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M.D. of Bonnyville No. 87
Private Sewage Disposal System
Permit Application

Sewer Permit Label

Please call or email the MD office prior to concealment to request an inspection.
A minimum of 48 hours notice is required.

PSDS Permit #: _____ Roll #: _____ Application Date: _____
Building Permit #: _____ Permit Issue Date: _____
Permit Type: Residential Property Owner Certified PSDS Contractor

Does this installation require building and development permits: Yes No

Legal Location: PLAN _____ BLK _____ LOT _____ PART _____ 1/4 SEC _____ TWP _____ RG _____ W4M
Rural Address: _____ Parcel Size: _____ (acres)

Owner Name: _____
Mailing Address: _____ Postal Code: _____
Phone Number: _____ Other Phone Number: _____
Email: _____

WE PROPOSE TO DO AN INSTALLATION AT THE ABOVE PREMISES ZONED AS: New Replacement
 Residential Commercial Industrial Institutional Recreational

DESCRIPTION OF INSTALLATION: _____

System Design Criteria:

Expected daily volume of effluent: _____ # of Bedrooms: _____
Depth of Water Table if less than 3m from ground surface: _____
Water Softener: Yes No Iron Filter: Yes No
Reverse Osmosis: Yes No

Water Supply Detail:

Municipal/Community Dug Well
Drilled Well Bored Well
Casting Depth (Feet): _____ Capacity (Gallons): _____
Cistern: Concrete Fibreglass Other _____

FOR INSPECTOR USE ONLY

The Permit Holder hereby certifies that this installation will be completed in accordance with the Alberta Safety Codes Act and Regulations and shall be commenced within 90 days. The permit may expire in 2 years. Owner's signature/declaration (homeowner permits only) "I hereby declare I am the owner of the premises in which the work will be conducted and reside on the property. I am doing the work myself and assume responsibility for compliance with the applicable Act and Regulations.

Total Permit Fee: _____ Job Value: _____
Payment: Cheque Cash Interac
 MasterCard Visa Invoice Account

Permit Issuer Name: _____
Designation #: _____
Permit Issuer Signature: _____
Agency: _____ Admin: _____
(6112) (6114)
Safety Code: _____ R#: _____
(6113)

OFFICE USE ONLY

Permit Holder Signature: _____
Permit Holder Name: _____
Certification Number: _____
Estimated Start Date: _____
Estimated Completion Date: _____
Company Name: _____
Mailing Address: _____
Postal Code: _____
Phone: _____ Fax: _____
Email: _____

The personal information provided in this application package is protected by the Freedom of Information and Protection of Privacy Act. Information supplied in this application package may be used by the Authority having Jurisdiction.

Site Evaluation Details:

Date of Site Evaluation: _____ Time of Day: _____ Number of test pits: _____

Name of Certified Laboratory: _____
Design soil texture Classification (attach lab reports and soil bore logs): _____

Effluent Loading Rate (gal/sq ft/day): _____ Linear Loading Rate (gal/l ft/day) _____

Plot Plan:

Attach a drawing showing the layout including:

Location and distances of the septic/holding tank/package treatment plant from the house or building, any water sources any bodies of water, property lines, driveways or roadways.

Location and distances of the disposal field from the house or building, any water sources, any bodies of water, property lines and driveways or roadways.

Proposed Treatment and Disposal System:

Tank Information:

Septic

- Concrete
- Fibreglass
- Plastic
- Other: _____

Holding

- Concrete
- Fibreglass
- Plastic
- Other: _____

Packaged Treatment Plant

- Concrete
- Fibreglass
- Plastic
- Other: _____

Make/Model: _____ CSA Standard # _____ Working Capacity (gal) _____

Discharge Information:

Pump Siphon

Make/Model: _____ Horsepower: _____

Disposal Field Treatment Mound Other: _____

Media: _____ Gravel-depth (inches) _____ Chambers-width (feet/inches) _____

Total Length of Perforated Pipe/Chamber (feet): _____ Number of runs: _____

Length of Each Run (feet): _____ Trench width (feet): _____ Number of trenches: _____

Total Area of Trench Bottom (sq ft): _____

Attach completed pressure distribution worksheets, trench bottom worksheets and/or mound worksheets from the Alberta Standard of Practice Handbook to support your system design and sizing.

If this sewer system is concealed prior to application approval OR prior to final inspection, pictures of the installation and squirt height test are required to be submitted to the MD and/or the Safety Codes Officer (Inspector). This is to ensure the system has been installed to comply with the Alberta Private Sewage Standard of Practice as well as the Safety Codes Act.

Section 2.1.2.6 of the Alberta Private Sewage Systems Standard of Practice

- 1) On-site wastewater treatment systems designed under the prescriptive requirements of this Standard shall not receive substances and wastewater that could adversely affect the operation of the system, which include, but are not limited to, the following:¹
- a. Storm water
 - b. Surface water
 - c. Abattoir waste
 - d. Sub-surface seepage water from weeping tile systems, foundation drains, or subsoil foundation drainage pipes
 - e. Clearwater waste from a hot tub, spa or hydro massage bath that is not of the fill-and-drain design, unless the design of the septic system specifically includes capacity for the additional wastewater flow and instantaneous flow conditions the fixture will cause along with the potential disinfectants in the water
 - f. Clearwater waste from a swimming pool, except that the waste from the area drains around the pool area may discharge into a system
 - g. Commercial or industrial process wastes
 - h. Waste from a water filter or other water treatment device, if the on-site wastewater treatment system has not been designed to receive and treat the discharge from the filter or treatment device ^{2, 3, 4}
 - i. Wastes from an iron filter (doesn't matter if it uses chemicals or not)
 - j. Other wastes not considered in the design of the system

¹ Intent: Sentence (1) – The wastewater treatment systems identified in this Standard are intended for treating wastewater. Substances, contaminants and wastewater constituents not typically expected in domestic wastewater require special consideration.

² Warning: Clause (1)(h) – The use of water softeners and the discharge of regeneration wastes are not specifically prohibited from discharging to an on-site wastewater treatment system. The use of sodium salts in a water softener is generally more harmful to the soil-based treatment component of a treatment system than the use of potassium-based salts. Increased sodium levels will be present in the domestic water used daily in the house, and may be further increased by the inefficient backwash functioning of a water softener that does not control the regeneration by flow volume. High levels of sodium can reduce the effectiveness of the on-site wastewater treatment system and reduce its life expectancy, particularly when it is located in fine-textured clay soils. Sodium occurring naturally in the groundwater or introduced to the water supply by a water softener using sodium salts may affect the ability of the soil to absorb the effluent. High sodium absorption ratio effluent and the presence of expansive clays, such as montmorillonite clay in the soil may cause a soil-based treatment component to fail. Additional considerations from those set out in the Standard may be required.

³ Note: Clause (1)(h) – The use of potassium salts as a regeneration agent in a water softener is not expected to have the same negative effect on expansive clays as the use of sodium salts.

⁴ Warning: Clause (1)(h) – The discharge of waste from water treatment devices can generate large volumes of water that are not included in flow estimates set out in this Standard. They may generate volumes that cannot be accurately predicted or include substances that are difficult to treat or can harm the system and cause a failure.

Clearwater waste, (as defined in the Standard of Practice), from a water softener and/or reverse osmosis system may discharge into a sewage treatment system when the soil-based treatment component of the overall system is sized to receive the additional flow from the water treatment equipment. Clearwater waste from a water softener, reverse osmosis or iron filter that were not part of the initial design, may be separately discharged into a designated drywell. (A drywell is a vertical drainage shaft or chamber constructed with perforations along its wall that aids the drainage of clearwater waste into the surrounding soil. A drywell is surrounded by crushed drainage rock to enhance infiltration capabilities and provides an additional void space for storage)

Private Sewage System Design Document Template Holding Tank

PREFACE

This is a Design Document Template for a holding tank system. It reflects the information needed to demonstrate the design considerations for the particular site and system required by the current Private Sewage Standard of Practice. Considerations needed for a particular site may go beyond those used in this document.

This document can be used as a template by editing or adding critical information to suit the particular site and system.

While it is preferable to use a consistent format to facilitate quick review, other formats of the design document may be accepted by the Safety Codes Officer (SCO), if the document includes the required information that shows the necessary design considerations were made.

A design is required in support of a permit application. It includes drawings and supporting information as it applies to the specific site and design. This is the information a SCO will review to evaluate whether design considerations required by the Standard have been adequately made prior to issuing the permit.

Including the design in the operation and maintenance manual that must be provided to the owner, will simplify development of the operation and maintenance manual.

PRIVATE SEWAGE SYSTEM DESIGN - HOLDING TANK

Date:

Name:

Mailing Address:

City, Province:

Postal Code:

Subject: Residential Wastewater Holding Tank System

Legal Description of Property: _____ 1/4 Sec _____ Twp _____ Rng _____ W4M
Plan _____ Block _____ Lot _____

Municipal Address:

Introduction

This private sewage system is for a _____. Based on the characteristics of the home identified during our assessment, the total peak wastewater flow per day is _____ Imperial gallons with average operating flow of _____ gallons per day.

The sewage system is restricted to a holding tank due to the soil conditions of the property. The municipality was contacted and they have no restrictions on the installation of holding tanks. This design applies and meets the requirements of the Alberta Private Sewage Systems Standard of Practice.

1 Wastewater Characteristics

1.1. Wastewater Peak flow

The development served is a _____.
The total plumbing fixture unit load in this _____ is _____ based on a building plans review. This requires _____ L/day (_____ Imp. gal/day) be added to the peak daily flow. Fixture unit load is as follows:

-
-
-
-
-

Total peak daily flow used in the design is: _____ Imp. gal + _____ Imp. gal = _____ Imp. gal	_____ L/day (_____ Imp. gal/day)
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1.2. Wastewater Strength

Not applicable to residential holding tank.

2 Site Evaluation Findings

2.1 Site Evaluation

The lot is _____ hectare (_____ acres). The dimensions of the property are shown in the drawing attached in Appendix A. The adjacent lands are _____. There are no water courses on or adjacent this _____.

hectare property. The property has a ____% slope toward the _____ property line. Line locates confirmed there are no existing utilities or easements to be considered.

Pertinent features identified during the site evaluation and the required setback distances are identified on the site plan in Appendix A.

2.2 Soils Evaluation

No soil evaluation was carried out. The soil is known to be _____.

3 Key Soil Characteristics Not applicable

4 Initial Treatment Component Design Details

Details of the initial treatment components are attached in Appendix C.

4.1 Holding Tank

The working capacity of the holding tank specified is _____ L or _____ Imperial gallons. Specifications for the Model _____ Holding Tank are shown in Appendix C. The sewage needs to be hauled to an approved site.

Burial depth of the holding tank at finished grading will be _____ ft above the top of the tank. The selected tank is rated for a maximum burial depth of _____ ft. _____ in. Insulation of the tank is not required as the burial depth exceeds 4 feet.

4.2 High Liquid Level Alarm

An _____ high level alarm is specified for this system. It shall be set to activate at _____ inches above the floor of the holding tank. This will provide approximately _____ Imp. gal of storage after the high level alarm signals, the equivalent of one day flow of sewage.

5 Initial operational set up parameters

The following activities need to be conducted to commission the system:

- Clean the Holding tank of any construction debris.
- Conduct test to ensure water tightness of all tank seals.
- Confirm the correct high level alarm setting.

6 Operation and Maintenance Manual

The Owner's Manual detailing the design, operation, and maintenance of the installed system will be provided to the owner in accordance with the Standard of Practice.

Attachments: **Appendix A – Site Information [Site Plan]**
 Appendix B – Manufacturer's and Design Specifications for System Components

This design has been developed by (_____). This design meets the requirements of the current Alberta Private Sewage Systems Standard of Practice unless specifically noted otherwise and in such case special approval is to be obtained prior to proceeding with installation of this design.

Signature of the designer/Installer.

Appendix A Site Information

This is where you insert your site plan showing location of septic tank. Providing distances to your well or cistern, all property lines and all buildings.

Appendix B
Manufacturers and Design Specifications for System Components

This is where you insert the Manufacturer specifications pertaining to your holding tank.