



Regulation respecting waste water disposal systems for isolated dwellings (Q-2, r.22)

« **A Regulation that protects the environment** »

Septic system description and functioning

The waste water treatment system most commonly found in Québec consists of two components: a septic tank (primary treatment system) and a soil absorption system, commonly referred to as a leaching bed, which is the secondary treatment system. These two components (primary and secondary treatment systems) purify the wastewater produced by the household.

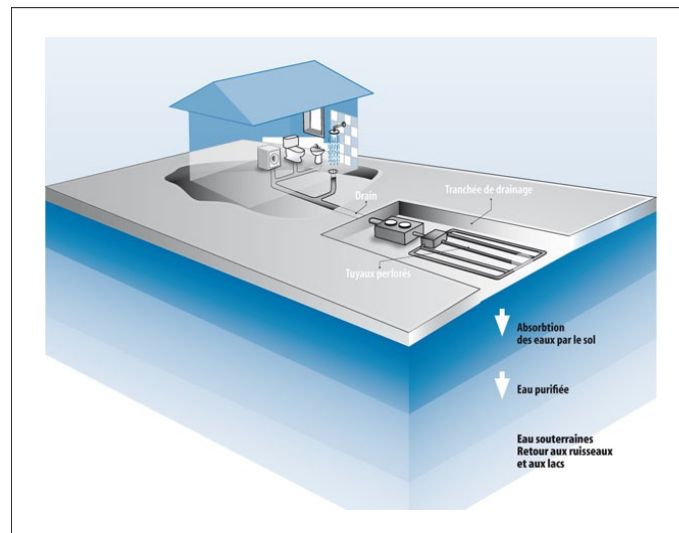


Fig. 1. Simplified drawing of an individual waste water treatment system

The Septic Tank: The primary treatment

Wastewater from the house enters the septic tank, which is comprised of a reservoir with two chambers buried on your property. This is where the wastewater is held temporarily.

The first chamber separates the solids from the liquids through decantation: heavier solids settle to the bottom of the reservoir and become sludge while greases and fats, called scum, float to the surface. The partially clarified water then passes into the second chamber, which has the same purpose, i.e. to continue the separation of sludge and scum.

Wastewater treatment begins in the chambers of the septic tank. As soon as the water reaches the septic tank, microorganisms present in the tank begin to digest the organic matter, which initiates the treatment process.

Septic System

A septic system is a system for the treatment and discharge of wastewater designed for isolated dwellings and other buildings that discharge domestic wastewater only, and that are not connected to a conventional sewer system. Septic systems are also known as onsite wastewater management systems. An onsite system incorporates natural processes to treat the wastewater. It treats it on your property and usually discharges it into the ground water.

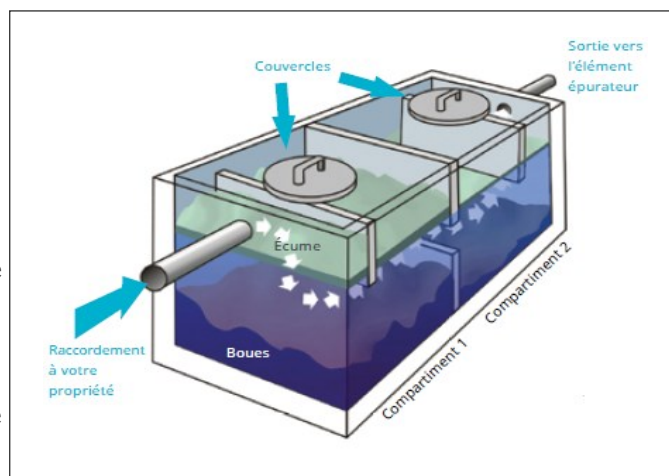


Fig. 2. Simplified drawing of a septic tank

The secondary treatment: the soil absorption system

On leaving the second chamber of the septic tank, the partially treated wastewater slowly flows into the soil absorption system. The latter may be a standard leaching bed comprised of perforated pipes or any other system with a filtering medium. This filtration improves the “secondary” or “advanced secondary” treatment according to the elements in place.

Water then progressively infiltrates the ground or an

embankment. The microorganisms present in the soil digest the remaining impurities and the purified water eventually infiltrates the ground water.

The type of leaching bed selected depends on different factors: the nature of the soil, the profile and surface area of the leaching bed, the number of bed-

rooms in the home, etc. Hence, an expert assessment is required before installing a new system.



Fig. 3. Photo of a standard leaching bed before backfilling

Did you know...

When it comes to nuisances and insalubrity, acquired rights do not exist. They only apply to the building and not to its polluting activities. Consequently, it is forbidden to create or maintain nuisances or conditions hazardous to public health or environmental quality.

-MDDEP 2009-

Microorganisms hard at work: crucial allies!

Bacteria that are naturally present in your septic tank feed on organic matter and break it down, reducing the volume of sludge and scum.

These bacteria promote the

optimal treatment of wastewater and must be preserved, since their presence is a sign of an efficient system.

Sending too many chemical products into a septic sys-

tem can harm or kill the beneficial bacteria that treat your wastewater, preventing them from doing their job.

What to avoid

Avoid putting anything into the septic system that doesn't break down naturally or that take a long time to break down:

- Oils and grease
- Disposable diapers
- Tampons and applicators
- Facial tissues and paper towels
- Hair
- Condoms
- Food and compost
- Cigarette filters
- Paint and solvents
- Pesticides
- Antifreeze
- Gas
- Cat litter
- Corrosive detergents (e.g. chlorine bleach)
- Antibacterial soap and other disinfectants

Do you have a water softener?

Water used to backwash your water softener must never be directed to your septic tank. The strong concentration of minerals can hinder the functioning of your septic tank.

Best practices to adopt

Use healthy products

Reduce your use of chemical products: poisoned bacteria will not be effective at treating your wastewater. Opt for biodegradable products.

Reduce your phosphate footprint

Use phosphate-free detergents, pump your septic tank in accordance with local regulations, maintain your septic system and make sure that it is functioning correctly: these actions will reduce the discharge of phosphorus and help to protect the health of nearby waterways.

Save water

Install water savers on your faucets, repair leaks and spread water use over time (showers, laundry, dish-washing). Heavy water consumption accelerates water circulation in the tank and prevents the separation of sludge and scum (whenever water enters the tank, an equal quantity of liquid

flows out to the leaching field).

Look after your leaching bed

The leaching bed is an important and fragile part of your system. To avoid compacting the soil and reducing its role as a filter, you must never drive heavy vehicles or park a car on your leaching bed. Similarly, keep anything that could compact the soil, such as storage sheds or swimming pools, far from the leaching area. Avoid water saturation (direct gutters and runoff away from the leaching bed, don't water the grass over

the area).

Avoid installing children's play modules, gardens, and concrete or asphalt infrastructures on a leaching bed. In addition, trees and shrubs must be located at least two metres from the leaching bed.

The area over the leaching bed must be stabilized by planting grass to prevent erosion, and must be kept free of any installation.

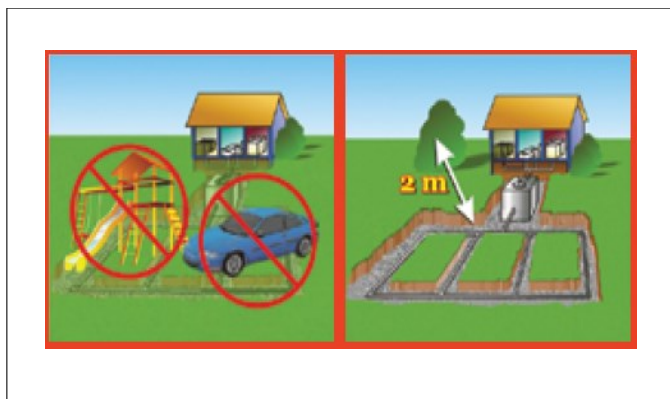


Fig. 4. Recommandations à mettre en pratique

Did you know...

Compacted or water-saturated soil contains less air, which slows down the action of the soil bacteria responsible for treating the wastewater. These bacteria need oxygen to survive and function.

Municipality of Grenville-sur-la-Rouge

88, rue des Érables
Grenville-sur-la-Rouge
QC J0V 1B0

Oriana Farina
Environmental Inspector

Phone: 819 242 8762, ext.3136
Fax: 819 242 9341
E-mail: ofarina@gsrlr.ca

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