



***Sewage Handling Practices
at Work Camps and
Temporary Work Sites***

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Preamble

The purpose of this guideline is to establish guidance regarding sewage handling practices to companies (e.g. mineral exploration, oil & gas exploration, etc) that are establishing work camps and/or temporary work sites, such as drill rig sites. The primary intent of the various recommendations (such as set-backs) is to ensure that ground water, surface water and human health are not adversely impacted by insufficient sewage handling practices. Industrial discharges do not fall within the scope of this guideline.

Reference Regulations

The Public Health Act, 1994 and *The Disease Control Regulations* require the reporting of clusters of suspect communicable disease. If a cluster of food or waterborne disease cases is suspected in association with a work camp or temporary work site, the local health region must be notified.

Sections within *The Private Sewage Works Regulations* (section 18) and *The Shoreland Pollution Control Regulations, 1976* (section 12) contain wording that requires sewage holding tanks to conform to the CSA B66 standard and have a minimum capacity of 4,546 litres (1,000 gallons).

The *Plumbing Regulations*, which adopt the 2005 National Plumbing Code (with Saskatchewan amendments), require that every sanitary drainage system in a building is connected to private or communal wastewater system.

Definitions:

“Below Ground Sewage Holding Tank” means a tank that conforms to CSA B66 Standard for Prefabricated Septic Tanks and Sewage Holding Tanks and is covered or surrounded with soil to the point that leakage from the tank cannot easily be detected by visual inspection.

“Grey Water” means wastes from a kitchen sink, hand-basin or shower.

“Person-days” is the number of individuals living in a camp times the number of days which they are living there. Person-days are those days accumulated in one fiscal year from April 1 until March 31.

“Permanent Camp” means a work camp that is not reclaimed after being used for portions of 12 consecutive months and generally consists of a camp where all or a portion of the living quarters consists of structures, others than tents, which are set directly on the ground or on permanent foundations.

“Private Sewage Works” means a privately owned works located on one property, other than a pit privy or seepage pit, intended to be used for the reception, treatment and disposal or storage of sewage, effluent or both that does not contain industrial waste, and that is exempted from the requirement to have a permit pursuant to section 21 of The Environmental Management and Protection Act, 2002 and does not include the building drain or the sanitary drainage system upstream of the building drain. For the purposes of a work camp or site, a private sewage works is a works that is used for more than one year.

“Privy Vault” means a watertight compartment that receives all wastes is located beneath a privy.

“Public health officer” means a person employed by or on contract with a local authority and who has been delegated board powers to administer *The Public Health Act, 1994* and related regulations. Public health officers may also be referred to as public health inspectors or environmental health officers.

“Sewage” means any liquid waste other than clear-water waste or storm water as defined by The Plumbing and Drainage Regulations. This includes grey water.

“Shoreland Development Area” means an area of land:

- (a) designated as a reservoir development area by regulations made under The Water Resources Management Act, 1972; or
- (b) that is within 1,500 feet from the high water mark of a lake, river, stream or other body of water and upon which is situated an urban municipality or part thereof, or a summer resort or part thereof, or upon which has been or is being established a recreation area or part thereof.

“Temporary Work Camp” means a work camp that is only used for portions of 12 consecutive months and then reclaimed.

“Work Site” means a location where workers are temporarily situated for the purposes of performing their work and is usually separate from the work camp site, where facilities such as kitchens, residences, etc are located. For example, a drill rig site where the rig only remains on one site for a short period of time.

“Water Distribution System” is a system of piping, including above ground lines, and appurtenances used in the supply, collection, treatment, storage and distribution of water for more than one building or trailer.

“Work Camp” means one or more buildings, vehicles, trailers manufactured homes, RVs, tents or other structures so constructed that they may be used for living, sleeping, eating and other personal accommodation used to accommodate persons who are employed in mining, lumbering, construction, drilling, resource exploration or any other similar industry, and includes the land on which the building or buildings are situated. Facilities such as kitchens, residences, etc are typically located at these locations.

Class A camp is a work camp with in excess of 500 man days.

Class B camp is a work camp with from 100 to 500 man days.

Class C camp is a work camp with up to 100 man days.

Section 1 – Submission of Information to the Health Region

Sections 21 & 22 of *The Private Sewage Works Regulations* states:

Liquid wastes

21(1) In this section, “**privy vault**” means a storage or sewage holding tank placed under a toilet that is not connected to a plumbing system and that is intended to be used only for the confinement and storage of human excrement.

(2) Lagoons, package treatment plants, absorption fields, mounds, jet-type disposal systems, sewage holding tanks, privy vaults and other systems for the disposal or storage of liquid wastes may only be constructed or installed with the prior written approval of the local authority.

Application

22 An application for approval pursuant to section 21 must be accompanied by satisfactory evidence that the proposed disposal system has been designed by a qualified person.

Method(s) of Achievement – The intent of the above regulatory requirements can be achieved by applying the best management practices below:

1.1 Plan Development and Review

Owners and operators of work camps are encouraged to discuss their plans with the public health officer prior to construction or installation of a system for the disposal or storage of liquid wastes or a private sewage system.

Operators are required to submit to the public health officer information regarding the sewage handling practices for any work camps and large work sites (as described in this document), as well as any other related information that the public health officer may require.

Section 2 - Work Camps

2.1. General

Section 21 of *The Plumbing Regulations* states:

Connection to sewage works

The owner of any building in which plumbing fixtures are installed shall ensure that the fixtures are connected to a communal sewage works or private sewage works in accordance with these regulations.

Subsection 5(1) of *The Private Sewage Works Regulations* states:

Eligibility for permit

A person is eligible to apply for a permit if the person is found to be a qualified person by the local authority.

Method(s) of Achievement – The intent of the above regulatory requirements can be achieved by applying the best management practices below:

1. All wastewater (including liquid wastes from the kitchen sinks, bathroom sinks, showers, toilets, and clothes washers, etc) must be disposed of in:
 - (a) a sewage system authorized pursuant to *The Environmental Management and Protection Act, 2002* through the Ministry of Environment via;
 - connection to an existing system; or,
 - establishment of a new system.
 - (b) a private sewage system that is permitted by the local Health Region (if the sewage volume is 18 cubic metres a day or less). The Saskatchewan Onsite Wastewater Disposal Guide contains design and set back criteria for the following permissible private sewage systems:
 - absorption fields;
 - chamber systems;
 - mounds;
 - lagoons;
 - package treatment plants; and,
 - sewage holding tanks.
 - (c) other systems for the treatment, disposal or storage of liquid wastes constructed or installed with the prior written approval of the local authority. This is intended to include options that provide equivalent treatment to a private sewage works.
2. Above ground temporary holding tanks are also satisfactory. Temporary above ground bladder systems may be considered equivalent to a holding tank with the approval of the health region.
3. Proponents are encouraged to construct higher levels of sewage treatment/disposal systems than the minimum described herein. The use of seepage pits, while allowed in some circumstances, is discouraged.
4. Where wastewater is collected from a number of fixtures including toilets in a building or trailer, holding tanks and hauling or a package treatment plant (certified to NSF 40 or CAN/BNQ 3680-600) are recommended.
5. All sewage haulers should operate in compliance with Ministry of Environment requirements.
6. A private sewage works must be constructed by a qualified individual.
7. In every case, sewage must be handled in a manner that does not result in the creation of a health hazard.

2.2. Camp Specific Information

Subsection 21(2) of *The Private Sewage Works Regulations* states:

Liquid Wastes

Sewage lagoons, package treatment plants, absorption fields, mounds, jet-type disposal systems, sewage holding tanks, privy vaults and other systems for the disposal or storage of liquid wastes may only be constructed or installed with the prior written approval of the local authority.

Section 22 of *The Private Sewage Works Regulations* states:

Application

An application for approval pursuant to section 21 must be accompanied by satisfactory evidence that the proposed disposal system has been designed by a qualified person.

Subsection 16(2) of *The Private Sewage Works Regulations* states:

Discharge of Sewage

If a plumbing system includes fixtures such as a toilet, bath or shower, the private sewage works shall be designed and operated to receive all sewage, including kitchen, lavatory and laundry wastes, but not storm water.

Method(s) of Achievement – The intent of the above regulatory requirements can be achieved by applying the best management practices below:

Class A Camp

1. Where the camp will exist for more than 500 person-days in a fiscal year (April 1 to March 31), at a minimum, outdoor privy vaults or other equivalent means should be provided on site.
2. Domestic wastewater streams that combine grey water and black water must be discharged into a private sewage works or another equivalent sewage system.
3. Where the camp is a permanent work camp or serves more than 25 people at any one time, all grey water must be:
 - (a) contained and hauled to an appropriate disposal location; or
 - (b) discharged into a private sewage works.

Temporary Class A Work Camp

1. Where the camp is a temporary camp and serves no more than 25 people at any one time, grey water may be discharged into a seepage pit where the isolation distance between the bottom of the seepage pit and the water table is at least five feet, where the soil is clay or of similar material, and 25 feet, where the soil is sand or similar material.
2. Where a package treatment plant is used, it should be certified to NSF 40 (minimum class I) or BNQ CAN/BNQ 3680-600 (minimum class B-II) and the effluent must:
 - not, at any time, result in ponding on the soil surface that is accessible to humans or animals;
 - be discharged into surface water; and
 - be dispersed into more than 1.5 metres of unsaturated soil

All Other Camps

1. Where the work camp will exist for 500 person-days or less in a fiscal year (April 1 to March 31), at a minimum, outdoor pit privies should be provided on site.

2. Wastes from a kitchen sink or hand-basin may be discharged into the subsoil where the isolation distance between the bottom of the seepage pit and the water table is at least 1.5 metres where the soil is clay or of similar material and 7.6 metres where the soil is sand or similar material.
3. All wastewater streams where black water is combined with grey water, the wastewater must be contained and hauled to an appropriate disposal location or treated before discharge to the environment.

2.3. Exceptions

Located in a Shoreland Development Area

Section 6 of *The Shoreland Pollution Control Regulations, 1976* states:

No disposal of sewage

Except where approved under The Water Management Act, 1972, no person shall dispose of sewage in a shoreland development area without prior approval of the administrative authority.

Subsection 9(2) of *The Shoreland Pollution Control Regulations, 1976* states:

No sewage or sewage effluent to be discharged; exception

Providing other relevant sections of these regulations are complied with, wastes from a kitchen sink or hand-basin may be discharged into the subsoil where the isolation distance between the bottom of the seepage pit and the water table is at least five feet where the soil is clay or of similar material, and 25 feet where the soil is sand or similar material.

Section 8 of *The Shoreland Pollution Control Regulations, 1976* states:

Where plumbing system includes certain fixtures

Where a plumbing system includes fixtures such as a toilet, bath or shower, the sewage works shall be designed to receive all sewage including kitchen, hand-basin and laundry wastes, but not roof or other storm water.

Method(s) of Achievement – The intent of the above regulatory requirements can be achieved by applying the best management practices below:

Temporary work camps located in shoreland development areas are discouraged. However, if a more practical site is not available, the requirements contained within *The Shoreland Pollution Control Regulations, 1976* must be followed. These regulations contain a number of requirements. In particular, section (6) states that no person shall dispose of sewage in a shoreland development area without the prior approval of the administrative authority (i.e. Health Region). In addition, these regulations require that where a plumbing system includes fixtures such as a toilet, bath or shower, the sewage works must be designed to receive all sewage. These regulations also further restrict the type of sewage treatment and/or disposal that may be performed within certain distances of the high water mark. The Health Region should always be consulted prior to establishing a temporary work camp within a shoreland development area.

If the work camp is in a shoreland development area, seepage pits are only allowed further than 30 m from the high water mark. In addition, they may only be used to dispose of wastewater from a hand basin or kitchen sink from facilities where toilets, baths or showers are not connected to a plumbing system.

Local Bylaw

Municipalities have the ability to pass bylaws that place further requirements upon private sewage systems. Proponents should consult with local municipalities to ensure that the municipality's requirements are met.

Urban Areas

Section 16 of *The Private Sewage Works Regulations* states:

Discharge of sewage

Except with the written approval of the local authority, no sewage or sewage effluent is to be discharged:

- (a) into surface water;*
- (b) on to the ground within the limits of any city, town, village, resort village or approved subdivision containing at least two parcels, or within one kilometre of its boundary;*
- (c) into the subsoil within 10 metres of any dwelling unit;*
- (d) on to the ground surface within 30 metres of any dwelling unit;*
- (e) on to the ground surface or into the subsoil within 15 metres of a drilled well properly constructed, or within 30 metres of any other well or water supply used for domestic purposes; or*
- (f) into a storm sewer*

Method(s) of Achievement – The intent of the above regulatory requirements can be achieved by applying the best management practices below:

See page pits and pit privies will not be approved within the boundaries of urban areas.

Section 3 - Temporary Work Site

Temporary work sites are locations away from the work camp facilities. In these situations, adequate sewage disposal is the responsibility of the employer. In all cases, holding tanks and hauling of human sewage is the preferred option. However, where this is not considered feasible, onsite disposal of sewage, such as a package treatment plant followed by soil absorption, can be performed. Discharge of sewage or treated effluent into a surface water body is not permissible. All effluent must utilize soil absorption as final disposal.

Where the person-days are less than 500 person-days in a fiscal year, a seepage pit for black water and/or grey water can be utilized in areas other than a shoreland development area.

If the work site is in a shoreland development area, seepage pits are only allowed further than 30 m from the high water mark. In addition, they may only be used to dispose of wastewater from a hand basin or kitchen sink from facilities where toilets, baths or showers are not connected to a plumbing system.

Where permanent work sites are isolated from main camp or other facilities, a pit privy may be considered the minimum acceptable provided that the usage of the facility is not excessive.

Where the person-days are more than 500 person-days in a fiscal year, a work site must meet the requirements of a Class A camp (see section B) and a Sewage Disposal Permits or the written approval of the health region is required. In situations where the work site will be used in more than one fiscal year, sewage management options are expected to provide treatment and disposal equivalent to a private sewage system.

Section 4 - Administration and Enforcement

1. The prior written approval of the health region is required for systems used for the treatment, storage or disposal of sewage in work camps and certain work sites (greater than 500 person-days). Sewage Disposal Permits are required for sewage systems in work camps or work sites where the sewage system is considered a private sewage system under *The Private Sewage Works Regulations*. The Sewage Disposal Permit is considered written approval where only private sewage works are proposed.
2. Work sites less than or equal to 500 person-days do not require approval from the health region regardless of the sewage treatment and disposal option selected.
3. Where work camps are established, the health region should always be notified by the proponent.
4. Inspections of work camps or work sites may be completed by the local authority either in response to a complaint or as an auditing function in order to ensure that no health hazard is present.
5. In cases where the health region has formed the opinion that a health hazard exists or ground/surface water is being impacted, changes to sewage management practices at any work camp or work site will be required.

Appendix A –Construction Notes

Pit Privy

Outdoor pit privies must:

- be maintained in a clean and sanitary condition and in good working order;
- be protected so that insects, rodents or other animals do not have access to the contents;
- be constructed so as to prevent the entrance of either rain or surface water into the pit;
- be located more than 7.5 metres from a well or camp facilities (eg. residence, kitchen, etc);
- be located more than 30 metres from any river, stream, creek, lake, spring or other body of surface water;
- be located as far as possible but at least 15 metres from a water well or other supply. A 30 metres setback is recommended for water supplies other than a properly constructed drilled water well;
- include a 1.5 metre separation from the bottom of the pit to a water table if the soil is clay or 7.6 metre separation if the soil is sand;
- have setbacks to other features and structures so as to not create a health hazard; and
- only be used for human waste.

Privy Vaults

Outdoor privy vaults must:

- be maintained in a clean and sanitary condition and in good working order;
- utilize a sewage holding tank or portion of a holding tank conforming to CSA B66;
- be protected so that insects, rodents or other animals do not have access to the contents;
- be pumped and the sewage hauled to an appropriate disposal location by a licensed sewage hauler;
- be located more than 7.5 metres from a well or camp facilities (eg. residence, kitchen, etc);
- be located as far as possible but at least 7.5 metres from any river, stream, creek, lake, spring or other body of surface water;
- be located as far as possible but at least 7.5 metres from a properly constructed drilled water well or any other type of water well or water supply;
- have appropriate setbacks to other features and structures should be considered when constructing a privy vault; and
- be constructed so as to prevent the entrance of either rain or surface water into the vault.

Seepage Pits

A seepage pit is a pit that has been excavated in the soil. A seepage pit is not intended to be a permanent structure.

The seepage pit should:

- be maintained in a clean and sanitary condition and in good working order;
- be protected so that insects, rodents or other animals do not have access to the contents;
- be located more than 30 metres from any river, stream, creek, lake, spring or other body of surface water;
- be located more than 30 metres from a properly constructed drilled water well or any other type of water well or water supply;
- include a 1.5 metre separation from the bottom of the seepage pit to a water table if the soil is clay or 7.6 metres separation if the soil is sand;

- be located such that individuals do not walk through sewage during the performance of duties;
- be located so as to contain sewage within the seepage pit;
- Be located such that surface runoff and overland flooding does not enter the seepage pit;
- be covered with a cover capable of holding the weight of an adult male (103 kg); and
- be constructed and located to as not pose a physical hazard.

Seepage pits should be filled in with native soil when the contents reach to within 0.6 m (2 ft of the ground surface) or the pit will no longer be used.

Need More Information?

For more information on this document or other issues relating to health regulated private sewage systems, contact your local health region public health officer:

<http://www.saskatchewan.ca/residents/health/understanding-the-health-care-system/saskatchewan-health-regions/regional-public-health-inspectors>

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