

A Guide to the Proper Care and Maintenance of Your Onsite Wastewater Treatment System

COURTESY OF INFILTRATOR WATER TECHNOLOGIES



 **Infiltrator**[™]
Water Technologies
Part of  **ADS**

CONGRATULATIONS ...

Your septic system is constructed with Infiltrator products. Infiltrator products provide state-of-the-art septic and drainage systems allowing the customer one proven, reliable source for nearly all of their onsite wastewater needs. These environmentally friendly wastewater treatment products are manufactured of recycled materials, treat effluent, more efficiently in a smaller footprint.



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Care and Maintenance
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Dear Septic System Owner,

Clean water is our heritage—it's also our responsibility. As the population grows and more land is developed, we must all find new ways to safeguard our environment for future generations.

At Infiltrator, we're doing our part by using science to design better performing septic systems. We manufacture reliable products from primarily recycled materials. Our reduced footprint minimizes disruption of the environment. All of this provides septic system owners with products they can trust for superior performance, ease of maintenance, and long-term value.

What started over 35 years ago as an idea for a better leachfield, is now a worldwide company with a broad range of products in service in North America and around the world. Today, more than 50% of the systems installed in North America use an Infiltrator product. This Septic System Owner's Manual explains how septic systems work, describes the benefits of the Infiltrator system, and provides valuable tips for proper system maintenance. This is part of our commitment to making sure that clean water is everyone's business.

Craig Taylor,
President and Executive Vice President
Infiltrator Water Technologies

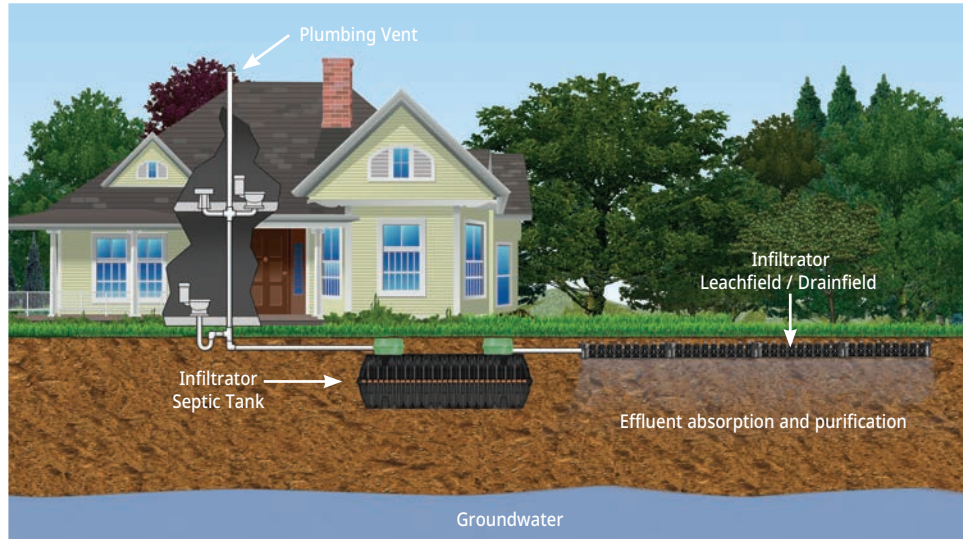


A RESIDENTIAL SEPTIC SYSTEM

What is a Septic System?

A septic system is an onsite wastewater treatment system that processes and purifies household waste (effluent). The effluent consists of blackwater (toilet wastes) and graywater (kitchen sink, bathtub and laundry wastes).

A septic system has two components: a septic tank and a leachfield or drainfield. Primary treatment occurs in the septic tank, where bacteria digest organic materials in the wastewater. The effluent then flows into the leachfield for secondary treatment. Here, bacteria complete the digestion and purification process as the wastewater slowly leaches or infiltrates into the soil.



A standard septic system has two components: a septic tank and a leach-

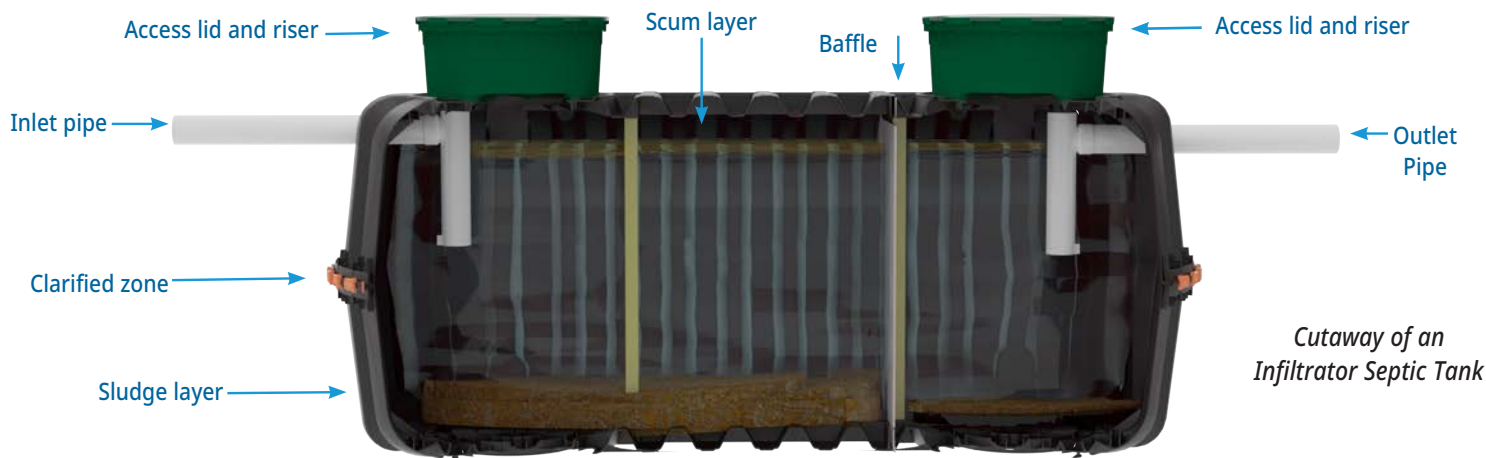
SYSTEM COMPONENTS: THE SEPTIC TANK

The septic tank is a **watertight underground** structure, about eight feet long, four feet wide, and five feet deep. It typically has at least a 1,000-gallon capacity for retaining, storing, and treating wastewater, in addition to releasing effluent into the **leachfield**, sometimes called a **drainfield**.

As wastewater flows into the tank, heavy solids settle to the bottom into a **sludge layer**, while grease and fats float to the top forming a layer of **scum**. Between these two layers is a

clear zone of liquid called the **clarified zone**.

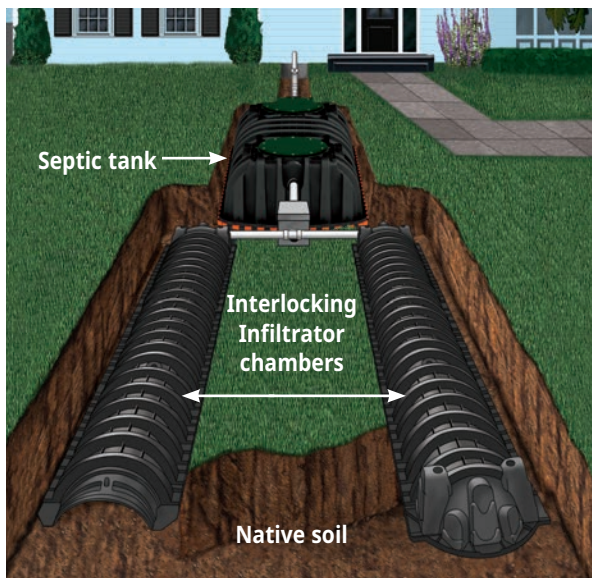
Found in all three of these layers are **billions of bacteria** that live naturally in the tank and perform the first phase of treatment to break down solid matter. The bacteria digests the solid materials. In the process, gases are produced, which are vented from the septic tank through the plumbing vent on your rooftop.



The septic tank retains, stores and treats solids before releasing effluent into the leachfield.

SYSTEM COMPONENTS: THE LEACHFIELD

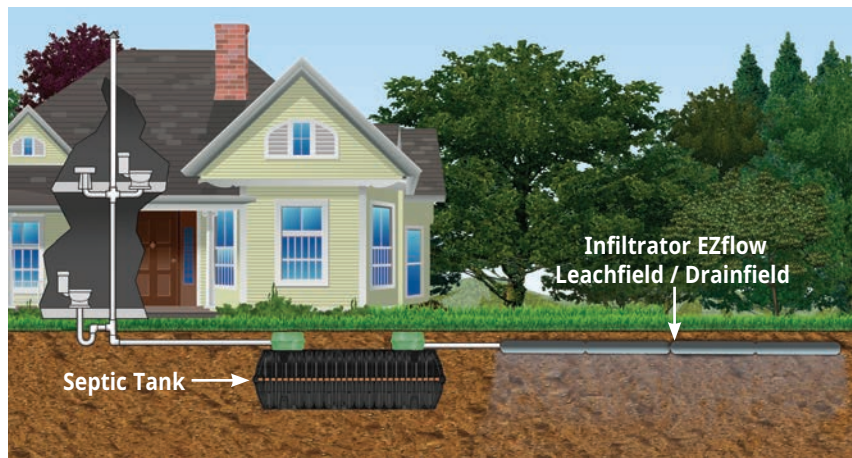
From the septic tank, partially treated effluent flows into a leachfield, which typically has two or more trenches. This is where effluent is naturally purified as it percolates down through the soil.



Effluent flows into the Infiltrator Quick4 leachfield where it is naturally purified as it percolates down through the soil.

For proper effluent purification, the distance between the trench bottom and the water table should be equal to or greater than the minimum distance allowed by your local health department. The soil acts as a biological filter, removing harmful substances before the effluent reaches the groundwater.

Infiltrator Water Technologies manufactures chamber systems and EZflow Geosynthetic Aggregate systems which are both used in leachfield installations.



EZflow geosynthetic leachfield.



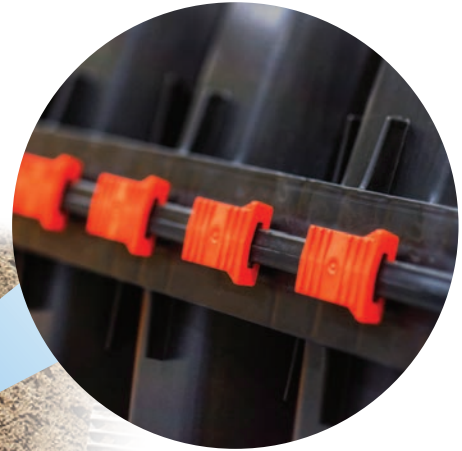
OLD FASHIONED SEPTIC TANKS: CONCRETE

Old fashioned septic tanks are precast in concrete and constructed for strength, durability and longevity. Concrete septic tanks have been used for over 160 years and if properly maintained can last for some time. However these systems can have drawbacks. Installation can prove challenging with the required heavy equipment that is needed to transport the tank to the site and can cause substantial disruption to the homeowners property. Over time concrete tanks can break down causing leaks which can cause contamination and costly repairs.

► Concrete tanks require heavy equipment to transport and haul.

TODAY'S MODERN SOLUTION: INFILTRATOR IM-SERIES SEPTIC TANK

In recent years plastic septic tanks become a reliable and effective alternative to concrete tanks. The Infiltrator IM-Series septic tank is strong and lightweight allowing for easy delivery without the need for heavy equipment. The two-piece tank design is permanently aligned and fastened using a system of high-strength plastic alignment dowels and locking seam clips to deliver a reliable watertight seal.

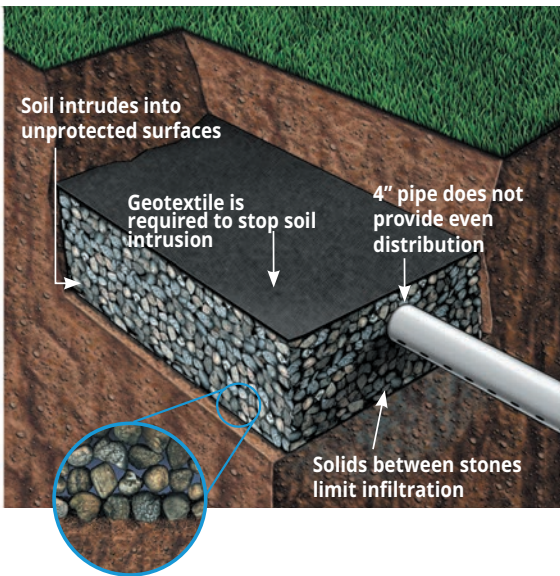


► Reinforced mid-seam gasketed connection lock together to create a watertight seal to avoid leakage.



OLD FASHIONED DRAINFIELD SYSTEMS: STONE AND PIPE

Old fashioned drainfield systems use gravel or crushed stone in the leaching trenches to create void space to store the effluent and release it slowly. However, such systems are prone to eventual failure as the voids (empty spaces) around the gravel become plugged. This phenomenon occurs over time as solids build-up between the stones, limiting infiltration of water into the soil. As the gravel settles, it also tends to compact and accumulate fines (small soil particles), further reducing the infiltration rate.



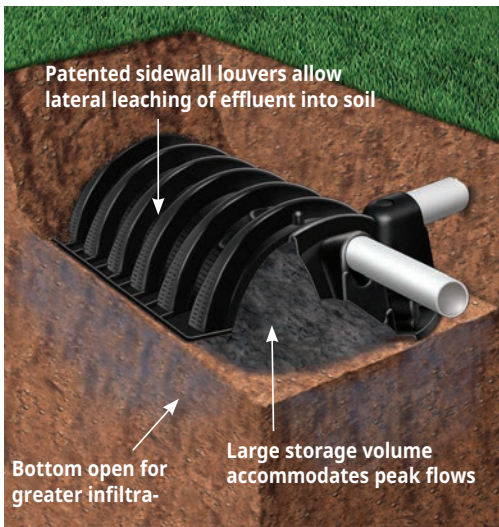
- **Stone and pipe systems can fail because solid matter clogs the space between the stones.**



TODAY'S MODERN SOLUTION: INFILTRATOR DRAINFIELD SYSTEMS

Infiltrator Chamber Systems

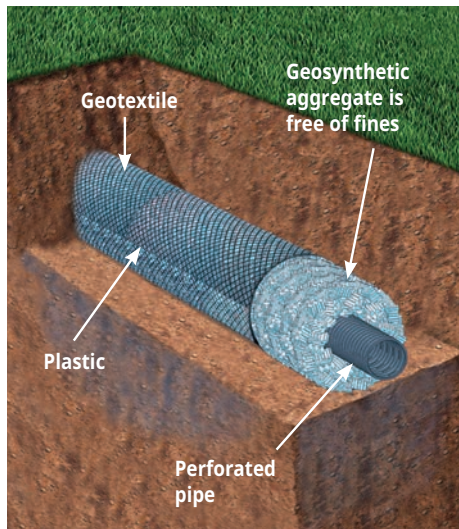
Infiltrator chambers are hollow structures that attach end-to-end. They are installed in trenches or beds without gravel (except where local codes require the use of gravel). The entire bottom of the trench is open for unobstructed infiltration of water. The large storage volume within the hollow chambers accommodates peak flows of effluent from the home. Infiltrator chambers also feature patented sidewall louvers that allow lateral leaching of effluent into the soil.



► Infiltrator chamber systems' design eliminates the need for stone. The entire trench bottom is open for unobstructed infiltration.

EZflow Systems

EZflow is an environmentally friendly replacement to traditional stone in septic drainfields using an engineered geosynthetic aggregate modular design. The EZflow system is designed to improve infiltrative performance by eliminating the fines and reducing compaction and embedment associated with crushed stone.



► EZflow geosynthetic systems replace stone in a traditional system reducing compaction and fines.



ADVANTAGES OF INFILTRATOR PRODUCTS OVER STONE AND PIPE

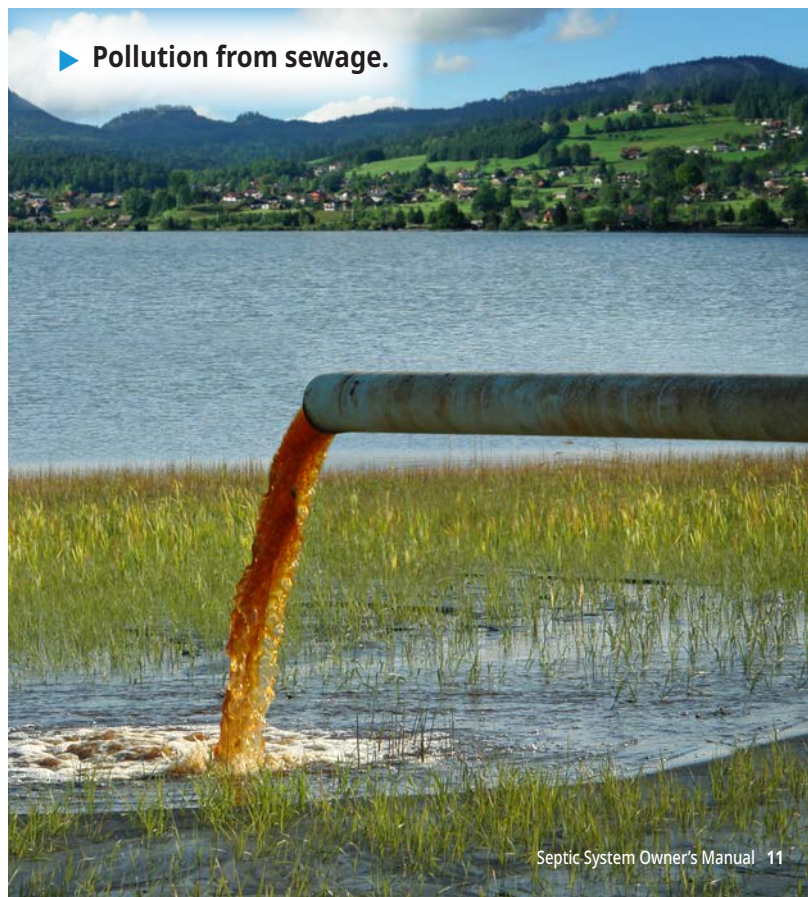
Infiltrator products are today's superior alternative to old-fashioned stone and pipe because they:

- Provide long-term savings due to longer life and greater operating efficiency
- Offer worry-free, long-term service with only simple, routine maintenance
- Protect landscape from damage caused by heavy equipment
- Provide greater storage and treatment area to handle more wastewater with higher efficiency
- Offer a "greener" approach utilizing recycled plastic resins to manufacture the products
- Are backed by a minimum 1-year warranty and a reputable, service oriented company
- Can be installed in tight, sloped and curved areas creating less site disruption

ADVANTAGES OF SEPTIC SYSTEMS OVER SEWER SYSTEMS

The alternative to septic treatment technology are sewer systems, which pipe waste to a centralized treatment plant, typically near a river or other body of water for disposal after treatment. In addition to being a cost effective alternative to expensive sewer lines, septic systems are environmentally superior to sewers because they:

- Provide simple, effective onsite wastewater treatment
- Allow the groundwater to be recharged onsite, which makes more clean water available for use
- Avoid contamination of local groundwater caused by ageing sewer lines, which leak untreated effluent into the soil
- Avoid environmental disasters of raw sewage discharges from treatment plants during floods or processing accidents



CARE AND MAINTENANCE OF YOUR INFILTRATOR SYSTEM

A septic system may be out of sight, but it definitely should not be out of mind. With proper standard maintenance and by being more aware of your daily living habits, you will greatly improve the life and health of your system. Here are some guidelines to help you protect your septic system investment.

- ▶ **Most septic tanks need pumping every two to three years. Hire a septic system contractor to inspect your tank and keep a regular maintenance schedule and record.**



Why the Tank Needs Pumping Periodically

About 95 percent of the sludge and scum that is in your septic tank is broken down by bacteria. The other 5 percent remains in the tank and builds up in the sludge layer. Consequently, your septic tank must be pumped out regularly. Otherwise, solids would eventually fill the tank and wash-out into the leachfield. This is detrimental to the overall health and longevity of your system.

CAUTION: If solids do overflow from the septic tank into the leachfield, they will prematurely clog the soil pores (openings). Pumping out the septic tank at that point will not restore the system. The most likely solution would be installing a new leachfield in a different area, which can be very expensive and disruptive to your property.



Have your tank checked by a septic system contractor every two to three years. If you have high water usage or a garbage disposal, the inspections should be more frequent. Use the septic system maintenance record on page 11 to enter and date each inspection and pumping.

LOCATING THE SEPTIC TANK

It's very important to know where the tank is in order to have it inspected and pumped. Here are three different ways to find your septic tank.

- 1. Ask to see the septic system permit for your property at your local health department, town or city hall. It will have a diagram of your system on it.
- 2. See where the sewer line leaves your house, the tank should be about 10 feet outside the foundation wall.
- 3. Have your septic contractor probe with a steel rod, taking care to avoid damaging the tank or underground utilities.



MAINTENANCE RECORD

Use the chart below to record standard system maintenance such as the dates the tank was pumped.

DATE	PROCEDURE

DIAGRAMMING THE LOCATION

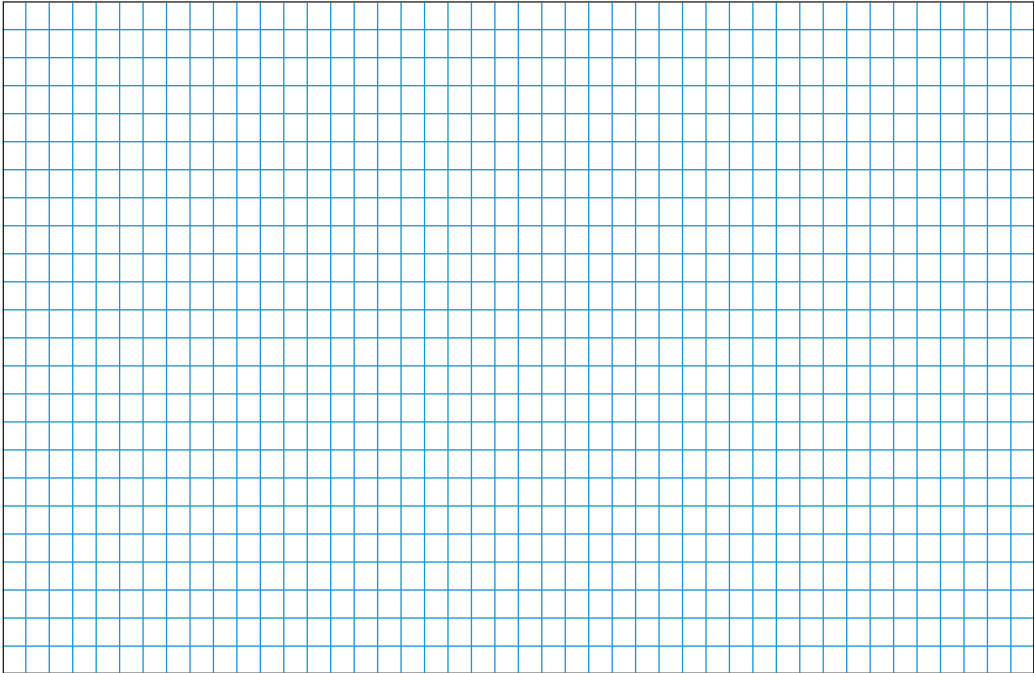
Once you know where the septic tank is, use the septic system layout below to sketch the location of your house, driveway, septic tank, and leachfield. Depending on your lot size, let each

square on the layout equal 5 feet x 5 feet or 10 feet x 10 feet. Measure and record the exact footage from the house to each septic tank access port or cleanout spot.

Contractor:

Contact Info:

Permit Number:



Your Septic System Layout

A HEALTHY SEPTIC SYSTEM: THE INSIDE STORY

Protect the performance and life of your system by controlling what goes into and through your septic system. Here's how:

KEEP DRAINS CLEAN



Remember that a septic system uses natural biological processes, so only biodegradable waste should go in it.

- No cigarette butts, tissues, sanitary napkins, disposable diapers, catbox litter, coffee grounds or cotton swabs.
- No paints, oils, chemical drain cleaners, thinners, solvents, poisons, or pesticides. These toxic chemicals not only kill helpful bacteria, they may also contaminate the groundwater.
- No grease or cooking oils. Grease may harden in the septic tank's scum layer and build up until it blocks the inlet or outlet. If you melt grease and pour it down the drain, it may run through the septic tank and then harden, clogging the soil pores in your leachfield.
- Go easy with your garbage disposal. Using a garbage disposal typically doubles the rate of solids buildup in the septic tank. To avoid frequent pumpouts, compost your garbage or put it in the trash.
- Be cautious with household chemicals. Disinfectants, ammonia, bathroom cleaners, bleach, etc. can kill the bacteria your system needs in order to operate properly. Allow the system to dilute and neutralize them a little at a time.

CONSERVE WATER

Large volumes of water over a short period of time will flush untreated solids out of the septic tank into the leachfield.



Practice conservation every day. For example, turn off the faucet while brushing your teeth.



Space out heavy water-using activities such as washing clothes and taking showers.



Repair leaky faucets and valves. Consider replacing old toilets that use 3.5 to 5 gallons per flush with new 1.6 gallon fixtures.

A HEALTHY SEPTIC SYSTEM: THE OUTSIDE STORY

Here's how you can control what happens outside your septic system.



Keep surface water away. Divert downspouts, roof drainage, driveway runoff, and sump pump discharge away from the leachfield. Landscape your yard to channel rainwater away.



Encourage the right plants. Remove trees such as willows that like "wet feet." Their roots may penetrate and damage the leachfield. Grow grass or ground cover over the septic system to prevent soil erosion. Plant beneficial trees such as pines near the leachfield to absorb water.



Avoid physical damage. Don't drive over the system or compact the soil with heavy equipment. Don't dig in the leachfield or build anything over it. Don't cover the tank or leachfield with concrete or blacktop.

NOW YOU ARE INFORMED

Most problems with septic systems are due to lack of proper care. With a little attention, your Infiltrator septic system can be a valuable asset to your property. It all comes down to knowing where your system is, protecting it from internal and external problems, giving it regular maintenance, and calling a professional septic contractor when you need help. If you follow these simple guidelines, it will benefit the environment, as well as yourself. Infiltrator products are the premier onsite wastewater systems and, now, you're an informed septic system operator.

For more information on septic products,
Call Infiltrator Water Technologies:

1-800-221-4436 or
email: info@infiltratorwater.com

Visit our website at:
www.infiltratorwater.com

INFILTRATOR'S FAMILY OF PRODUCTS



TANKS

IM-Tanks

CM-Tanks

GIT-Tanks



TANK RISERS

EZsnap Risers

EZset Risers



DRAINFIELD

Quick4 Chambers

Quick4 Plus
Chambers

Quick5 Chambers

Arc Chambers

EZflow



PUMP CONTROLLERS

Aquaworx and
Infiltrator Controls



COMBINED TREATMENT AND DISPERSAL

Advanced Enviro
Septic (AES)

AeroFin

Advanced Treatment
Leachfield (ATL)



ADVANCED TREATMENT

ECOPOD

ENVIRO-AIRE

Whitewater



IMPORTANT INFORMATION AND NUMBERS

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