

Permit to Operate a Sewage Works

Altered Pursuant to Section 28(1)(h) of the Environmental Management and Protection Act, 2010

Page: 1 of 4

Permit #: 00003081-04-00

File: 21050-50/WW/OP/Carrot River

To: Town of Carrot River (the Permittee) the person responsible for the sewage works consisting of a Class 1 wastewater treatment facility and a Class 1 wastewater collection facility, located in the Town of Carrot River, in the Province of Saskatchewan, and at the sewage treatment works located at SW ¼ of 32-49-11 W 2nd, which provides sewage collection and treatment to the Town of Carrot River in the Province of Saskatchewan.

PURSUANT to section 28(1)(h) of *The Environmental Management and Protection Act, 2010*, the Permit to Operate a Sewage Works No. 00003081-03-01 issued to the permittee on 1st day of November, 2022, whose sewage works is located at SW ¼ of 32-49-11 W 2nd, in the Province of Saskatchewan, and which operation involves the discharge of effluent into Emmons Creek located at SW ¼ of 32-49-11 W 2nd in the Province of Saskatchewan, is hereby altered and amended, subject to the terms and conditions attached to this permit.

This permit takes effect on the 1st day of April, 2024.

This permit expires on the 31st day of March, 2029, unless cancelled or suspended before that date.

Issued



Kerry Desjarlais
Environment Officer
Science and Licensing Division
Water Security Agency

* This digital signature affixed to the permit is legally binding and is considered a sufficient electronic signature as required under *The Electronic Information and Documents Act, 2000*. The original copy is retained by the Water Security Agency and shall be considered the official record.

Terms and Conditions

Section One: Definitions

- 1.1 All words and phrases have the same definitions as set out in *The Environmental Management and Protection Act, 2010*, or *The Waterworks and Sewage Works Regulations*, as the case may be.
- 1.2 In this permit:
 - (a) "Act" means *The Environmental Management and Protection Act, 2010*;
 - (b) "Accredited laboratory" means a laboratory that is accredited under the International Organization for Standardization standard ISO/IEC 17025:2005 entitled *General requirements for the competence of testing and calibration laboratories*, as amended from time to time, by an accrediting body that is a signatory to the *International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement* or a laboratory that is accredited under the *Environment Quality Act, R.S.Q., c. Q-2*, as amended from time to time, by an accredited body that is recognized in accordance with the *Environment Quality Act*;
 - (c) "Adverse effect" has the same meaning as defined in the Act;
 - (d) "Regulations" means *The Waterworks and Sewage Works Regulations*;
 - (e) "Science and Licensing Division" means the Science and Licensing Division of the Water Security Agency;
 - (f) "Environment" has the same meaning as defined in the Act; and
 - (g) "Environment officer" has the same meaning as defined in the Act.

Section Two: Operation

- 2.1 The permittee shall comply with the Act and the Regulations, and the terms and conditions of this permit.
- 2.2 In the event of an inconsistency between the Act and this permit, or the Regulations and this permit, the more stringent requirement shall apply.
- 2.3 The permittee shall not extend or alter the sewage works without approval of Science and Licensing Division.
- 2.4 The permittee shall ensure that the operation, repair and maintenance of the sewage works is under the direction of an operator who holds at least the corresponding certificate for the classification of the sewage works as set out in the Saskatchewan Water and Wastewater Works Operator Certification Standards, December 2016.
- 2.5 The permittee shall ensure that the facility, for which this permit is issued, is inspected on a semi-annual basis and that inspection should include, but not be limited to, dyke integrity, liquid levels in all cells, valve operation, and primary cell to storage cell overflow structure condition.
- 2.6 The permittee shall ensure the inter-cell transfer valve (primary to storage cell(s) valve(s)) is in the closed position prior to a discharge authorized by this permit.
- 2.7 The permittee shall ensure that the sewage treatment facility is not discharged after November 1 nor before the spring runoff in the following year without prior approval by the minister.
- 2.8 The permittee shall ensure that all downstream landowners that may be impacted by the sewage treatment facility discharge are notified at least 1 week prior to the intended discharge of treated effluent.
- 2.9 In the event of an upset or bypass condition, the permittee shall ensure all downstream water users that may be adversely impacted by the sewage works discharge are notified.
- 2.10 Pursuant to section 8 of the Act, no person shall discharge or allow the discharge of a substance into the environment in an amount, concentration or level or at a rate of release that may cause or is causing an adverse effect unless otherwise expressly authorized pursuant to this permit.

Section Three: Sampling and Monitoring and Effluent Quality

- 3.1 The Permittee shall cause samples to be taken from the sewage works and receiving environment and tested for the parameters listed in Appendix A, at the locations, times and frequency set out in Appendix A.
- 3.2 The Permittee shall ensure that the effluent quality results for those samples required by 3.1 do not exceed the limits set out in Appendix B for the chemical parameters listed in Appendix B.
- 3.3 The Permittee shall take samples in accordance with the instructions provided by the institution or laboratory, which provides the sampling bottles or containers.
- 3.4 Subject to 3.5, the Permittee shall have all effluent and receiving environment samples analyzed by an accredited laboratory.
- 3.5 The Permittee may perform onsite effluent and receiving environment sample analysis for parameters indicated in the monitoring schedule as "field test" or "onsite test".

Section Four: Record keeping

- 4.1 The Permittee shall cause operational records or logs to be maintained, including information respecting:
 - (a) information pertaining to the tests conducted and the information to be collected as required by this permit;
 - (b) site inspections required by 2.5, maintenance work and any failure of treatment components;
 - (c) types, dosages and total amount of chemicals or other substances added to the sewage;
 - (d) dates of discharge of sewage effluent and volumes of discharge;
 - (e) locations from which samples for any tests are taken; and
 - (f) the results of any tests conducted on the samples taken pursuant to 3.1;
 - (g) records of public complaints including complaints over impacts from suspected seepage from the facility and/or complaints over impacts as a result of discharge practices.
- 4.2 The Permittee shall cause the operational records or logs mentioned in 4.1 to be recorded and maintained in the following manner:
 - (a) operational records or logs must be made in chronological order, with the dates, times and testing locations clearly indicated;
 - (b) entries in an operational record or log must only be made by the Permittee, which includes by definition any principal or agent of a Permittee;
 - (c) any person making an entry in an operational record or log must do so in a manner that allows the person to be unambiguously identified as the maker of the entry;
 - (d) operational records or logs must be maintained on a daily basis and retained for at least five years;

- (e) any anomalies or instances of missing entries in an operational record or log must be accompanied by explanatory notes;
 - (f) operational records or logs must only contain data or information that is actually observed or produced;
 - (g) operational records or logs must not contain default values generated manually or by automated means;
 - (h) operational records or logs maintained pursuant to clause (d) must be made available promptly on request of the Water Security Agency.
- 4.3 The Permittee shall review the records and logs mentioned in 4.1 on an annual basis to ensure that the operating parameters are being achieved and that the limits set out in Appendix A are not exceeded.
- 4.4 The Permittee shall report the findings to the Minister as soon as is reasonably practicable after each review required by 4.3 should the review of the records and logs indicate that the effluent quality limits have been exceeded.

Section Five: Reporting

- 5.1 The Permittee shall submit the results of water sampling analysis performed in accordance with this Permit to the Science and Licensing Division:
- (a) in the case of all parameters, within 7 days following completion of the sampling analysis.
- 5.2 The Permittee shall direct the laboratory performing its water sampling analysis to submit the results within the timeframes mentioned in 5.1 directly to the Science and Licensing Division, in a format in accordance with the Environmental Management System) Lab/Operator (LAB-OPR) Data File Format, in addition to submitting the written results to the Permittee.
- 5.3 The Permittee shall report to the Minister any known or anticipated upset condition, bypass condition or events at or affecting the sewage works that could adversely affect the quality of effluent produced by the sewage works.
- 5.4 The Permittee shall immediately report to the Minister any instance where:
- (a) there any other parameter level identified in Appendix B is not achieved or is not anticipated to be achieved;
 - (b) there is a, retirement, suspension, resignation, scheduled absence or termination of employment of any certified sewage works treatment operator, or any anticipated retirement, suspension, resignation or termination that results in the sewage works not being under the direction of a certified operator.
- 5.5 The Permittee shall instruct its employees, agents and contractors performing work or service in relation to the sewage works, of their obligation under section 13(2) of the *Regulations* and to report to the Minister any instance as described in 5.4 and any known or anticipated upset condition, bypass condition or events at or affecting a sewage works that could adversely affect the quality of effluent discharged into the environment.
- 5.6 The Permittee shall as soon as reasonably practical report any of the events mentioned in 5.3 or 5.4 to the Minister.

Section Six: Inspection

- 6.1 An Environment Officer may enter the sewage works at any time to conduct an inspection to ensure that the Permittee is complying with this Permit, the *Act* or the *Regulations*.
- 6.2 Upon the request of an Environment Officer, the Permittee shall immediately provide any books, records, logs, graphs, papers, documents, or data, including any computer, digital or electronic records, logs, graphs, files or data maintained with respect to the sewage works.

Section Seven: General

- 7.1 A copy of this Permit shall be posted in a conspicuous place at the sewage works.
- 7.2 The Permittee shall provide each operator of the sewage works with a copy of this Permit and the *Regulations*.
- 7.3 The Minister may cancel, alter or suspend this Permit for the reasons and in the manner set out in the *Act*.
- 7.4 In the event of any inconsistency between a previously issued "Permit to Operate a Sewage Works", and the Terms and Conditions of this "Permit to Operate a Sewage Works", the Terms and Conditions of this Permit prevail.
- 7.5 Where any notice or reporting is required to be given by the Permittee, it shall be provided to:

Water Security Agency
Kerry Desjarlais
600.1-800 Central Avenue
Prince Albert, SK, S6V 6Z2
Telephone: 306.961.8448
Fax: 306.953.3939
Email: WSAEPOPrinceAlbertEast@wsask.ca

After hours, weekends and holidays, the Water Security Agency can be contacted by calling the Upset Report Line at 1-844-536-9494.

**Appendix A
 Monitoring Schedule**

Location	Station Number	Frequency	Type of Sample	Parameter(s)
Treated Wastewater Effluent Discharge to Environment	SK05KD0022	Daily		Volume of influent or effluent discharged at final discharge point ¹
		Once midway through each discharge period	Grab	Group 4 Panel 5-day Carbonaceous Biochemical Oxygen Demand Chloride pH at 15°C ± 1°C Total Suspended Solids Total Phosphorous Total Nitrogen Total Ammonia Nitrogen Total Kjeldahl Nitrogen Calculated Un-ionized Ammonia ²
		Once midway through each discharge period	Grab	Total Coliform Bacteria <i>Escherichia coli</i> Temperature (<i>field test</i>) pH (<i>field test</i>)
		Once every three years midway through one of the discharge periods. The next sample to be taken in the 2024 calendar year.	Grab	Acute Lethality ³
2. Receiving Environment	Emmons Creek Upstream ⁵ SK05KC0060 Emmons Creek Downstream ⁶ SK05KC0061	Once midway through each discharge period	Grab	Group 4 Panel plus TDS and Conductivity 5-day Carbonaceous Biochemical Oxygen Demand Chloride Conductivity at 25°C pH at 15°C ± 1°C Total Suspended Solids Total Phosphorous Total Nitrogen Total Ammonia Nitrogen Total Dissolved Solids Total Kjeldahl Nitrogen Calculated Un-ionized Ammonia ⁴ Total Coliform Bacteria <i>Escherichia coli</i> Temperature (<i>field test</i>) pH (<i>field test</i>)

¹ The permittee shall estimate the daily volume discharged to the environment.

² The un-ionized portion of total ammonia (NH₃) in the treated effluent shall be calculated using the formula:

$$\text{Total Ammonia Nitrogen} \times 1 \div (1 + 10^{9.56 - \text{pH}})$$

- where pH is the pH of the effluent adjusted to 15°C ± 1°C

³ The accredited laboratory must adhere to the following biological test methods:

Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout
 (Reference Method EPS 1/RM/13 Second Edition)

Procedure for pH Stabilization During the Testing of Acute Lethality of Wastewater Effluent to Rainbow Trout
 (Reference Method EPS 1/RM/50)

⁴ The un-ionized portion of total ammonia (NH₃) in the receiving waters shall be calculated using the formula:

$$\text{Total Ammonia Nitrogen} \times 1 \div (1 + 10^{\text{pKa} - \text{pH}})$$

- where pKa is 0.09018 + 2729.92/T

- where T is the ambient receiving water temperature in degrees Kelvin

- where pH is the pH of the receiving water

⁵ Upstream Sample – Emmons Creek – Upstream - south of the bridge on the NE¼ 6-50-11 W2nd (SK05KC0060)

⁶ Downstream Samples – Emmons Creek – Downstream – south of the bridge on the SE¼ 29-49-11 W2nd (SK05KC061)

Appendix B - Permit Limits

Location	Parameter	Limit
Final Treated Wastewater Effluent	5-day Carbonaceous Biochemical Oxygen Demand	Shall not exceed an annual arithmetic mean of 25 milligrams per litre.
	Total Suspended Solids	Shall not exceed an annual arithmetic mean of 25 milligrams per litre.
	Un-ionized Ammonia - N	Shall not exceed 1.24 milligrams per litre at 15°C ± 1°C.
	Acute Lethality (pH-stabilized)	Shall be non-lethal to greater than 50% of test organisms at 100% effluent concentration.