

Maintenance and operation of onsite sewage systems

When are onsite sewage systems used?

Any home or building not connected to a municipal (centralized) sewage system needs a method for treating human waste (feces and urine) and other liquid wastes. The BC Sewerage System Regulation requires an onsite sewage system designed and constructed by a specialized practitioner. Information about the system is filed with the local regional health authority.

A typical onsite sewage system has two parts:

- Septic tank, which may also include a treatment plant
- Dispersal area, which is usually a series of underground pipes or chambers. They evenly distribute the partially treated liquid into the ground for final treatment

How does a septic tank or treatment plant work?

Septic tank

A septic tank is a watertight underground container used for receiving and treating liquid waste. The solids settle to the bottom of the tank and become sludge. Oils and other light material float to the surface, forming a scum layer. Within the tank, anaerobic bacteria, which are bacteria that do not need oxygen, break down the solid waste. When the septic tank is working properly, these bacteria can reduce the solids by 50 to 60 percent.

The liquid between the sludge on the bottom of the tank and the scum on the top flows out of the tank into the dispersal area. Further treatment occurs in the soil before the treated water moves into the groundwater.

The sludge and scum layer remaining in the septic tank need to be pumped out regularly (usually every 2 to 5 years). A septic system pump-out contractor can do this maintenance.

Treatment Plant

A typical treatment plant uses air to help break down solids and treat wastewater. After liquid waste is

treated in a septic tank, it flows into the treatment plant. The treatment plant changes liquid waste to a higher quality. This makes liquid waste cleaner and safer than the discharge from a regular septic tank and allows for a smaller dispersal area.

How can I install an onsite sewage system?

Every homeowner who wants to construct a new onsite sewage system, or to alter or repair an existing one, must follow the Public Health Act and the Sewerage System Regulation and use the services of an authorized person (AP). For more information, visit Ministry of Health, Onsite sewage systems at: www2.gov.bc.ca/gov/content/environment/waste-management/sewage/onsite-sewage-systems.

APs includes professional engineers and registered onsite wastewater practitioners (ROWPs)

The AP assesses both the homeowner's needs and the capacity of the land for sewage treatment and dispersal. The AP will then plan an onsite sewage system that meets those needs. Once the AP files the plan with the health authority, they may install the system.

When the installation is complete, the AP certifies that the system installation took place according to the plan. They will also provide copies of the maintenance plan and the 'as-constructed' drawing of the system components to the homeowner and the regional health authority.

How is an onsite sewage system maintained and serviced?

All sewage systems need ongoing maintenance for proper operation.

As per the BC Sewerage System Regulation, homeowners are responsible for carrying out a maintenance plan. They must use the services of an authorized person (AP) to conduct maintenance. Keep accurate drawings that show the location of all parts of the sewage system. This will help maintenance providers troubleshoot any problems.

Improper or insufficient maintenance may lead to system failure. This will result in costly repairs. A failing sewage system can also contaminate local drinking water sources, which can cause serious illness in people.

Sewage systems usually need servicing every 2 to 5 years. Various factors determine the repair frequency such as:

- The number of people using the system
- The volume of daily sewage flow
- What is being flushed down the drain

Homeowners can keep the following in mind when servicing a sewage system:

- Use an AP for maintenance
- Do not scrub the septic tank clean. Leave a small amount of sludge to renew bacterial activity

How can I prevent problems with my sewage system?

Homeowners can prevent damage to the onsite sewage system through the following measures:

- For systems built after May 30, 2005, follow the maintenance plan. Owners of systems built before 2005 may contact an AP to develop a maintenance plan
- In areas where frost penetration is a problem, insulate the dispersal pipe and dispersal area. A generous layer of straw or strips of rigid Styrofoam board can be used during winter months. Depending on how cold it is in the area, the septic tank and pipe leading from the house may also be insulated
- Use snow fences to promote maximum insulation from snow cover
- If water pools up on a dispersal area, seek advice from an AP
- Do not allow any vehicles, including snowmobiles, to drive or park where the onsite sewage system has been built

- Do not flush paints, solvents or any kind of toxic chemicals down the drain
- Do not plant large trees or shrubs near the onsite system. Roots may affect the dispersal area
- Do not allow roof or perimeter drains, or any surface water, to discharge on or near the onsite sewage system
- Do not overload the system with too much water. For example, a running toilet, dripping faucet, watering on or near the dispersal area, or doing many loads of laundry in a row. Establish a water conservation strategy for the house
- Do not flush cigarette butts, filters, feminine hygiene products, newspaper, disposable diapers, condoms, paper towels, hair, metal, coffee grounds, tea leaves, fats, grease, etc. These can all plug the septic tank or dispersal area
- Do not install a garburator without increasing the capacity of the onsite sewage system
- Do not leave the system without input for long periods during cold winter months. For example, by going on a long vacation
- Do not allow large livestock to graze on the dispersal area

If you have questions about how sewage systems work or about local requirements, contact your regional health authority at:

www2.gov.bc.ca/gov/content/health/about-bc-s-health-care-system/partners/health-authorities/regional-health-authorities.

For more HealthLinkBC File topics, visit www.HealthLinkBC.ca/more/resources/healthlink-bc-files or your local public health unit. For non-emergency health information and advice in B.C., visit www.HealthLinkBC.ca or call **8-1-1** (toll-free). For the deaf and hard of hearing, call **7-1-1**. Translation services are available in more than 130 languages on request.