

How To Find A Septic Tank

Water Stewardship Information Series



Buildings and homes not connected to a municipal sewage system use septic systems to dispose of human waste. Knowing the location of the septic tank is important for proper maintenance of the septic system.

What is a septic tank?

A septic tank is a watertight, underground container for receiving, treating and settling human waste. The solids settle to the bottom of the tank and become sludge, while oils and other light materials float to the surface, forming a scum layer. Within the tank, anaerobic bacteria (bacteria that grow without dissolved oxygen) break down the solid wastes. When the septic tank is working properly, these bacteria can reduce solids by 50% to 60%. The liquid between the sludge on the bottom of the tank and scum on the top flows out of the tank into the dispersal area or drainfield, where the remainder of the

biological breakdown and filtration occurs in the soil (see figure below). The sludge and surface oils remaining in the septic tank need to be regularly pumped out and hauled away for proper disposal. Proper system design, installation, operation and maintenance will ensure that harmful biological organisms will be treated before reaching groundwater.

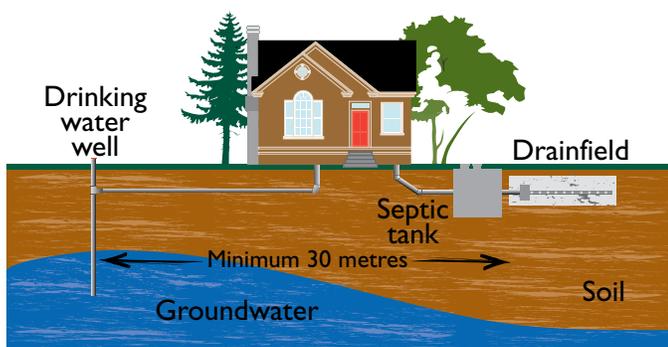
A septic system is an important permanent part of a home or business which, when maintained and operated correctly, should last a long time.

Why do I need to know the location of my septic tank?

Home owners are responsible for operating and maintaining their septic systems in a safe manner. Proper maintenance includes annual inspections of the septic tank and pumping out the septic tank every two to three years, depending on the number of people using the system and the volume of daily sewage flow.

Improper maintenance of an onsite septic system can result in the premature malfunction of the system and could create a health hazard, reduce the lifespan of the system or contaminate the groundwater or surface water that you and your neighbours are drinking.

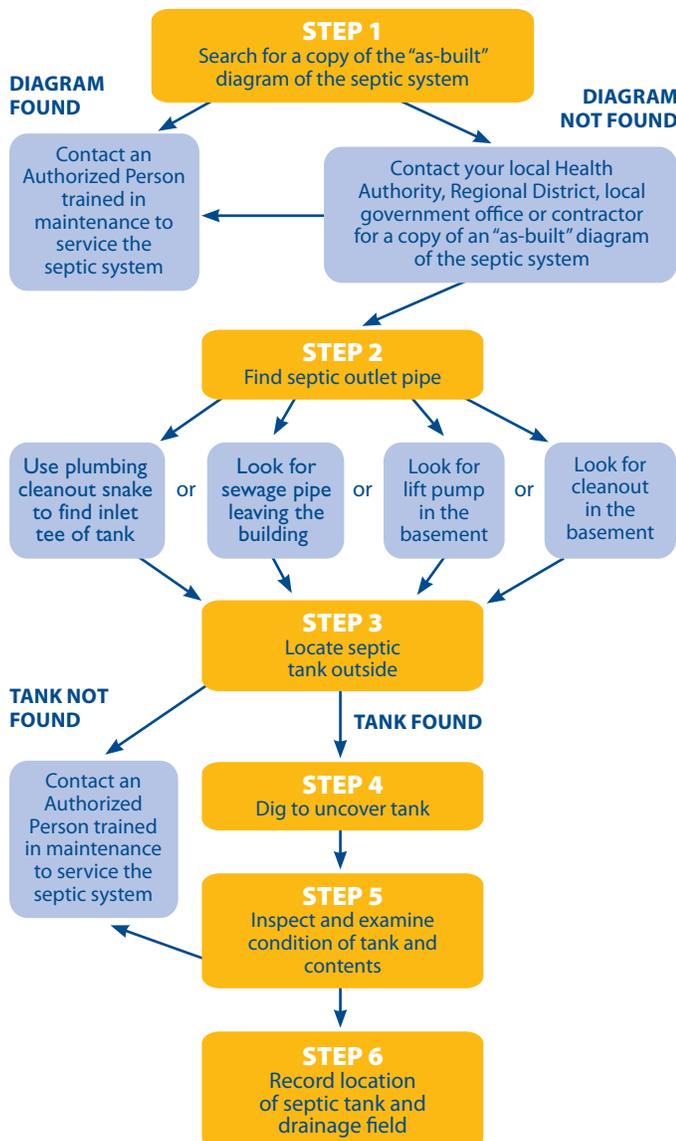
Useful information on how to care for your residential septic system can be found at www.crd.bc.ca/wastewater/septic/savvy.htm and www.bchealthguide.org/healthfiles/hfile21.stm.



Helpful hints when servicing a septic tank:

- Use an Authorized Person trained in maintenance of septic systems.
- Check the thickness of the scum layer and the depth of the sludge.
- If the water table is at or near the surface of the ground, caution should be employed when pumping the tank (the tank can become buoyant and float up out of the ground). If it must be pumped due to an emergency, refill with water as the tank is being cleaned out to prevent it from becoming buoyant. When filling the tank, never place a garden hose inside the tank or in a location where the end of the hose could become submerged.
- Waste materials supplied through general household activities such as toilet flushing provides ample bacteria and nutrients for bacteriological activity in the tank and there should be no need to add anything.

How can I find my septic tank?



STEP 1 – Search for a copy of the “as-built” diagram of your septic system

When a septic system is installed, an as-built diagram may have been provided to your local Health Authority. If you can't find your copy of the as-built diagram, contact the Authorized Person that designed or installed the system or your local Health Authority. Note: older systems may not have a diagram on file. In some areas the diagram may be found in your municipality's or regional district's building department, if your system includes electrical components.

If you cannot find an as-built diagram, further investigation is necessary.

STEP 2 – Find your building sewer outlet pipe

In the basement of the building, find the sewer outlet pipe (usually a black 4" pipe with a cleanout – see Figure 1 showing the blue sewer outlet pipe).

The cleanout (in a finished basement) will sometimes be found in a closet or behind a wall. Look for access covers, a box-style cover or a structure that may be hiding the sewer outlet pipe; or

Some buildings will have a lift pump (see Figure 2) in the basement to pump sewage up and out of the building. Flush a toilet in the lowest level of the building and listen for the pump to determine the direction in which the sewage is being pumped. This should lead to the sewer outlet pipe.



Figure 1. Sewer outlet pipe

Figure 2. Sewage lift pump

STEP 3 – Locate the septic tank outside

Determine where the sewer outlet pipe exits your home close to the outside wall of the house. It can be any distance from the house but is generally no closer than one metre (approximately three feet). Sometimes the outlet pipe will take a 30°, 45° or 90° turn, so the tank may be located around the corner of the building.

Look around the yard and try to judge the location of the tank and drainfield.

Helpful hints for locating a septic tank:

- A metal detector help locate a buried concrete tank by finding the reinforcement bars. Don't wear footwear with any steel when using the metal detector.
- A flushable transmitter can be obtained from an Authorized Person, a plumbing or rental store, or a tank cleaning company and flushed down the toilet and tracked with a receiver – the strongest signal will likely be over the inlet area of the septic tank.
- A plumbing cleanout snake can be run through the sewage pipe to find the septic tank. Pay attention to any curves or bends the snake takes. When the snake stops, you have found the inlet tee of the tank. Do not ram the snake as this may knock the inlet tee, a very important part of the tank. When you recoil the snake, make note of the bends and distance to the inlet and add about 1 meter (approximately 3 feet) to reach the center of the septic tank. Be sure to take proper sanitary measures during and after use of the snake. Thick rubber gloves are recommended for handling and operating the snake. Thoroughly wash your hands and wipe down the area after you have completed the work. Once any dirt or waste matter has been removed, surfaces should be wiped down with a bleach solution (one litre household bleach in 25 litres of water or one quart of household bleach to 7 US gallons of water). Any items used should be soaked in the bleach solution.



Figure 3. Using a pipe camera to find septic tank

- A pipe camera (see Figure 3) has a transmitter head and can be used to look into the tank to check on its condition and location.

STEP 4 – Dig to uncover tank

Once located, you will probably only see the top of the septic tank (the rest of the tank will be buried). The top of the septic tank is normally about the size of a 1.2 m x 2.4 m (4 x 8 foot) sheet of plywood. Septic tanks can be concrete, plastic or fibreglass and either rectangular, spherical or oblong in shape. The lighter plastic or fibreglass tanks are sometimes the only feasible option for rural areas. The lid of a newer tank (see Figure 4) is often located centrally, whereas many older tanks (see Figure 5) have concrete or wood slabs covering the entire top (generally two or three lids located over the inlet and outlet of the tank and one large lid as a cleanout). The lid will generally be within one meter (approximately three feet) of the ground surface, but sometimes can be found much deeper.



Figure 4. Newer style septic tank

Figure 5. Old style septic tank – lids removed

Always look for gas, electrical, water and utility lines before digging. Dig gently, as aggressive use of a shovel or pounding bar can damage or destroy the pipes. A thin steel probe rod with a handle can be gently pushed into the soil to find the tank, as concrete and plastic tanks produce a distinct sound when tapped.

STEP 5 – Inspect and assess the condition of the tank and contents

It is appropriate after finding the tank to remove the lid for inspection, assessment of the scum and sludge layers and maintenance. Check the thickness of the scum layer and the depth of the sludge to ensure that the scum or solids are not exiting the tank or significantly reducing the overall internal capacity of the tank.

Never remove a lid and leave the tank unattended.

If your tank contains an effluent filter, have the person doing the maintenance rinse the filter contents into the open septic tank and not the yard or garden.

It is appropriate to involve an Authorized Person trained in maintenance to service your septic system.

If your tank is in a poorly ventilated or confined space (see Figure 6), you should ensure there is adequate ventilation or a separate air supply – WorkSafeBC rules for confined space entry should be followed.



Figure 6. Deep septic tank in confined place – WorkSafeBC rules apply

STEP 6 – Record the location of the septic tank and drainfield

For future reference, note down the location of your septic tank – a useful form can be found at http://www.crd.bc.ca/wastewater/septic/documents/septic_location.pdf.

You should always note down the location of your well in relation to your septic system. Your well should be located at least 15 metres (50 feet) from your septic tank, and 30 metres (100 feet) away from the drainfield. If this is not the case (see Figure 7), then consideration should be given to either drilling a new well or moving your septic system.



Figure 7. Well too close to septic tank – well/tank should be at least 15 metres (50 feet) apart

What if the tank is under a permanent part of the building or a cement patio?

It may be hard to find your septic tank if your home has had lots of repairs and/or renovations. The septic tank may be found under a concrete patio, cedar deck (see Figure 8), porch, driveway, shed, etc., even though it should not be found in these locations. In rare instances, the tank may be found within a building. A septic tank within a building should be moved outside. A tank under a tightly enclosed structure should be properly ventilated or moved (septic tanks produce harmful and flammable gases). Moving any major component of the septic system will require meeting the Sewerage System Regulation (see www.qp.gov.bc.ca/statreg/reg/H/Health/326_2004.htm) and should be done by an Authorized Person.

Covering the tank with soil or a concrete slab is acceptable as long as the tank is easily accessible for servicing (see Figure 9). All access lids must be easily reached for monitoring and maintenance.



Figure 8. Exposed hatch in deck provides access to secure concrete tank lid

Who is an Authorized Person?

There are two types of Authorized Persons – a Professional and a Registered Practitioner. It is an offence for anyone other than an Authorized Person to construct, install, repair or maintain a sewage system. To find an Authorized Person, see the Applied Science Technologists and Technicians of BC (ASTTBC) website at <http://owrp.asttbc.org/registrants.php> for Registered Practitioners or the Association of Professional Engineers and Geoscientists of BC (APEGBC) website (www.apeg.bc.ca/members/sewerageprolist.html) for a list of Professional Engineers carrying out services under the Sewerage System Regulation.

For further information

Contact your local Health Authority (phone number can be found in your phone directory, internet or Enquiry BC 1-800-663-7867). Alternatively, you can contact the BC Onsite Sewage Association at 1-866-391-8442 or www.bcossa.com. For information on groundwater and well stewardship go to www.env.gov.bc.ca/wsd/plan_protect_sustain/groundwater/index.html.

