

# The Scoop on Poop

## On-Site Septic System vs. Sewer

Treating sewage is everyone's responsibility. It is a responsibility that is too frequently forgotten, generally because it is out-of-sight, underground, and, well, it is just isn't pretty.

Residents connected to the City's sanitary sewer system have their sewage treated at the municipal treatment plant. People with homes that have an on-site septic system own operate and maintain their own small-scale treatment plants.

A majority of residents within the Five Mile River Watershed have an on-site septic system.

## Why We Need Good Systems

Sewage contains bacteria, viruses, excess nutrients and other potent pathogens. Without adequately functioning septic systems these contaminants would enter surface waters (our rivers, brooks, ponds, and beaches) and groundwater (often our drinking water source!) and cause extreme pollution – which greatly increases health risks to humans and wildlife.

This pollution could make ponds and beaches unsafe and unavailable for recreation – including swimming, wading and fishing. Excess nutrients in ponds and streams promote algae and weed growth, potentially leading to algal blooms and fish kills. Allowing poorly-treated sewage to enter groundwater, which is used for drinking water in homes with on-site wells, increases the pollutants in our drinking water supply. Serious health issues may result from bacteria and viruses in drinking water. Pollution and degradation of our water resources decreases the quality of life in our neighborhood and causes property values to plummet.



**In order to provide effective, efficient and safe treatment of sewage, on-site septic systems must be properly operated and maintained. As a homeowner, you have a *tremendous* impact on the efficiency and longevity of your septic system.**

This article discusses routine maintenance and operation guidelines that can help keep your septic system, a considerable investment, properly functioning for as long as possible!

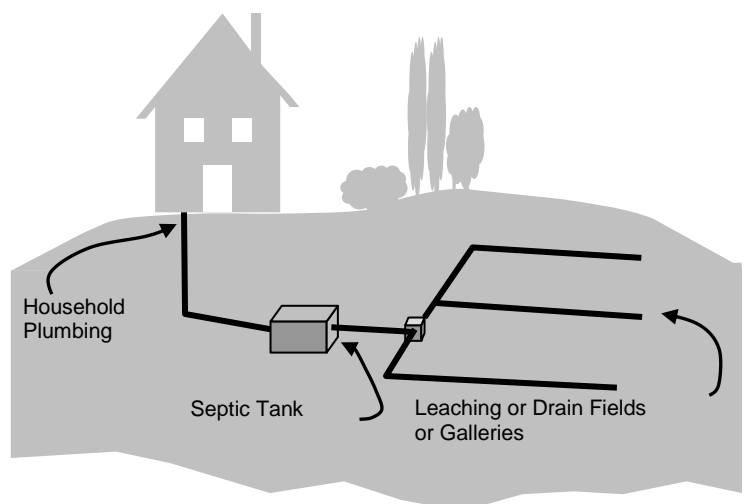
## How it Works

In order to maintain your septic system it is helpful to understand the basics of how it functions. There are three basic components to your septic system:

1. **Household Plumbing.**
2. **Septic Tank**
3. **Leaching Fields or Galleries.**

**1. The plumbing.** All household wastewater (containing mostly water, as well as human wastes, nutrients, dirt, and other contaminants)

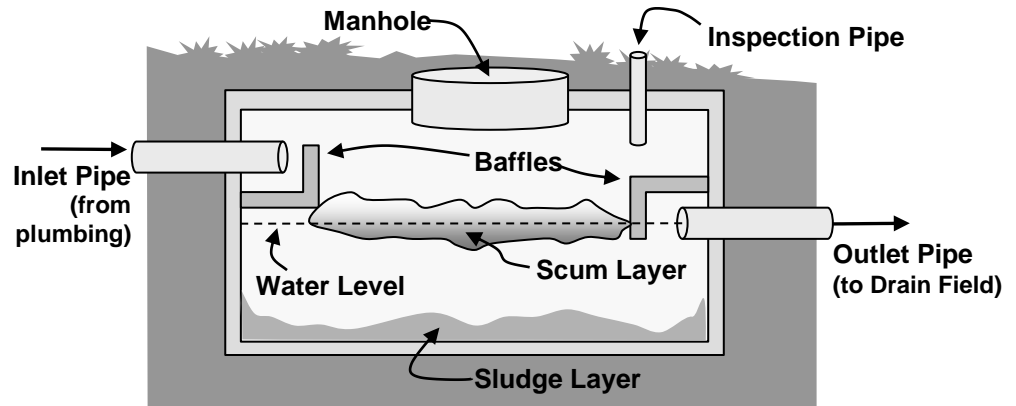
must be collected and directed to a single effluent pipe that connects to the rest of the septic



system. Everything that goes down the drain must be processed by your septic system. EVERY time you use water in your home, you put your septic system to work.

**2. The septic tank.** The septic tank is a sealed, solid tank designed to accept all wastewater from the home. Naturally-occurring bacteria in the wastewater begin to break down organic materials in the tank. This action provides the 'primary treatment' of sewage. The contents of the septic tank separate into three layers:

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



The septic tank is designed to retain the floating and sludge layers. Only the liquid layer be passed into the next system component.

**A Sample Septic Tank**

**3. The leaching field.** This is the powerhouse of the system. Whenever wastewater enters the tank, an equal amount is moved into the drain field. Sewage flows into perforated pipe or concrete galleries that allow wastewater to permeate into the soil. Final treatment of sewage occurs in the soil. There are millions of naturally-occurring beneficial microscopic organisms in every tablespoon of soil. These organisms are essential to the final removal of nutrients and disease-causing organisms in wastewater.

For residents in the Five Mile River Watershed, failed leaching fields have a high likelihood of causing pollution of the Five Mile River and its tributaries (including Holy Ghost Fathers Brook and Keelers Brook).

In our next article, look for simple and inexpensive tips to keep your on-site septic system in tip-top operation.