

Let's get  
**Septic  
Smart!**

A homeowner's guide for septic system  
maintenance in the CSRD

# Septic Smart

## CSR D's Septic System Maintenance Guide 2023

### Resources

#### **Find a Registered Onsite Wastewater Practitioner (ROWP)**

The Applied Science Technologists & Technicians of BC provides an online directory of ROWPs to assist with your Type 1 and Type 2 septic systems.

<https://asttbc.org/registrants/registant-directory/>

604-585-2788

#### **Find a Qualified Professional**

Engineers and Geoscientists of BC (EGBC) offers a registry of Qualified Professionals to assist you with your Type 2 or Type 3 septic systems design and installation.

<https://www.egbc.ca/Registrant-Directory/Professionals-for-Sewerage-System-Regulation>

1-888-430-8035

#### **Onsite Septic System Regulations**

The BC Government's website contains current information on policy and regulations affecting septic systems.

<https://www2.gov.bc.ca/gov/content/environment/waste-management/sewage/onsite-sewage-systems>

#### **Columbia Shuswap Regional District**

Where a building permit is required, the CSR D Building Department can assist you in determining whether you require a larger septic system for a renovation, addition or change in use of your property.

<https://www.csr.d.bc.ca/>

250-832-8194

1-877-996-334 (After-Hours Emergencies)



**A healthy home. A safer environment.  
More money in your pocket.**

The CSRD has developed this guide to help homeowners understand what happens after liquid waste goes down your drain. Your septic system, buried beneath your yard, works day and night to process the liquid waste from your home. Proper care and maintenance will keep your system working for at least 25 to 30 years.

Understanding the basics of your septic system, and providing it with regular and ongoing maintenance, are your responsibilities as a system owner. But getting “Septic Smart” also means you protect your home, the environment, and your pocketbook from a failing system.

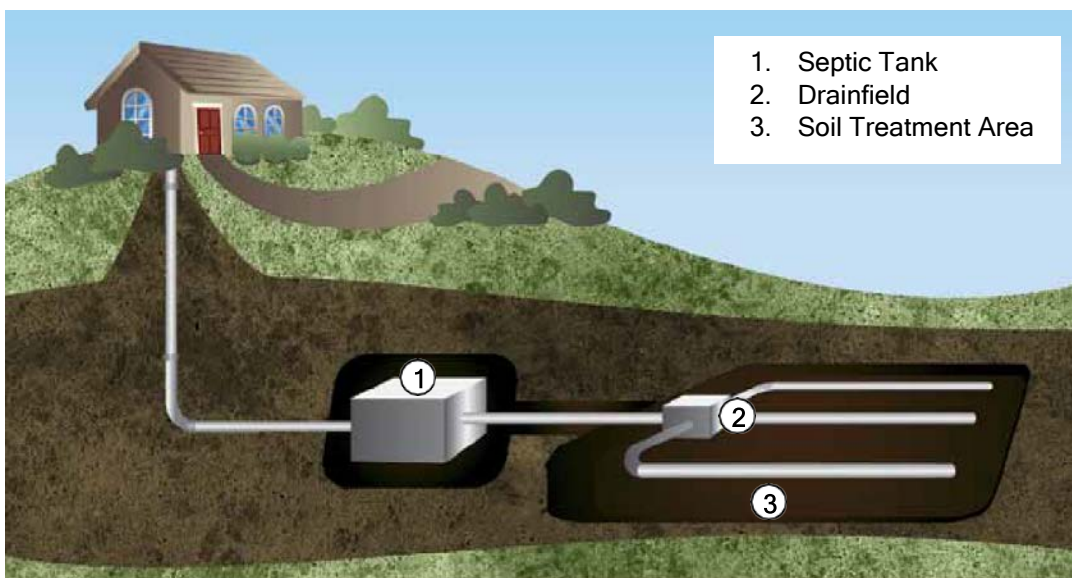
## What is a Septic System?

A septic system is an onsite treatment unit for domestic wastewater. Homes that are not connected to a municipal sewer, common in rural areas, will typically have their own septic system.

Anything that goes down the drain - every flush and every drip in the shower - gets collected in an underground tank, treated or filtered in some way, and then deposited as wastewater into the soil. The wastewater travels further underground, filtered by the soil, into an underground aquifer and eventually into the nearest river or lake.

Septic systems are provincially regulated and must involve an “Authorized Person” for their design, installation, and repairs. When septic systems work properly, they are efficient, safe, and inexpensive to maintain.

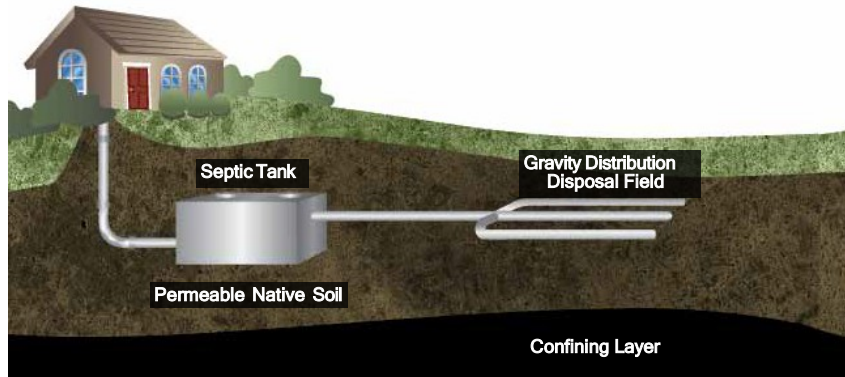
### **A Basic Septic System**



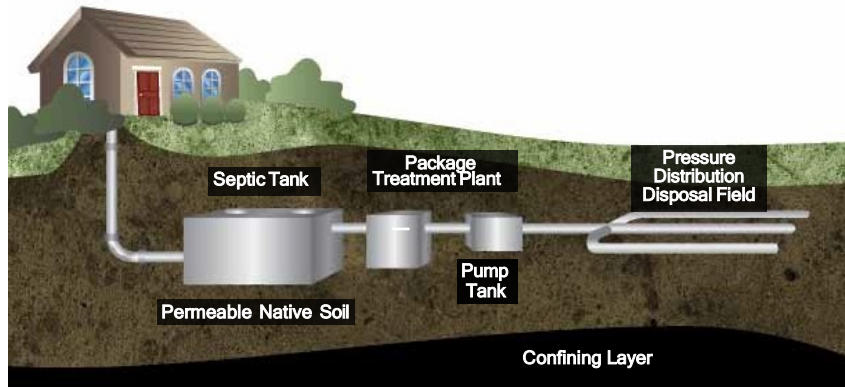
In Canada, there are three primary types of septic systems. **Type 1** and **Type 2** systems are designed for properties that have near-ideal soil conditions for ground disposal. They generally require less piping before wastewater is distributed into the soil treatment area.

**Type 3** septic systems are custom designed for properties that have unsuitable soil conditions for dealing with wastewater, requiring a longer network of piping to move it into a designated treatment area. This type of system also requires wastewater to be disinfected before it is released out.

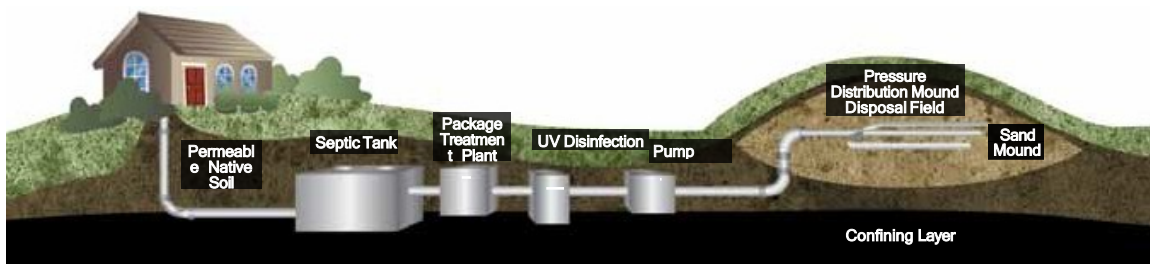
***Type 1 System (Septic Tank)***



***Type 2 (Secondary Wastewater Treatment)***



***Type 3 (Advanced Wastewater Treatment w/ Disinfection)***



# How Septic Systems Work

Although many different types of septic systems are used, they generally operate under the same principles.

## ***Wastewater from your home flushes into a septic tank***

A septic tank is a large, watertight tank divided into two compartments, with access areas for inspection and service. A septic tank should be large enough to hold enough wastewater for 3-5 days of water use. During this time, the wastewater settles into three different layers: sludge (solids), scum (oil and grease), and the remaining liquid, called “primary treated wastewater.”

The solids and oils remain at the bottom of the tank over time, and bacteria will break down much of the solids naturally. The leftover buildup of solids must be pumped out by a certified maintenance provider every 1-5 years, depending on the type of system you have.

**Remember:** Your septic system is designed to handle human waste and toilet paper only. Detergents, household chemicals, and personal care products can damage your septic system. Use environmentally friendly cleaning products and conserve water use to protect your system.

## ***Treated wastewater is transported to the drainfield***

From the septic tank, primary treated wastewater is put through an effluent filter to catch any suspended solids before travelling through to a distribution system, also called the drainfield. If there are solids that make it to the drainfield, this can lead to a clogged system, which requires expensive repairs.

## ***Wastewater is discharged into the soil***

In a gravity distribution system, a distribution box sends the wastewater into a network of pipes that lie buried in trenches in the drainfield. Small holes in the pipes allow the wastewater to seep into the drain rock trenches, and then into the soil.

In a pressure distribution system, a pump is used to evenly dose the drainfield pipes with wastewater.

In both cases, the soil will act as a natural filter to clean the water before it reaches the water table and then our local waterways.

## **Septic Systems and Your Health**

When septic systems fail, household wastewater is released into the environment. Any contact with untreated human waste can pose a significant health risk to you and your family.

Untreated wastewater from failing septic systems can also contaminate nearby wells, groundwater, and drinking water sources. Diseases caused by bacteria, parasites and viruses present in wastewater include dysentery, gastroenteritis, hepatitis, and typhoid fever. Many serious outbreaks of these diseases have been caused by contaminated drinking water.

# Use & Maintenance

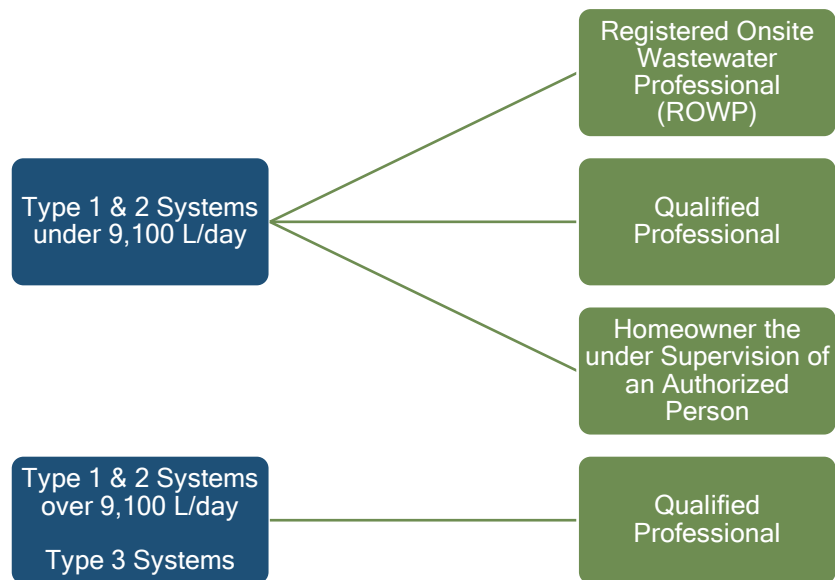
The design, installation and maintenance of septic systems in British Columbia falls under the Sewerage System Regulation in the *Public Health Act*. As a homeowner with a septic system, the Regulation sets out certain responsibilities and requirements that you should be aware of.

## Hire an Authorized Person

Before installing or replacing a septic system, you must have an “Authorized Person” - either a **Registered Onsite Wastewater Practitioner (ROWP)** or a **Qualified Professional (engineer or geoscientist)** - assess your property’s soil conditions, design a treatment and ground disposal system appropriate to the site conditions, develop a maintenance plan and then register the treatment and disposal system on your behalf with Interior Health.

It is an offence to install or repair a septic system without the involvement of an Authorized Person.

### Who Needs to Assess, Design and Install Your System



ROWPs and Qualified Professionals follow a Standard Practice Manual (SPM) when investigating and assessing soil conditions, designing the disposal system and creating a maintenance plan.

To find an Authorized Person in your area, please refer to the Resources section at the beginning of this guide.

## Follow Your Maintenance Plan

The Authorized Person who designs your system is responsible for providing the homeowner with a detailed maintenance plan. Under provincial regulation, homeowners are required to keep their system maintained and keep records of all maintenance.

Septic system maintenance is like caring for your car - just a little effort on a regular basis can significantly prolong the life of the system and save you a lot of money.

Keep records of all maintenance performed on your system. A template for keeping maintenance records is contained at the end of this guide.

## Inspections

All septic tanks need to be maintained regularly by a certified maintenance provider. Don't neglect this or put it off. Regular assessments can prevent the high cost of septic system failure. A maintenance assessment lets you find out:

- How much sludge and scum has accumulated
- Whether the baffles are functioning properly
- Whether the tank has any leaks.

During an inspection, a qualified contractor should do a number of things, including:

1. Uncover and open the manhole and inspection ports
2. Check plumbing connections to the septic tank
3. Visually observe the scum and sludge layers in the septic tank and measure them using special tools inserted through the inspection port.
4. Check the condition of the baffles or tees, as well as the walls of the tank for cracks, and the drainfield for any signs of failure. If the system includes a distribution box, drop box or pump, these need to be checked too.

Never allow anyone other than a properly equipped, trained and licensed contractor to access a septic tank for any reason whatsoever. The tank contains deadly gases.

## Pump Outs

It is important to have your septic system pumped out by a licensed septic system contractor on a regular basis. A licensed contractor will have the appropriate equipment and will dispose of the sludge at an approved treatment site.

How often you should pump out your septic tank depends on the tank size, the number of people living in your home, and the habits of your household. Garburators and food preparation practices also affect the pumping frequency. Discuss this with your pumping contractor during the first inspection.

### Pumping Tips

- It's best to pump in the summer or fall, before cold weather.
- Be present when your tank is being pumped. Make sure that the contractor uses the manhole, not the inspection ports, to pump the tank to avoid damaging the baffles or tees. Also make sure all the material in the tank is removed. It is not necessary to leave anything in the tank to "restart" the biological processes, but it is also not necessary to scrub or disinfect the tank.

## Use Septic Safe Cleaners

Be careful with what goes down your drain. Household chemicals are harmful to the beneficial bacteria that digest the sludge in your septic tank. These chemicals may also pollute the groundwater and the surrounding environment. If they must be used, only do so in moderation.

Instead, use natural cleaning ingredients that are safe for your system and the environment.

- |                    |                            |
|--------------------|----------------------------|
| ✓ Baking soda      | ✓ Phosphate-free dish soap |
| ✓ Borax            | ✓ Salt                     |
| ✓ Vinegar          | ✓ Lemon Juice              |
| ✓ Baby oil         | ✓ Washing soda             |
| ✓ Pure soap flakes |                            |



## No Need for System Additives

The bacteria needed by a septic system occur naturally. It is a common misconception that biological additives, such as yeast or meat, need to be added to your system. No commercial starters, bacterial feeds or cleaners are required or recommended.

## Your Drainfield: It's Not a Parking Lot

Your system's drainfield needs to be easily accessible in the event of a malfunction, upgrade, or other type of work. The area of land that lies above it must be kept clear of anything heavy and with no trees or shrubs planted nearby. The distribution pipes buried underneath can easily be damaged or crushed.

The following should never be on top of your drainfield:

- |                   |          |
|-------------------|----------|
| • Cars            | • Trees  |
| • Heavy equipment | • Shrubs |
| • Livestock       | • Pools  |
| • Paving          | • Decks  |

If you have a raised drainfield, it must also be kept undisturbed as much as possible.

## Seasonal Occupancy

If you only occupy your property for part of the year, you may have to give special consideration to your septic system. The ideal onsite system for a property with seasonal occupancy is a Type 1 septic tank and soil treatment area. Even if you only use the property two weekends a year, a septic system will continue to function just as satisfactorily as if the home were occupied year-round.

However, if you have a Type 2 or Type 3 treatment system, most of these involve biological systems that require consistent feeding - and won't do well if starved for long periods of time.

Make sure your Qualified Professional is aware of how you intend to use your property, and they will help you make an appropriate selection.

# Troubleshooting Tips

Symptom	Possible Causes	Action
Toilets and sinks start to drain slowly	<ul style="list-style-type: none"> <li>• Drains may be clogged.</li> <li>• Septic tank may need to be pumped out.</li> <li>• Piping may be partially blocked.</li> <li>• Plumbing vents may not be properly connected.</li> </ul>	<ul style="list-style-type: none"> <li>• Have a plumber check the drains and vents.</li> <li>• Have a ROWP check septic tank and distribution piping system.</li> </ul>
Extra plant growth over soil treatment area	<ul style="list-style-type: none"> <li>• Clogged soil on the bottom of the soil treatment area, trenches or bed, causing water to pond.</li> <li>• Excess hydraulic or organic loading to the septic system.</li> </ul>	<ul style="list-style-type: none"> <li>• Have ROWP inspect septic tank and soil treatment area inspection ports and/or cleanouts.</li> <li>• Check water meter records for excess water usage that may indicate plumbing fixture leaks and/or inspect fixtures for leakage.</li> </ul>
Foul odours outside your home	<ul style="list-style-type: none"> <li>• Plumbing vents may not be properly connected.</li> <li>• Septic tank cover may not be properly sealed. Wastewater may be collecting in the vicinity of the soil treatment area or surfacing nearby.</li> <li>• Check to see if plumbing traps are dry.</li> </ul>	<ul style="list-style-type: none"> <li>• Have plumber check vents.</li> <li>• Have ROWP inspect septic tank and ensure the cover is sealed.</li> <li>• Inspect soil above and in the vicinity of the soil treatment area for excess moisture or ponded water.</li> </ul>
Foul odours inside your home	<ul style="list-style-type: none"> <li>• Plumbing traps may not be properly installed.</li> <li>• Electrical conduits for septic system pump may not be properly sealed.</li> <li>• Pipe leading from house to septic tank may be broken.</li> <li>• Wastewater may be backing up into the home.</li> </ul>	<ul style="list-style-type: none"> <li>• Have plumber inspect traps and inspect perimeter foundation drainage for presence of water during dry weather.</li> <li>• Have ROWP inspect the septic tank for the possible causes noted.</li> </ul>
Wastewater backing up into home	<ul style="list-style-type: none"> <li>• Building sewer pipe leading to septic tank may be blocked.</li> <li>• Force main pipe leading to soil treatment area may be blocked.</li> <li>• Soil treatment area may be damaged or clogged.</li> </ul>	<ul style="list-style-type: none"> <li>• Have ROWP inspect septic tank.</li> </ul>
Effluent breaking out to ground surface	<ul style="list-style-type: none"> <li>• Soil cover over distribution lateral piping may not be deep enough.</li> <li>• Part of the soil treatment area may have settled or been lifted by frost heave so gravity cannot drain pipes properly.</li> <li>• Distribution system may be damaged.</li> <li>• Piping and/or soils in soil treatment area may be full and not able to drain properly.</li> </ul>	<ul style="list-style-type: none"> <li>• Have ROWP check problems.</li> <li>• Contact Interior Health.</li> </ul>
High nitrate and/or presence of coliform bacteria in nearby wells, lakes, rivers, or streams	<ul style="list-style-type: none"> <li>• Soil below distribution lateral piping may be too coarse or too shallow to adequately treat the wastewater.</li> <li>• Water table may be too close to the bottom of the soil treatment area.</li> <li>• Wastewater may be breaking out from the soil treatment area into nearby drainage courses.</li> </ul>	<ul style="list-style-type: none"> <li>• Have ROWP inspect soil treatment area inspection ports or cleanouts.</li> <li>• Contact Interior Health.</li> </ul>

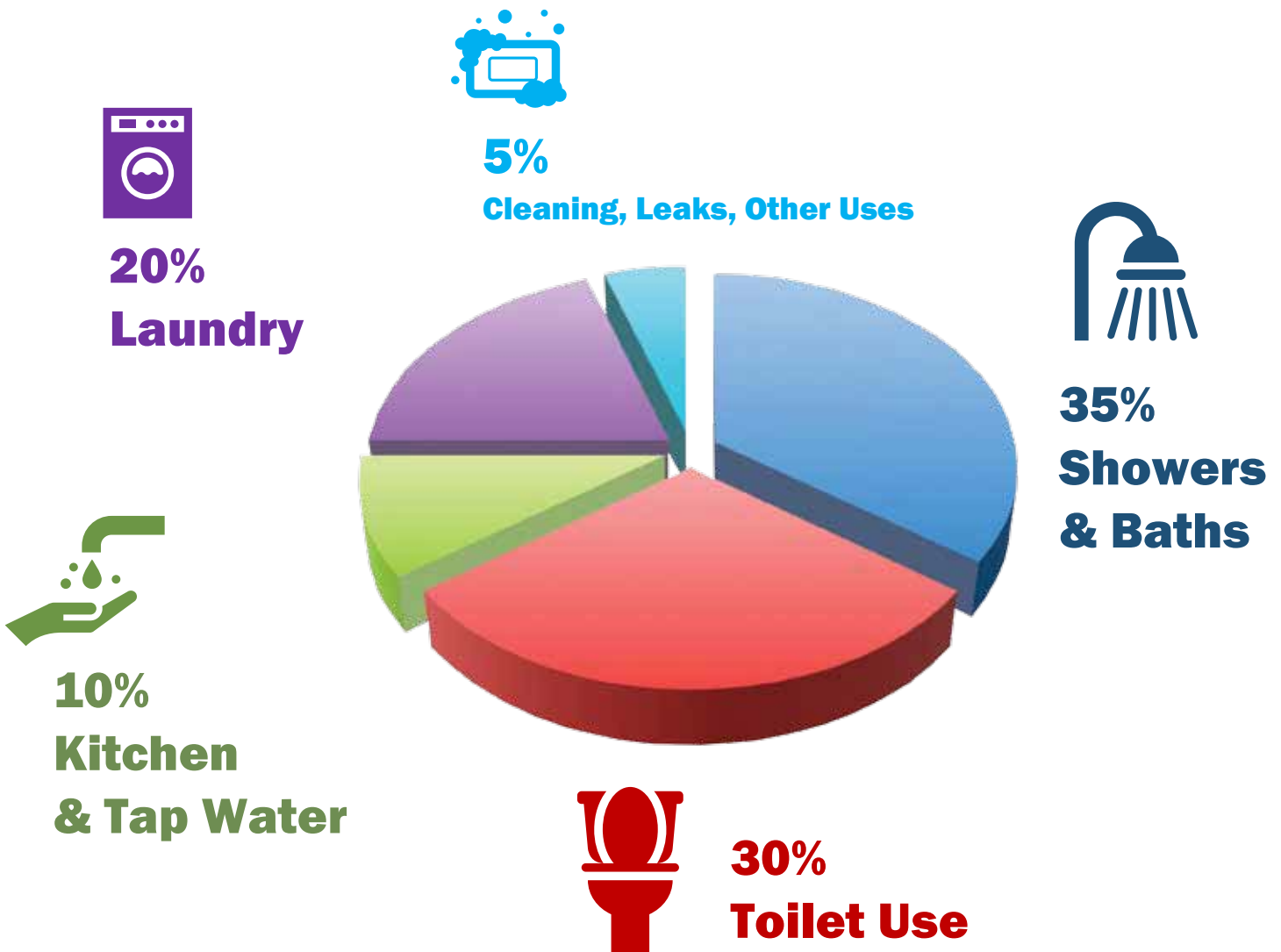
## Water Conservation Tips

Water conservation is very important for septic systems. If there is too much water going through your system, solids are not given time to settle in your septic tank and can get pushed through into your soil treatment area. Continual saturation of the soil in the soil treatment area can also affect the quality of the soil and its ability to naturally remove toxins, bacteria, viruses, and other pollutants from the wastewater.

The most effective way to conserve water around the house is to first take stock of how it is being used. The next section of this guide - “Do’s and Don’ts” - lists a few things you can do to conserve water, reduce costs and improve the performance of your septic system.

## Average Indoor Water Usage

Source: Environment Canada



## Do's and Don'ts

What you put into your septic system greatly affects its ability to do its job. Remember, your septic system contains living organisms that digest and treat waste. As a general rule of thumb, do not dispose of anything in your septic system that can just as easily be put in the trash. Your system is not designed to be a garbage can and solids build up in the septic tank that will eventually need to be pumped. The more solids that go into the tank, the more frequently the tank will need to be pumped, and the higher the risk that problems will arise.

By educating everyone in your household about what is and what isn't good for septic systems, you can save a lot of money and headaches, while prolonging the life of your system and the health of your family, property and the environment.

### Installation

<b>Do:</b>	<b>Don't:</b>
<ul style="list-style-type: none"> <li>• Enlarge your septic system if you are planning a property addition that adds more than 15% to your home's floor area</li> <li>• Get a signed letter from an Authorized Person, stating that the existing septic system is sufficient, if you are planning an addition that increases the use of your system (CSRD requirement)</li> </ul>	<ul style="list-style-type: none"> <li>• Install or repair your septic system without involving a Registered Onsite Wastewater Practitioner or Qualified Professional</li> <li>• Expand the size of your residence, add a basement suite, or start a business (e.g. daycare) without adjusting the size of your septic system.</li> <li>• Make or allow repairs to your septic system without the required permits</li> </ul>

### Drainfield

<b>Do:</b>	<b>Don't:</b>
<ul style="list-style-type: none"> <li>• Keep the drainfield area grassed to promote evaporation and mitigate erosion</li> <li>• Watch for settlement that might direct water onto the drainfield</li> </ul>	<ul style="list-style-type: none"> <li>• Allow vehicles to drive over the drainfield or park on it</li> <li>• Plant any trees or shrubs on or near the bed; their roots can clog pipes</li> <li>• Drain downspouts, sump pumps, etc. down the septic system.</li> <li>• Alter drainage features without consideration for impacts to the disposal fieldsoil treatment area.</li> <li>• Build over the drainfield soil treatment area or cover it with a hard surface such as asphalt, brick or patio stones.</li> <li>• Excessively water the lawn over the drainfield soil treatment area.</li> <li>• Install automatic lawn sprinklers in the area.</li> </ul>

## System Maintenance

<b>Do:</b>	<b>Don't:</b>
<ul style="list-style-type: none"> <li>• Get your septic system inspected annually</li> <li>• Call an Authorized Person whenever you experience problems with your system</li> <li>• Pump out your septic tank every 3 to 5 years, or as often as appropriate for your system</li> <li>• Keep a detailed record of repairs, pumping, permits issued, and other maintenance activities</li> <li>• Know the location of your septic tank and soil treatment area. Keep a sketch of it handy for your maintenance records.</li> <li>• Keep your septic tank cover accessible for inspections and pumping. Install risers if necessary</li> <li>• Hire an Authorized Person design a maintenance plan for your system</li> <li>• Ensure that you have an effluent filter installed, to help increase the life of your system</li> </ul>	<ul style="list-style-type: none"> <li>• Access or enter a septic tank.</li> <li>• Use septic tank additives</li> </ul>

## Waste Disposal

<b>Do:</b>	<b>Don't:</b>
<ul style="list-style-type: none"> <li>• Dispose of solids appropriately. The only things that should be flushed down the toilet are <u>wastewater and toilet paper</u></li> <li>• Dispose of chemicals and fuels at approved waste sites</li> <li>• Dispose of grease into the regular garbage. A grease interceptor between the kitchen sink and the septic tank is also recommended.</li> <li>• Use household cleaners in moderation (bleach, disinfectants, and drain and toilet bowl cleaners) and only in accordance with product labels.</li> <li>• Return leftover medications to your pharmacy. Also be aware that human wastes from people on medication (e.g. antibiotics) can affect the performance of your septic system and may require more frequent pumping of your tank.</li> </ul>	<ul style="list-style-type: none"> <li>• Put cigarette butts, paper towels, feminine hygiene products, condoms, disposable diapers, or anything plastic or non-biodegradable into a septic tank system.</li> <li>• Put oil, gasoline, paint thinners, solvents, photographic chemicals, pharmaceuticals, latex paint, weed or insect killers down the drain. They can poison your septic system and possibly threaten water supplies for your whole neighbourhood.</li> <li>• Wash food scraps, coffee grinds, and other food items down the drain,</li> <li>• Use a garburator to dispose of kitchen wastes. In-sink garbage disposal units can increase sludge accumulation by 40 per cent.</li> <li>• Put cooking grease down the drain. It can solidify and clog pipes</li> </ul>

## Bathroom

Do:	Don't:
<ul style="list-style-type: none"> <li>• Install water-saving toilets or install toilet dam devices to reduce water use per flush.</li> <li>• Reduce the number of times you flush your toilet with multiple uses before flushing.</li> <li>• Install water-saving features in faucets and shower heads. These devices can reduce water use by up to 50%.</li> <li>• Fix all leaking faucets and toilets in your home. Leaks can cost you hundreds of dollars a year.</li> <li>• Take shorter showers. Shortening your shower time to 5 minutes or less can save up to 40 litres of water per use.</li> </ul>	<ul style="list-style-type: none"> <li>• Let taps flow unnecessarily</li> <li>• Let the water run while washing hands, shaving or brushing your teeth. You can save up to 22 litres of water per use!</li> </ul>

## Laundry

Do:	Don't:
<ul style="list-style-type: none"> <li>• Use energy-efficient washing machines in your home if possible. These models can use up to 50% less water than standard machines. Look for appliances that display the Energy Star symbol.</li> <li>• Run washing machines only with full loads. Washing small loads of laundry with large quantities of water is a waste of both water and energy</li> </ul>	<ul style="list-style-type: none"> <li>• Use caustic drain openers and cleaners</li> </ul>

## Kitchen Sink

Do:	Don't:
<ul style="list-style-type: none"> <li>• Use energy-efficient washing machines in your home if possible. These models can use up to 50% less water than standard machines. Look for appliances that display the Energy Star symbol.</li> <li>• Run washing machines only with full loads. Washing small loads of laundry with large quantities of water is a waste of both water and energy</li> </ul>	<ul style="list-style-type: none"> <li>• Use water softeners. Some models pump hundreds of gallons of water, and pounds of salt, into the septic system all at once. This will harm the good bacteria in your system and can discharge more solids into your drainfield.</li> </ul>

# Maintenance Records

It is very important to keep a detailed record of all maintenance activities to your system. Having this information on hand for service visits can save you both time and money. Print this maintenance chart and use it to track the performance of your septic system.

## Maintenance Record Chart

Home address/location: \_\_\_\_\_

### Type of Drainfield System:

- Conventional Trench      Shallow Trench      Other (give details)  
 Conventional Bed      Raised Bed or Mound  
 Contour Trench      Drywell

### Type of Distribution System:

- Gravity  
 Pressure

**System Designer**     Name: \_\_\_\_\_ Phone No: \_\_\_\_\_  
 Address: \_\_\_\_\_

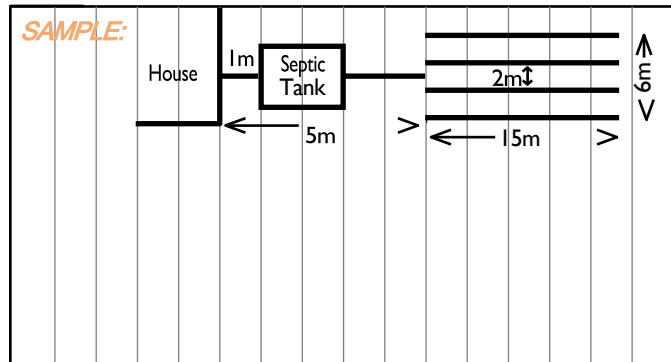
**System Installer:**     Name: \_\_\_\_\_ Phone No: \_\_\_\_\_  
 Address: \_\_\_\_\_

**Local Inspector:**     Name: \_\_\_\_\_ Phone No: \_\_\_\_\_  
 Address: \_\_\_\_\_

### Documents:

- Copy of Site Evaluation
- Copy of Sewage System Permit, including drawings
- Copy of Final Inspection and Use Report
- Manufacturers' Instructions and Warranties
- Sketch map showing location of septic system and house on lot

### System Map:



Date Inspected	OK	Pumped Out	Repairs Needed	Other	Contractor Name/Initials



**Columbia Shuswap Regional**

**Website: [www.csr.d.bc.ca](http://www.csr.d.bc.ca)**

**Phone: 250-833-5950**

**Toll Free: 1-888-248-2773**

**After Hours Emergencies: 1-877-996-3344**