

## SEWAGE SYSTEMS AND FLOODING

### Safety, Sanitation, and Clean-up

[Municipal Systems](#)

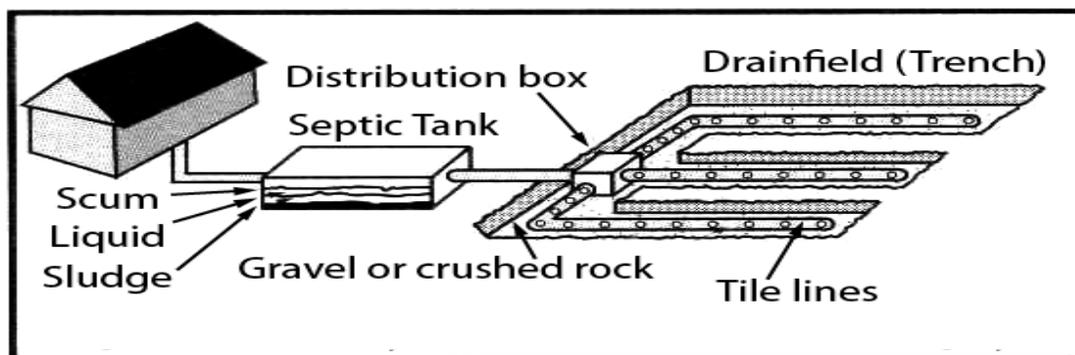
[Outhouses](#)

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## PRIVATE SEWAGE SYSTEMS

Flooding of a private sewage system can be a hazardous situation for homeowners. It may result in sewage backed-up into the home, contaminated drinking water, and lack of sanitation until the problem is fixed. However, it is possible to prepare for high water conditions so that you are able to respond appropriately to emergency flooding.

When flooding or saturated soil conditions persist, a private sewage system cannot function properly. Soil treatment systems for wastewater rely on aerobic (with oxygen) conditions to reduce the amounts of chemicals and living organisms (viruses, bacteria, and protozoa). When soil is saturated or flooded, those hazardous materials can enter the groundwater and your drinking water supply.



**Schematic of a Drainfield**

## Before flooding

If you are prepared when flooding occurs, your family can be safe and your system should survive. To prepare for a flood, you should:

- **Ensure all septic tanks are full of liquid.**  
Avoid pumping your tanks in the high-water season; empty tanks are buoyant and may “pop” out of the ground during flooding.
- **Plug floor drains, if necessary, to keep sewage from backing up into the basement.**  
Floodwaters may still enter the basement through cracks and seams, however.

## During flooding

- **Discontinue use of your private sewage system.**  
If the soil is saturated and flooded, the wastewater will not be treated and will become a source of pollution. Conserve water as much as possible while the system restores itself and the water table falls. Use portable toilets, if possible, or use any large container with a tight-fitting lid for a temporary toilet. Line the container with a plastic bag. After each use, add chlorine bleach or disinfectant to stop odour and kill germs. If necessary, bury wastes on high ground far away from your well and/or any drinking water source.
- **Shut off power to a sewage lift pump if you have one in the house or in a pump chamber (mound, in-ground pressure, at-grade systems).**
- **Prevent silt from entering septic systems that have pump chambers.**  
When the pump chambers are flooded, silt may settle in the chambers and will clog the drainfield, if it is not removed.
- **Remember that a well may become contaminated during a flood.** Therefore, **DO NOT DRINK THE WATER.** Drink bottled water until you have tested your drinking water. If bottled water is unavailable and you have no alternative source, disinfect, or boil your water before drinking. Contact your [local health authority](#) for disinfection instructions and information about getting your water tested.
- **Do not bathe or swim in floodwater.** It may contain harmful organisms.



Contaminated flood waters can enter wells.

## After flooding

- **Do not use the sewage system until water in the disposal field is lower than the water level around the house.**
- **If you suspect damage to your septic tank, have it professionally inspected and serviced, i.e., contact an [authorized person](#).**  
Signs of damage include settling or the inability to accept water. Most septic tanks are not damaged by a flood since they are below ground and completely covered. However, sometimes septic tanks or flood chambers become filled with silt and debris, and must be professionally cleaned. If tile lines in the disposal field are filled with silt, a new system may

need to be installed in new trenches. Because septic tanks may contain dangerous gases, only trained specialists should repair them.

The Sewerage System Regulation requires an [authorized person](#) to for the construction (including repairs) and maintenance of a septic system.

- **Discard any items that are damaged by contaminated water and cannot be steam cleaned or adequately cleaned and disinfected.**
- **Do not pump water out of basements too quickly.**  
Exterior water pressure could collapse the walls.
- **If sewage has backed up into the basement, clean the area and disinfect the floor with a chlorine solution of one-half cup of chlorine bleach to 4.5 litres (1 gallon) of water.**
- **Do not open the septic tank for pumping while the soil is still saturated or flooded.**  
Mud and silt may enter the tank and end up in the drain field. Furthermore, pumping out a tank that is in saturated soil may cause it to “pop out” of the ground which may damage the inlet and outlet pipes. (Likewise, recently installed systems may “pop out” of the ground more readily than older systems because the soil has not had enough time to settle and compact.)
- **If the septic system backs up into the house, check the tank first for outlet blockage.**  
Flooding of the septic tank will have lifted the floating crust of fats and grease in the septic tank. Some of this scum may have floated and/or partially plugged the outlet tee. Clean up any floodwater in the house without dumping it into the sink or toilet and allow enough time for the water to recede. Floodwaters from the house that are passed through or pumped through the septic tank will cause higher flows through the system. This may cause solids to transfer from the septic tank to the drain field and will cause clogging.
- **Pump the septic system as soon as possible after the flood once the soil is no longer saturated or flooded.** Be sure to examine all electrical connections for damage and ensure they are dry and clean before restoring electricity. Be sure to pump both the tank and lift station (if you have one). This will remove silt and debris that may have washed into the system.
- **Do not compact soil over the soil absorption field by driving or operating equipment over the area.** Saturated soil is especially susceptible to compaction, which can reduce the soil absorption field’s ability to treat wastewater and may lead to system failure.
- **Ensure the septic tank’s manhole cover is secure and that inspection ports have not been blocked or damaged.**
- **Examine the vegetation over your septic tank and soil absorption field.** Repair erosion damage and sod and/or reseed as necessary to provide a vegetative cover.
- **Wash and rake aerobic plants, upflow filters, trickling filters and other media filters.**  
They have a tendency to clog due to mud and sediment.
- **Contact your [local health authority](#) for information about testing your drinking water if you are on a well or a private surface water system.** Do not drink the water until it has been tested and is safe.

## MUNICIPAL SEWER

If your home is connected to a municipal sewer, you will be notified when the system has been restored. Until the system has been restored, use portable toilets, if possible, or use any large container with a tight-fitting lid for a temporary toilet. Line the container with a plastic bag. After each use, add chlorine bleach or disinfectant to stop odour and kill germs. If necessary, bury wastes on high ground far away from your well and/or any drinking water source.

## OUTHOUSES

Ensure that the outhouse is still positioned over the pit. If the outhouse has been washed away, or collapsed, cover the open pit with sturdy boards to prevent accidents and the spread of disease. If water is in the pit, add 2 litres (2 quarts) of unscented liquid chlorine bleach every three to four days until the water disappears.

## ADDITIONAL RESOURCES

In addition to contacting your [local health authority](#), the following organizations may be able to answer your questions:

### **BC Onsite Sewage Association**

For questions about your sewage system and available practitioners.

**Toll free:** 1.866.391.8442

[www.bcossa.com/](http://www.bcossa.com/)

### **Applied Science Technologists & Technicians of BC**

For questions about available practitioners.

**Phone:** 1.604.585.2788 ext. 236

[owrp.asttbc.org/](http://owrp.asttbc.org/)

### **Association of Professional Engineers and Geoscientists**

For questions about available professionals.

**Toll free:** 1.888.430.8035

[www.apeg.bc.ca/](http://www.apeg.bc.ca/)

Also see these helpful BC HealthGuide pages:

[Cleanup Following a Flood](#)

[Water Testing](#)

[Mould](#)