

Farm Residential Sewage Disposal Systems

Since most farms are located in rural areas, their residences depend on private sewage disposal systems to handle household sewage. For these households, the Septic Tank System is the most common way of handling sewage disposal in the absence of a municipal sewer system.

A Septic Tank System is a waste collection and disposal system in which the sewer line from the house leads to an underground septic tank in the yard. Overflow from the tank disperses into the soil through a system of underground drains or perforated pipes.

Potential contaminants in household waste water can include disease-causing bacteria, infectious viruses, household chemicals, and excess nutrients such as nitrogen. A correctly designed, constructed, and maintained Septic Tank System will work efficiently and safely for many years and can minimize the potential for ground and surface water contamination. A malfunctioning Septic Tank System can, however, contaminate ground water and surface water and can be a health hazard due to the risk of disease transmission.

Septic Tank

The purpose of the septic tank is to receive the household sewage and prepare it for the final treatment and disposal in the disposal field. The septic tank does not purify the sewage but allows settling of the solids so that the liquid waste or effluent which flows from the tank does not clog up the soil in the disposal field.

The septic tank must be watertight and large enough to retain sewage for about 24 hours. During this time, the waste undergoes various biological changes. Most of the solids separate from the liquid and settle to the bottom as sludge. Grease, soap, and other lighter particles float partly above the liquid and are known as scum. The minimum holding capacity of a septic tank for a house with three bedrooms or less, serving a maximum of six persons, is 500 gallons (2300 L). All septic tanks must have an access located over the inlet allowing the periodic removal of the sludge.

The septic tank can be constructed from concrete, fibreglass, plastic or metal and must be installed maintaining the following minimum separation distances:

- From buildings - 3.25 ft. (1 m)
- From property boundaries - 10 ft. (3 m)
- From dug wells and springs - 50 ft. (15 m)
- From drilled wells - 25 ft. (8 m)
- From water services pipes (pressure or town water supply) - 25 ft. (8m)
- From embankments - 10 ft. (3 m)

Distribution Box

For the proper operation of a disposal field, the disposal lines should be fed through a distribution box. The distribution box regulates and distributes the flow of effluent from the septic tank into the disposal lines. The distribution box must be watertight, rigidly constructed, and fitted with a durable watertight cover. All disposal lines must leave the distribution box at the same elevation.

Disposal Field

The disposal field consists of a number of disposal lines laid in trenches on beds of crushed stone. A disposal line consists of a 4 inch (10 cm) diameter perforated pipe. As the liquid runs through the pipes, it seeps out through the perforations of the pipe into the soil. It is only in the soil that the purification of the effluent takes place.

Disposal lines must be installed maintaining the following separation distances:

- From buildings - 20 ft. (6 m)
- From property boundaries - 10 ft. (3 m)
- From dug wells and springs - 100 ft. (30 m)
- From drilled wells - 50 ft. (15 m)
- From water service pipes (pressure or town water supply) - 50 ft. (15 m)

Care and Maintenance of a Septic Tank System

A septic tank and disposal field should, with proper care and maintenance, provide many years of service. There are several items that you should be aware of that will help the system to function properly and efficiently.

Water usage in homes should be kept to a minimum. Washers and dishwashers should be operated with full loads. Flushing too much water through the system could force solid material into the disposal field and block the system. Do not allow roof drains to discharge into the septic tank or surface water to drain towards the area of the disposal field.

Never connect weeping tile to the septic tank or disposal field.

Never use the same septic tank system for both household sewage and milking center waste water. A milking center requires its own waste water disposal system.

Moderate use of household drain solvents, cleaners, disinfectants, etc., should not interfere with the operation of the septic tank system. Excessive use may cause problems to the system.

Septic tanks should be inspected at least once every two or three years and the tank contents pumped out when necessary. Failure to pump out the sludge when required could lead to sludge or scum entering the disposal field and result in clogging the soil.

The area over the disposal field should have a good cover of grass. Trees and shrubs should not be planted over the area as the roots could block the disposal lines.

Vehicular traffic of any kind should not be permitted onto the disposal field.

For construction details or for assistance or advice in planning a septic tank system, contact a Government Service Centre.

Information in this fact sheet was taken from the publication "Installing A Septic Tank System" from the Newfoundland and Labrador Department Of Health, January 1991.

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