times per week _____
- Have no one at home for 10 hours or more most days _____

TOTAL CREDITS

Enter your numbers in this equation to calculate how often your septic tank should be cleaned.

36 -

_____ (effects number)

+

_____ (credits number)

=

months between cleanings