

## Maintenance & Cleaning

Every person using a septic tank will contribute a volume of solids to the septic chamber that digests at a very low rate in the anaerobic environment of the tank. These solids accumulate over a period of time and reduce the storage capacity of the septic chamber. Also, there is a volume of greases, soap curds and other material that float on the surface of the liquid. These settleable and floating solids must be removed from the septic chamber periodically and disposed of in another manner. If the septic tank is not cleaned soon enough, the detention period, which it will provide for the sewage, will continue to decrease. As a result, more and more suspended solids and organic material will be carried from the septic chamber into the effluent chamber and discharge into the effluent disposal system. The size of the septic chamber determines the intervals between cleaning. The larger the septic chamber, the better the separation of solids from the effluent especially during peak flows. The septic chamber should be checked each spring or early summer for the amount of accumulated sludge and scum in it.

A septic chamber with .45 m (18 inches) of sludge is ready to be cleaned. Cleaning the tank in the spring allows the bacterial action to re-establish quicker through the warm summer. It is not necessary to thoroughly scrub and flush the septic chamber until it is visibly clean. The small amount of sludge that remains on the floor and walls will re-seed the septic tank and contribute to the re-establishment of its normal operation. Vacuum-pumped sewage hauling trucks are available commercially to clean septic tanks. This equipment is capable of doing an excellent cleaning job without spillage.

*Maintenance & Cleaning excerpt taken from Alberta Private Sewage Systems Standards of Practice – 2021 edition*



## Regular Inspections

The septic pump requires regular inspection and maintenance to ensure long life. Pumps may either be a submersible sewage pump installed in the second chamber (liquid chamber) of the septic tank or a centrifugal pump installed in the basement with a suction line to the second chamber.

**The use of a single chamber tank with a grinder pump is not permitted.**

All pump connections are to incorporate double check valves downstream of the pump discharge to prevent backflow of municipal sewage into the septic tank. Backflow preventers are not expected to last longer than 15 to 20 years and should also be inspected regularly to prevent potentially expensive sewer back-ups.

## Shut-off Valve (C/C)

The shut-off valve (C/C) is only to be operated by Sturgeon County Utility & Waste Management staff. Plumbers, homeowners and contractors are **NOT** to operate this valve. Failure to comply with this will result in a bylaw infraction fine. In the event that the valve needs to be turned either on or off, Sturgeon County Utilities staff members are available on a 24-hour basis to provide assistance and can be contacted during regular working hours at 780-939-4321, or toll free at 1-866-939-9003, and after regular hours at 780-939-4321.

When the valve is turned on, Sturgeon County requires the owner to be present at the property to ensure that the backflow prevention devices are working properly and sewage is not “backing-up” into the tank, basements, etc. New customers must contact Sturgeon County to arrange to have this valve opened when a service is activated. Otherwise, the septic pump will be unable to pump sewage into the system.



## For more information about Low Pressure Systems

Contact the Utility & Waste Management Services Department

Phone: 780-939-8254

Fax: 780-939-8274

*This pamphlet has no legal status and cannot be used as an official interpretation of the various regulations currently in effect. Sturgeon County will not accept responsibility for persons relying solely on this information.*

*The Utility rates change from time to time by resolution of Council. The information on this pamphlet is in accordance with Sturgeon County Bylaw 932/02 and Bylaw 1402-18*

## To Contact Sturgeon County:

Phone: 780-939-4321

Toll Free: 1-866-939-9303

Fax: 780-939-3003

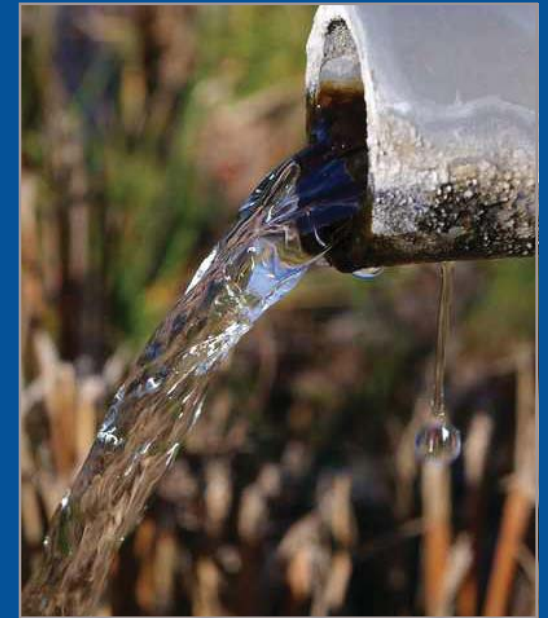
Email: [sturgeonmail@sturgeoncounty.ca](mailto:sturgeonmail@sturgeoncounty.ca)

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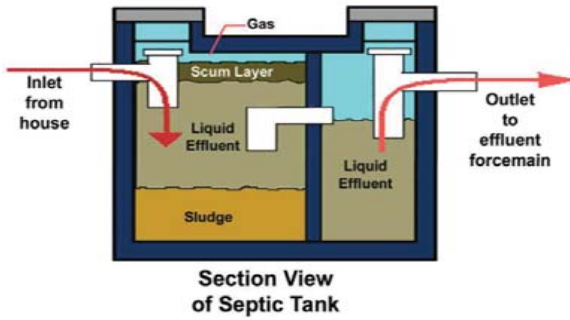
# Sturgeon County Low Pressure Sewer Systems

## Installation and Maintenance Guide



## Utility & Waste Management Services





## Low Pressure Sanitary Sewer Systems

While many urban municipalities have gravity sewer systems, this is not always possible in rural locations. Gravity sewer is very expensive to install because the line sizes are large and an acceptable slope must be maintained within the system

An alternative to gravity sewer, commonly found in rural and acreage communities in Sturgeon County, is a low-pressure sewer system. Customers of low-pressure sewer systems are required to have their own two-stage septic tanks. The majority of wastewater effluent from homes is either liquid or solid that will biodegrade (break-down) into liquid within the septic tank. Instead of pumping the liquid effluent to fields or mounds system, as is commonly done on farms or isolated acreages, the wastewater is pumped into a liquid wastewater collection forcemain.

There is more maintenance involved for low-pressure sewer customers than for gravity sewer customers. The Alberta Safety Codes recommends hiring a vacuum truck regularly to clean the solid waste that does not biodegrade within the septic tank. The typical frequency for getting the tank vacuum / cleaned out is every two (2) years.

## Who is responsible for them?

The individual pump system is the property owners and they are responsible for the operation and maintenance, and the replacement of the pump system. Annual inspection and servicing of the pump system by a qualified service person or company is recommended.

## Septic Tank Recommendations

Two-compartment tank, sized and constructed in accordance with Alberta Plumbing Codes.

Extend tank access risers at least 150mm above finished ground surface, provide watertight manhole covers and divert surface runoff away from the manhole cover.

The tank should be large enough to provide: 450mm for pump submergence, full day of emergency storage capacity above the high water alarm level, utilizing the septic tank free-board capacity below ground and/or below building drain outlet invert.

A minimum 12-hour retention time below high water alarm level for proper treatment of the sewage flow, storage of sludge and scum accumulation. Typically the minimum size for the septic tank is 4,500 liters, however, a larger size septic tank would be required for a larger residence.

Reference "Alberta Private Sewage System Standard of Practice 2021"

Sealed watertight tank (fiberglass or one piece/ two stage precast pumping tank)

Adequate anti-buoyancy provisions.

All pipe and wire conduits into tank through hubs or fittings made during the construction of the tank and installed in a watertight and gas-tight fashion.

**No drainage or any water other than sanitary wastewater allowed to enter the tank.**

The effluent shall enter the pump compartment or pump vault from the clear zone of the tank between the scum and sludge layers.

Consult with your contractor for sizing, installation and maintenance.

## Septic Pump Recommendations

Submersible or centrifugal;

Capable of three minute minimum pump run time at 1 L/s pumping rate, and;

CSA approved effluent pump. The minimum head recommended for a low- pressure pump is 18 meters (26 psi). Generally this requires a good ½ hp pump.. Pump must be readily removable from the ground surface.

Pump discharge pipe DR 11 HDPE or stronger and include a check valve, disconnect union and gate valve within the pump tank.

The pump screens no larger than 3mm in size.

Pumps activated by mechanical level controllers.

When any pump is located at a higher elevation than the elevation of the terminal end then a siphon-break valve should be provided for that pump.

Provisions for ventilation.



## Recommended Size

In some locations, such as at high elevations within the system, customers can use smaller pumps. However, if the pump is not large enough, it may not be able to overcome the pressure within the system during normal demands. It will continue to pump but will not move any liquid until it burns out.

When it rains, the pressures within the system increase because of storm water entering the sanitary sewer system. Although eaves troughs, weeping tile and infiltration points are not supposed to be connected to the sanitary sewer system, in many cases they are. Some older homes predate the current Codes of Practice for building construction. This can cause serious problems for some customers that have smaller pumps within their septic tanks.

The pressures in the system will increase during higher demand conditions. Smaller pumps are only able to pump when demand is not as high, at night for instance. During an extended rainfall or peak user times, septic tanks with smaller pumps may "back-up" or "not pump out" into the residences that they serve as the pumps are unable to discharge wastewater into the low-pressure system.

The maximum head for a low-pressure pump is 24 meters (35 psi). Pumps with a higher discharge head are only permitted if all pumps and mains within the system have been designed to accommodate the higher pressure.

The size for low-pressure sewer connections is 1.5" (38 mm). Each service will have a shut-off valve (curb cock) located at the edge of the serviced property.

**Don't forget your  
Annual  
Inspection**