

**PART H - GENERAL CONDITIONS**

35. The Licensee shall ensure a copy of this Licence is maintained at the site during operations at all times.

Other Laws

36. No condition of the water use licence limits the applicability of any statutory authority.
37. All construction or installation of works authorized by this licence shall occur on property that the Licensee has the right to enter upon and use for that purpose.

Correspondence

38. Where any direction, notice, order or report under this licence is required to be in writing, it shall be given:
- a) To the Licensee, if delivered, faxed, or mailed by registered mail, to the address identified on page 1 of this licence, and shall be deemed to have been given to the Licensee on the day it was delivered, faxed, or 7 days after the day it was mailed, as the case may be; or
  - b) To the Board, if delivered, faxed or mailed by registered mail, to the following address:

Yukon Water Board  
Suite 106, 419 Range Road  
Whitehorse YT Y1A 3V1

Fax#: (867) 456-3890

and shall be deemed to have been given to the Board on the day it was delivered or faxed, or 7 days after the day it was mailed, as the case may be.

- c) The Board or the Licensee may, by notice in writing, change its address for delivery.

Annual Reports

39. On or before the anniversary of the date of issuance of this licence, and for each year during which this licence is in effect, the Licensee shall submit an annual report to the Board. The report shall include the information required by the Regulation including, but not necessarily limited to:
- a) summaries of all data generated as a result of the monitoring requirements of this licence, prepared by an individual or firm qualified to do so, including at a minimum:
    - i. analysis and interpretation of the water data; and
    - ii. any variances from baseline conditions or from previous years' data;
  - b) a record of the construction activities for the year reported;

- c) a description of the water use operations, including operational difficulties, significant maintenance work, and modifications carried out during the year reported;
- d) the quantity of water used each day;
- e) copies of all orders, directions and correspondence relating to drinking water sampling or analysis from the Medical Health Officer or from a Health Officer; and
- f) the inspection results required by the physical monitoring program, as described in clause 30 of this Licence;
- g) a detailed record of any major maintenance work carried out or planned to be carried out that could have an impact on water;
- h) details of any maintenance, inspection and/or surveillance activities undertaken in the previous year; and
- i) any reclamation or decommissioning of the water treatment system.

#### Monthly Reports

40. Unless otherwise specified in this Licence, the Licensee shall forward to the Board a copy of all data collected as part of the monthly monitoring program, as described in Schedule A of this Licence, on a monthly basis while operating, and no more than 30 days after the conclusion of the month in which the data was collected.

#### Reports

41. The Licensee shall provide to the Board one unbound, single-sided, paper copy of all reports required by this licence. All reports must be reproducible by standard photocopier.
42. The Licensee shall upload electronic copies of all reports required by this licence to the Yukon Water Board's online licensing registry, Waterline. Electronic copies shall be submitted in one of the following formats: MS Word, MS Excel workbooks, or Adobe .pdf format.
43. Water quality results must be uploaded to Waterline in the format outlined in the most recent version of *Yukon's Laboratory Data Submission Standards for Water Quality*. This guide is available on the Yukon Water Board website.
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## SCHEDULE A: MONITORING AND SUVEILLANCE

**Table A-1: Location of Sampling Stations**

Sampling Station	Water Monitoring Location Description	Northing <sup>1</sup>	Easting <sup>1</sup>
C-1	Influent to Wastewater Treatment System		
C-2	Compliance Point- Discharge from Wastewater Treatment Plant prior to entering lagoon #3		
C-3	Compliance Point -Discharge from lagoon #2 prior to entering lagoon #3		
MW-1	Groundwater Monitoring Well 1 – North-East of Waste Water Treatment System		
MW-2	Groundwater Monitoring Well 2 – South-East of Waste Water Treatment System		
MW-3	Groundwater Monitoring Well 3 – South-West of Waste Water Treatment System		
MW-4	Groundwater Monitoring Well 4 – North-West of Waste Water Treatment System		

<sup>1</sup>Locations to be provided upon submission of first monitoring report as per clause 26 of this licence.

**Table A-2: Water Quality Monitoring Parameters and Sampling Frequencies**

Parameter	C-1	C-2	C-3	MW-1	MW-2	MW-3	MW-4
Flow	D	-	-	-	-	-	-
pH ( <i>in situ</i> and laboratory)	-	M2	M3	C/ J/ S	C/ J/ S	C/ J/ S	C/ J/ S
Temperature ( <i>in situ</i> )	-	M2	M3	C/ J/ S	C/ J/ S	C/ J/ S	C/ J/ S
Specific Conductance	-	M2	M3	C/ J/ S	C/ J/ S	C/ J/ S	C/ J/ S
Total Suspended Solids (TSS)	-	M2	M3	C/ J/ S	C/ J/ S	C/ J/ S	C/ J/ S
Total Residual Chlorine (TRC)	-	M2	M3	C/ J/ S	C/ J/ S	C/ J/ S	C/ J/ S
Un-ionized Ammonia (NH <sub>3</sub> ) <sup>1</sup>	-	M2	M3	C/ J/ S	C/ J/ S	C/ J/ S	C/ J/ S
Oil and Grease	-	M2	M3	C/ J/ S	C/ J/ S	C/ J/ S	C/ J/ S
Fecal Coliform	-	M2	M3	C/ J/ S	C/ J/ S	C/ J/ S	C/ J/ S
<i>E. coli</i>	-	-	-	C/ J/ S	C/ J/ S	C/ J/ S	C/ J/ S
Organic Phosphorus (as P)	-	-	-	C/ J/ S	C/ J/ S	C/ J/ S	C/ J/ S
Total Phosphorus (as P)	-	-	-	C/ J/ S	C/ J/ S	C/ J/ S	C/ J/ S
Total Nitrogen (as N)	-	-	-	C/ J/ S	C/ J/ S	C/ J/ S	C/ J/ S
Nitrites	-	-	-	C/ J/ S	C/ J/ S	C/ J/ S	C/ J/ S
Nitrates	-	-	-	C/ J/ S	C/ J/ S	C/ J/ S	C/ J/ S
Chloride	-	-	-	C/ J/ S	C/ J/ S	C/ J/ S	C/ J/ S

**Table A-3: Monitoring Schedule Frequency Legend**

<b>Symbol</b>	<b>Frequency</b>
D	Daily when operating
M2	Monthly, when discharging directly from the wastewater treatment plant to lagoon #3
M3	Monthly when discharging directly from the lagoon #2 to lagoon #3
C	One time initial characterization of groundwater prior to effluent entering lagoon #3
J	Annual July sampling event
S	Annual September sampling event

## YUKON WATER BOARD

Pursuant to the *Waters Act* and *Regulation*, the Yukon Water Board hereby issues a water licence to:

<b>LICENSEE:</b>	Goldcorp Kaminak Ltd.	
<b>CONTACT INFORMATION:</b>	201-166 Titanium Way Whitehorse, YT Y1A 0G1	
<b>APPLICATION:</b>	MN16-034-2	
<b>LICENCE NUMBER:</b>	MN16-034	
<b>AMENDMENT:</b>	This licence is amendment 1 of MN16-034.	
<b>UNDERTAKING:</b>	Municipal	<b>LICENCE TYPE: B</b>
<b>WATER MANAGEMENT AREA:</b>	02 Yukon	
<b>WATER SOURCE:</b>	Groundwater	
<b>MAXIMUM QUANTITY:</b>	35 cubic metres per day	
<b>LOCATION:</b>	Yukon River	
<b>MAP CO-ORDINATES:</b>	Latitude: 62° 54' 47" N Longitude: 139° 4' 58" W	
<b>PURPOSE:</b>	To withdraw water and to construct and operate a wastewater treatment system and sludge drying bed for a 100-person camp.	
<b>ORIGINAL LICENCE EFFECTIVE DATE:</b>	July 12, 2016	
<b>AMENDMENT EFFECTIVE DATE:</b>	August 16, 2021	
<b>EXPIRY DATE:</b>	July 11, 2026	

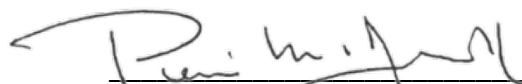
This Licence is subject to the restrictions and conditions contained herein, and to the restrictions and conditions contained in the *Waters Act* and *Regulation*.

Dated this 16th day of  
August, 2021

Approved by:



*Digitally signed*  
Witness



*Digitally signed*  
Chairperson, Yukon Water Board

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**PART A - DEFINITIONS**

“Act” means *Waters Act* SY 2003, c.19; amended by SY 2007, c.6.

“Application” means Water Licence Application MN16-034, assignment application MN16-034-1 and amendment application MN16-034-2 including any additional submissions and/or revisions submitted to the Yukon Water Board by the Licensee, up to the date of the Board’s decision.

“Board” means the Yukon Water Board.

“Inspector” means any person designated as an Inspector under the Act.

“Minor Modification” means a change to the final detailed design that does not affect its functionality and ability to meet the design criteria or environmental performance requirements and does not affect any other design or performance criteria.

“Natural Boundary” means the visible high water mark of any lake, river, stream or other body of water where the presence and action of water is so common and usual and so long continued as to mark upon the soil of the bed of the lake, river, stream or other body of water a character distinct from that of the banks thereof, both in respect to vegetation and in respect to the nature of the soil itself. In addition, the best estimates of the edge of dormant or old side channels and marsh areas are considered to be Natural Boundaries.

“Regulation” means the *Waters Regulation* made under the Act.

“Spill Contingency Plan” means the *2018 Spill Contingency Plan* that was submitted as part of the Application and included in Register MN16-034-2 as exhibit 1.3, and any subsequent revisions.

“Waste” means any substance as defined in the Act.

“Watercourse” means a natural watercourse, body of water or water supply, whether usually containing water or not, and includes groundwater, springs, swamps, and gulches.

### **PART B – DESCRIPTION OF WATER USE AND DEPOSIT OF WASTE**

1. The Licensee is hereby authorized to:
  - a) withdraw 35 cubic metres per day of water from groundwater;
  - b) construct and operate a wastewater treatment system;
  - c) construct and operate a sludge drying bed;
  - d) operate, maintain and decommission wastewater treatment lagoons; and
  - e) deposit a Waste to groundwater;as described in the Application, and subject to the conditions of this Licence.
2. The Licensee must operate and maintain the wastewater treatment facility in a manner which is consistent with standard municipal practices.
3. Except as authorized by this Licence, any deposit of Waste to a Watercourse is prohibited.

### **PART C – DESIGN AND CONSTRUCTION**

4. Notification, including the name and phone number of the field supervisor, must be provided to the Board, in writing, 10 days prior to the start of construction of the wastewater treatment system.

#### Design

5. At least 30 days prior to the commencement of construction of the wastewater treatment system and at least 30 days prior to commencement of construction of the sludge drying bed, the Licensee must submit to the Board, final design drawings or a final design report for the facility being constructed. The final design drawings or the final design report must be sealed by a professional engineer licensed to practice in Yukon and must be consistent with the preliminary design drawings provided as part of the Application.
6. Within 60 days of the completion of the construction, the Licensee must submit to the Board, as-built design drawings of the wastewater treatment system and the sludge-drying bed. These drawings must be sealed by a professional engineer licensed to practice in Yukon.
7. Where site conditions require Minor Modifications to the final detailed design submitted to the Board, the Licensee must submit to the Board with the as-built drawings:
  - a) written details of the Minor Modifications made to the specifications and quality assurance/quality control procedures previously submitted to the Board as part of the Application;



- b) an explanation, signed by a professional engineer licensed to practice in Yukon, for the change, including an assessment of the potential impact on the performance of the field modification; and
- c) written evidence that there has not been any fundamental changes to the original design criteria as presented in the Application.

#### Construction and Maintenance

- 8. All works associated with the undertaking must be maintained in good repair.
- 9. Construction and/or maintenance equipment must be mechanically sound and free of leaks.
- 10. Granular bedding and backfill material must consist of non-frozen material.
- 11. All disturbed ground surfaces must be stabilized in such a manner so as to prevent erosion and surface runoff from carrying sediment into any Watercourse.

### **PART D – OPERATING CONDITIONS**

#### Spills and Unauthorized Discharges

- 12. Where a spill or an unauthorized discharge occurs, that is of a reportable quantity under the Yukon Spills Regulations, the Licensee must immediately contact the 24-hour Yukon Spill Report number, (867) 667-7244 and implement the Spill Contingency Plan. A detailed written report on any such event including, but not limited to, dates, quantities, parameters, causes and other relevant details and explanations, must be submitted to the Board not later than 10 days after the occurrence.
- 13. The Licensee must apply the relevant procedures in the Spill Contingency Plan. The Licensee must review the Spill Contingency Plan annually and must provide a summary of that review, including any revisions to the plan, as a component of the annual report.
- 14. The Licensee must maintain a log book of all spill or unauthorized discharge occurrences, including spills that are less than the reportable quantities under the Yukon Spills Regulations. The log book must be made available at the request of an Inspector. The log book must include, but not necessarily be limited to:
  - a) the date and time of the spill or unauthorized discharge occurrence;
  - b) the substance spilt or discharged;
  - c) the approximate amount spilt or discharged;
  - d) the location of the spill;
  - e) the distance between the spill or discharge and the nearest Watercourse; and

- f) remedial measures taken to contain and clean-up the spill area or to cease the unauthorized discharge.
- 15. The Licensee must include a summary of all spills or unauthorized discharges that occurred during the year reported, as part of the annual report.
- 16. All personnel must be trained in procedures to be followed and the equipment to be used in the containment of a spill.
- 17. Prior to the commencement of construction, the Licensee must update the Spill Contingency Plan and provide the updated plan to the Board.
- 18. The Spill Contingency Plan must be posted on site for the duration of the works.

#### Fuel Storage, Fuel Transfer and Refueling

- 19. Fuel, lubricants, hydraulic fluids, coolants and similar substances must be stored and/or transferred a minimum of 30 metres from the Natural Boundary of any Watercourse, in such a way that said substances are not deposited in or allowed to be deposited in waters.

#### Sludge Disposal

- 20. Wastewater treatment system sludge must be disposed of in accordance with the Application.
- 21. Dewatered sludge from the sludge drying bed area must be disposed of in a manner that meets the requirements of applicable legislation.

### **PART E – PLANS**

- 22. The Licensee must implement all plans submitted pursuant to this Licence, as well as those submitted as part of the Application.

#### Adaptive Management Plan

- 23. By November 15, 2021 the Licensee must submit to the Board an updated adaptive management plan. The updated plan must include:
  - a) A new event specific to exceedances of adaptive management water quality triggers in groundwater wells MW1-19, MW2-19, MW3-19 and MW4-19 which specify adaptive management parameters, triggers and resulting actions as presented in Table 1-2 of Exhibit 6.2; and
  - b) A new event and related actions to address additional sub-permafrost monitoring to determine any changes to the thermal monitoring regime.

24. Within 30 days of triggering an adaptive management event, the Licensee must submit to the Board a report which includes a description of the causation, the analysis completed, the resulting action(s) and effectiveness of said action(s).

#### **PART F - PHYSICAL INSPECTIONS, MONITORING AND SURVEILLANCE**

25. By October 15, 2021 the Licensee must submit to the Board the coordinates for all groundwater wells and thermistors.
26. The Licensee must submit to the Board the coordinates for the septic tank sludge monitoring access location. The coordinates must be included in the next annual report following construction.

##### Monitoring

27. The Licensee must monitor at the stations identified in Schedule A Table A-1 for the parameters and at the frequency identified in Schedule A Table A-2.
28. Laboratory analyses must be performed by a laboratory accredited under the International Organization for Standardization ISO/IEC 17025:2005 standard and the accreditation must include the actual tests being performed by the laboratory.
29. The Licensee must submit to the Board a copy of all monitoring data no more than 30 days after the conclusion of the month in which that data was collected. Reports must include:
  - a) The laboratory analytical results of all water quality monitoring done in accordance to Schedule A; and
  - b) Results of all water quantity, water level, temperature and sludge level monitoring done in accordance to Schedule A.

##### Physical Inspections

30. Until such time the wastewater lagoons are decommissioned, the Licensee must conduct an annual physical inspection of the lagoons. The inspection must be carried out by a professional engineer licensed to practice in Yukon.
31. The Licensee must conduct an annual physical inspection of the sludge drying beds. The inspection must be carried out by a professional engineer licensing to practice in Yukon.
32. The Licensee must submit to the Board as part of the annual report, a report on the inspections required pursuant to conditions 30 and 31. The report must document the inspection locations and methodologies, the results of the inspection, all problems

identified, and remedial measures recommended. The report must be sealed by the professional engineer who conducted the inspections.

#### **PART G - SITE DECOMMISSIONING AND RESTORATION**

33. Within 90 days prior to commencing decommissioning activities, the Licensee must submit a decommissioning plan to the Board.
34. As part of final decommissioning, all disturbed ground surfaces must be regraded in a manner which is consistent with the topography of the site and which prevents erosion and surface runoff from carrying sediment into any Watercourse.
35. All wastewater treatment infrastructure, equipment, temporary structures and debris must be removed from the site as part of final decommissioning of the wastewater treatment system.

#### **PART H - GENERAL CONDITIONS**

36. The Licensee must ensure a copy of this Licence is maintained at the site during operations at all times.
37. Where there is a discrepancy between the Application and this licence, the conditions of this licence shall prevail.

#### Other Laws

38. No condition of this water licence limits the applicability of any statutory authority.
39. All construction or installation of works authorized by this licence must occur on property that the Licensee has the right to enter upon and use for that purpose.

#### Correspondence

40. Where any direction, notice, order or report under this licence is required to be in writing, it shall be given:
  - a) To the Licensee by mail or registered mail, to the address identified on page 1 of this licence, and shall be deemed to have been given to the Licensee on the day it was delivered, or 7 days after the day it was mailed, as the case may be; or
  - b) To the Board, if delivered, e-mailed or mailed by registered mail, to the following address:

Yukon Water Board  
Suite 106, 419 Range Road  
Whitehorse YT Y1A 3V1

E-mail: ywb@yukonwaterboard.ca  
Fax#: (867) 456-3890

and shall be deemed to have been given to the Board on the day it was delivered, faxed, e-mailed or 7 days after the day it was mailed, as the case may be.

41. The Board or the Licensee may, by notice in writing, change its address for delivery.

#### Annual Reports

42. The Licensee must submit an annual report to the Board for the period of January 1 to December 31 of each year. Annual reports must be submitted on or before March 31 of the year following the year reported. The annual report must include the information required by the Regulation as well as:
- a) a description of the water use operations, including operational difficulties, significant maintenance work, and modifications carried out during the year reported;
  - b) the quantity of water used each day;
  - c) the quality and quantity the Waste deposited during the year;
  - d) summaries of all data generated as a result of the monitoring requirements of this licence, prepared by an individual or firm qualified to do so, including at a minimum:
    - i. analysis and interpretation of the water data;
    - ii. any variances from baseline conditions or from previous years' data; and
    - iii. the volume of sludge or other material removed from the septic tank;
  - e) a record of the construction activities for the year reported;
  - f) the coordinates for the septic tank sludge monitoring access location, a one time requirement as required by condition 26;
  - g) the physical inspection reports as required by condition 32 and a summary of any corrective actions taken;
  - h) details of any inspections specific to this Licence which were undertaken in the previous year;
  - i) a record of all adaptive management actions triggered and the resulting actions taken; and
  - j) a summary of all planned or completed activities associated with the reclamation or decommissioning of authorized activities.



### Deliverables

43. The Licensee must provide to the Board one unbound, single-sided, paper copy of all reports required by this licence. All reports must be reproducible by standard photocopier.
  44. The Licensee must upload electronic copies of all reports required by this licence to the Yukon Water Board's online licensing registry, Waterline. Electronic copies must be submitted in one of the following formats: MS Word, MS Excel workbooks, or Adobe .pdf format. Water quality results must be uploaded to Waterline in the format outlined in the most recent version of *Yukon's Laboratory Data Submission Standards for Water Quality*. This guide is available on the Yukon Water Board website.
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**SCHEDULE A: MONITORING AND SURVEILLANCE****Table A-1: Location of Sampling Stations**

Sampling Station	Water Monitoring Location Description	Coordinates (Degrees, Minutes, Seconds)	
		Latitude	Longitude
MW-18CC-01	Old Groundwater Monitoring Well 1 – North-East of Waste Water Treatment System		
MW18CC-02	Old Groundwater Monitoring Well 2 – South-East of Waste Water Treatment System		
MW18CC-03	Old Groundwater Monitoring Well 3 – South-West of Waste Water Treatment System		
MW18CC-04	Old Groundwater Monitoring Well 4 – North-West of Waste Water Treatment System		
MW1-19	New Groundwater Monitoring Well 1		
MW2-19	New Groundwater Monitoring Well 2		
MW3-19	New Groundwater Monitoring Well 3		
MW4-19	New Groundwater Monitoring Well 4		
TS1-19	Thermistor String		
Septic Tanks	Wastewater Treatment and Disposal System		

**Table A-2: Water Quality Monitoring Parameters and Sampling Frequencies<sup>1</sup>**

Parameter	MW1-19	MW2-19	MW3-19	MW4-19	MW18 CC-01	MW18 CC-02	MW18 CC-03	MW18 CC-04	TS1-19	Septic Tanks
pH (field and lab)	2A	2A	2A	2A	-	-	-	-	-	-
Temperature (field)	2A	2A	2A	2A	-	-	-	-	-	-
Specific Conductance (field and lab)	2A	2A	2A	2A	-	-	-	-	-	-
Ammonia (total) -N	2A	2A	2A	2A	-	-	-	-	-	-
Un-ionized Ammonia <sup>3</sup>	2A	2A	2A	2A	-	-	-	-	-	-
Nitrate -N	2A	2A	2A	2A	-	-	-	-	-	-
Nitrite -N	2A	2A	2A	2A	-	-	-	-	-	-
Phosphorus (total)	2A	2A	2A	2A	-	-	-	-	-	-
CBOD <sub>5</sub>	2A	2A	2A	2A	-	-	-	-	-	-
Oil and Grease	2A	2A	2A	2A	-	-	-	-	-	-
Fecal Coliforms	2A	2A	2A	2A	-	-	-	-	-	-
Groundwater Elevation <sup>2</sup>	2A	2A	2A	2A	2A	2A	2A	2A	-	-
Ground Temperature	-	-	-	-	-	-	-	-	2A	-
Sludge Level	-	-	-	-	-	-	-	-	-	2A

2A = Twice Annually

1: Every effort must be made to collect the required twice-annual samples in the same months each year (e.g. May and September).

2: Groundwater elevation is to be relative to a known benchmark.

3: Un-ionized ammonia shall be determined in accordance with the following formula:

$$A (1/(1 + 10^{pK_a - pH}))$$

where

- **A** is the concentration of total ammonia — which is the sum of un-ionized ammonia (NH<sub>3</sub>) and ionized ammonia (NH<sub>4</sub><sup>+</sup>) — expressed in mg/L as nitrogen (N);
- **pH** is the pH of the effluent sample; and
- **pK<sub>a</sub>** is a dissociation constant calculated in accordance with the following formula:

$$0.09018 + 2729.92/T$$

where

- **T** is the temperature of the effluent sample in kelvin.

## YUKON WATER BOARD

Pursuant to the *Waters Act* and *Waters Regulation*, the Yukon Water Board hereby grants a Type B water licence for a Municipal undertaking to:

City of Dawson  
P.O. Box 308  
Dawson City, YT Y0B 1G0  
Fax (867) 993-7434

<b>LICENCE NUMBER:</b>	MN16-053	
<b>LICENCE TYPE:</b>	B	<b>UNDERTAKING:</b> MUNICIPAL
<b>WATER MANAGEMENT AREA:</b>	02 Yukon	
<b>WATER SOURCE:</b>	Groundwater aquifer adjacent to the Yukon River	
<b>MAXIMUM QUANTITY:</b>	4,651 cubic meters per day	
<b>LOCATION:</b>	Dawson City	
<b>MAP CO-ORDINATES:</b>	Latitude: 64° 03" N Longitude: 139° 26" W	
<b>PURPOSE:</b>	To obtain and convey water from groundwater for the purposes of municipal use; to collect wastewater through the operation and maintenance of wastewater collection infrastructure; and to collect and discharge storm water to the Yukon River.	
<b>EFFECTIVE DATE:</b>	The effective date of this licence shall be the date on which the signature of the Chairperson of the Yukon Water Board is affixed.	
<b>EXPIRY DATE:</b>	December 31, 2030	

This licence shall be subject to the restrictions and conditions contained herein and to the restrictions and conditions contained in the *Waters Act* and the *Waters Regulation* made thereunder.

Approved this 16th day of  
October, 2017.

Witness

Vice-Chairperson  
Yukon Water Board

## PART A – DEFINITIONS

“Act” means *Waters Act* and any amendments thereto.

“Application” means Water Use Application MN16-053 including any additional submissions and/or revisions submitted to the Yukon Water Board by the Licensee, up to the date of the Board’s decision.

“Board” means the Yukon Water Board.

“Engineered Work” means work of a scope that is undertaken with the preparation of drawings, and specifications prepared by a Professional Engineer licenced to practice in Yukon, for the purposes of improvements to the water supply, distribution systems, Wastewater Collection System, and storm water collection and discharge systems.

“Inspector” means any person designated as an Inspector under the Act.

“Natural Boundary” means the visible high water mark of any lake, river, stream or other body of water where the presence and action of water is so common and usual and so long continued as to mark upon the soil of the bed of the lake, river, stream or other body of water a character distinct from that of the banks thereof, both in respect to vegetation and in respect to the nature of the soil itself. In addition, the best estimates of the edge of dormant or old side channels and marsh areas are considered to be Natural Boundaries.

“Regulation” means the *Waters Regulation* made under the Act.

“Spill Contingency Plan” means the *Spill Contingency Plan* that was submitted as part of the Application and included in Water Use Register MN16-053 as exhibit 1.7, and any subsequent revisions.

“Substantial Completion Certificate” means documentation issued by a Professional Engineer when an engineered project has reached a stage of substantial completion as defined by the contract documents for that project.

“Waste” means any substance as defined in the Act.

“Wastewater Collection System” means the piping, and pumping infrastructure that ultimately terminates in manhole STP1, and continues with a 300 mm discharge and the 250 mm alternative discharge from the manhole STP1, located on Fifth Avenue in front of the wastewater treatment facility; the wastewater collection system shall terminate 1 meter beyond the edge of the manhole.

“Watercourse” means a natural watercourse, body of water or water supply, whether usually containing water or not, and includes groundwater, springs, swamps, and gulches.



**PART B - WATER USE AND DEPOSIT OF WASTE**

1. The Licensee is hereby authorized to:
  - a) obtain water from groundwater wells PW2N, PW3N, and PW4N, adjacent to the Yukon River up to a maximum total quantity of 4,651 cubic meters per day;
  - b) use the water for municipal purposes;
  - c) convey the water via a distribution system;
  - d) operate and maintain a water distribution, and a Wastewater Collection System; and
  - e) collect, convey and discharge storm water to the Yukon River,as described in the Application, and subject to the conditions of this licence.
2. Where there is a discrepancy between the Application and this licence, the conditions of this licence shall prevail.

**PART C - DESIGN AND CONSTRUCTION**

3. Where site conditions require minor modifications to the designs submitted to the Board, including during construction, the Licensee shall notify the Board, a minimum of 10 days in advance, of the details of the modifications or variations from final detailed design, specifications and quality assurance/quality control procedures previously submitted to the Board, provide a detailed construction schedule and the name and contact number(s) of the construction superintendent. The notice shall be in writing and must include an explanation of the reasons for the change and an assessment of the potential impact on the performance of the works. The notice shall be sealed by a Professional Engineer licensed to practice in Yukon.
4. The Licensee shall submit to the Board, drawings of any Engineered Work to be completed on the water, wastewater collection, and storm water facilities 10 days in advance of the scheduled commencement of the work. The drawings shall be sealed by a Professional Engineer licensed to practice in Yukon.
5. The Licensee shall submit to the Board, as-built engineering drawings, of any Engineered Work completed on the water, wastewater collection, and storm water facilities, and any resulting revisions to the operations and maintenance documentation within 6 months of the completion of this work, as acknowledged by issuance of the Substantial Completion Certificate. The drawings shall be sealed by a Professional Engineer licensed to practice in Yukon.

**PART D - OPERATING CONDITIONS**General

6. The Licensee shall operate and maintain the following in a manner which is consistent with standard municipal practices for the types of systems being used in cold regions:
  - a) water wells,
  - b) water conveyance and distribution system,

- c) Wastewater Collection System, and the
  - d) storm water collection, conveyance and disposal system
7. All works associated with the undertaking shall be maintained in good repair.
8. Construction and/or maintenance equipment shall be mechanically sound and free of leaks.
9. Waste substances shall be used, transported, stored or disposed of in such a manner that they are not deposited, or allowed to be deposited, into any Watercourse or on any surrounding land, unless authorized by this licence.
10. Except as authorized by this licence, no Waste shall enter any Watercourse as a result of any operation carried out by the Licensee.

#### Water Conservation

11. The Licensee shall develop a plan to implement, monitor and maintain a water conservation program.

#### Spills and Unauthorized Discharges

12. Where a spill or an unauthorized discharge occurs, that is of a reportable quantity under the Yukon *Spills Regulations*, the Licensee shall immediately contact the 24-hour Yukon Spill Report number, (867) 667-7244 and implement the Spill Contingency Plan. A detailed written report on any such event including, but not limited to, dates, quantities, parameters, causes and other relevant details and explanations, shall be submitted to the Board not later than 10 days after the occurrence.
13. The Licensee shall review the Spill Contingency Plan annually and shall provide a summary of that review, including any revisions to the plan, as a component of the annual report.
14. The Licensee shall maintain a log book of all spill or unauthorized discharge occurrences, including spills that are less than the reportable quantities under the Yukon *Spills Regulations*. The log book shall be made available at the request of an Inspector. The log book shall include, but not necessarily limited to:
- a) the date and time of the spill or unauthorized discharge occurrence;
  - b) the substance spilt or discharged;
  - c) the approximate amount spilt or discharged;
  - d) the location of spill;
  - e) the distance between the spill or discharge and the nearest Watercourse; and
  - f) remedial measures taken to contain and clean-up the spill area or to cease the unauthorized discharge.
15. The Licensee shall include a summary of all spills or unauthorized discharges that occurred during the year reported, as part of the annual report.

16. All personnel shall be trained in procedures to be followed and the equipment to be used in the containment of a spill.
17. The Spill Contingency Plan shall be posted on site for the duration of the works.

#### Fuel Storage and Transfer

18. Fuel, lubricants, hydraulic fluids, coolants and similar substances, with the exception with liquid associated with the water pump engine, shall be stored and/or transferred a minimum of 30 metres from the Natural Boundary of any Watercourse, in such a way that said substances are not deposited in or allowed to be deposited in waters.

#### Annual Reports

19. The Licensee shall submit annual reports to the Board for the period of January 1 to December 31 of each year. Annual reports shall be submitted to the Board on or before February 28 of the subsequent year. The report shall include the information required by the Regulation including, but not necessarily limited to:
  - a) data collected and summary of data collected as required by this licence;
  - b) details of the methods, procedures and standards used in the data collection and sample testing;
  - c) an analysis and interpretation of the collected data by an individual qualified to do so, including but not limited to variances from baseline conditions or from previously collected data;
  - d) a copy of the inspection reports;
  - e) a detailed record of any maintenance, repairs or improvements to physical works, including details of how all recommendations from inspection reports and findings have been addressed;
  - f) a record of construction activities;
  - g) a detailed record of the operation of the water, Wastewater Collection System, and storm water systems, including operational difficulties;
  - h) records of all spills/unauthorized discharges;
  - i) summary of the review and revisions of the Spill Contingency Plan;
  - j) summary of the review and revisions of the operations and maintenance plan;
  - k) records of all spills/unauthorized discharges;
  - l) a summary of the disposal of hazardous materials;
  - m) all planning and/or conceptual design documents for the water, wastewater collection system, and storm water facilities prepared within the reporting year;
  - n) any other information or reports required by this licence;
  - o) all work completed on the water, wastewater collection and storm water systems

#### Water Sampling Reporting

20. Within one month of each water monitoring event, the Licensee shall submit a monitoring report to the Board. The report shall include, but not necessarily limited to:

- a) results of monitoring at PW4N and Certificate of Analysis from an accredited laboratory;
- b) results of storm water monitoring;
- c) quantity of water use in the month; and
- d) a discussion of any irregularities and any corrective action taken to address them.

#### Reports and Plans

- 21. The Licensee shall provide to the Board one unbound, single-sided, paper copy of all reports required by this licence. All reports must be reproducible by standard photocopier.
- 22. The Licensee shall upload electronic copies of all reports required by this licence to the Yukon Water Board's online licensing registry, Waterline. Electronic copies shall be submitted in one of the following formats: MS Word, MS Excel, or Adobe .pdf. Water quality results must be uploaded to Waterline in the format outlined in the most recent version of Yukon's "Laboratory Data Submission Standards for Water Quality". This guide is available on the Yukon Water Board website.

### **PART E - MONITORING AND SURVEILLANCE**

- 23. The Licensee shall comply with the monitoring and surveillance requirements specified in Schedule A of this licence. All data, information, reports, observations collected, analysis, and interpretations of the data shall be included in the annual report.

#### Water Quality Monitoring

- 24. Laboratory analyses shall be performed by a laboratory accredited under the *International Organization for Standardization ISO/IEC 17025: 2005* standard and the accreditation must include the actual tests being performed by the laboratory.
- 25. All data collection shall be conducted in accordance to a nationally recognized sampling protocol (e.g. CCME Protocols Manual for Water Quality Sampling in Canada, 2011).

#### Storm Water Monitoring

- 26. Any hydrocarbon sheens or slicks, colour changes, and/or turbidity changes identified during the visual inspections monitoring required by this licence shall be investigated as to the source, and a report on the monitoring and investigation shall be submitted to the Board within 15 days of the identification.

#### Physical Inspections and Monitoring

- 27. An annual physical inspection of all storm water discharge structures, the Wastewater Collection System, and hydraulic control structures shall be inspected annually, during the summer months, by a Professional Engineer licensed to practice in Yukon in accordance to the Operations and Maintenance Plan. The results shall be submitted to the Board as part of the annual report. The status of any remedial measures recommended in the previous year's inspection report shall be



appended to the report together with an explanation regarding any recommendation not implemented.

#### **PART F - SITE DECOMMISSIONING AND RESTORATION**

28. One year prior to the commencement of decommissioning activities, the Licensee shall develop a final decommissioning and reclamation plan for the closure of the municipal water facility and wastewater collection system, and submit the plan to the Board. The plan shall include, but not necessarily be limited to,
- a) a plan delineating the water, Wastewater Collection, and the storm water systems;
  - b) a plan delineating all disturbed areas associated with the site and site facilities;
  - c) a drainage plan to manage surface water associated with the decommissioned site;
  - d) a plan showing the future use of the site;
  - e) a remediation plan for any contaminated areas of the site;
  - f) a plan and specification of any cover materials to be used in the decommissioning; and
  - g) a schedule for the site decommissioning and restoration.
29. All disturbed ground surfaces shall be re-graded in a manner which is consistent with the topography of the site and which prevents erosion and surface runoff from carrying sediment into any Watercourse. Where soil conditions permit, disturbed areas shall be re-vegetated with appropriate reclamation seeds and/or plant species that are native in Yukon.
30. All hazardous materials shall be disposed in accordance with the provisions of the *Special Waste Regulations* of the *Environment Act of the Yukon Territory* and shall include a description of the disposal as part of the Annual Report.

#### **PART G - GENERAL CONDITIONS**

31. Where there is a discrepancy between the Application and this licence, the conditions of this licence shall prevail.
32. The Licensee shall ensure a copy of this Licence is maintained at the site during operations at all times.

##### Other Laws

33. No condition of the water licence limits the applicability of any statutory authority.
34. All construction or installation of works authorized by this licence shall occur on property that the Licensee has the right to enter upon and use for that purpose.



Non-Compliance

35. In the event that the Licensee fails to comply with any provision or condition of this licence, the Board may, subject to the Act, cancel the licence.

Correspondence

36. Where any direction, notice, order or report under this licence is required to be in writing, it shall be given:

- a) to the Licensee, if delivered, faxed, or mailed by registered mail to the address identified on page 1 of this licence, and shall be deemed to have been given to the Licensee on the day it was delivered, or 7 days after the day it was mailed, as the case may be; or
- b) To the Board, if delivered, faxed or mailed by registered mail to the following address:

Yukon Water Board  
Suite 106, 419 Range Road  
Whitehorse, YT Y1A 3V1  
Fax: (867) 456-3890

and shall be deemed to have been given to the Board on the day it was delivered or faxed, or 7 days after the day it was mailed, as the case may be.

- c) The Board or the Licensee may, by notice in writing, change its address for delivery.

**SCHEDULE A – MONITORING AND SURVEILLANCE REQUIREMENTS****Table A1: LOCATIONS OF SAMPLING STATIONS**

<b>Station</b>	<b>Description</b>
DC-1	Combined water supply from water supply wells
PW4N	Dawson City Community Drinking Water Well – PW-4N
DSW-1	Turner Street storm water outfall
DSW-2	Church Street storm water outfall
DSW-3	Harper Street storm water outfall
DSW-4	Princess Street storm water outfall
DSW-5	Queen Street storm water outfall
DSW-6	King Street storm water outfall
DSW-7	York Street storm water outfall
DSW-8	Duke Street storm water outfall
DSW-9	Albert Street storm water outfall

**Table A2: SAMPLING AND MONITORING SCHEDULE**

<b>Sampling Location/Parameter</b>	<b>PW4N</b>	<b>DC-1</b>
Flow (m <sup>3</sup> /day)	---	D
Fecal Coliforms	M	
Total Coliforms	M	
Dissolved Oxygen mg/L (in-situ)	M	
Temperature (in-situ)	M	
Specific Conductance	M	
pH (in-situ and laboratory)	M	
Total Ammonia – N	M	
Total Dissolved Solids	M	
Total Suspended Solids	M	
Nitrate - N	M	
Nitrite - N	M	

**Table A3: VISUAL ASSESSMENT MONITORING AND FREQUENCY FOR STORM WATER OUTFALLS**

<b>Visual Assessment Criteria/Locations</b>	<b>DSW-1, DSW-2, DSW-3, DSW-4, DSW-5, DSW-6, DSW-7, DSW-8, DSW-9</b>
Flow	M*
Hydrocarbon sheens or slicks	M*
Colour and colour changes	M*
Turbidity and turbidity changes	M*

**LEGEND**

D = Daily

M = Monthly

M\* = Monthly during open water

# YUKON WATER BOARD

Pursuant to the *Waters Act* and *Waters Regulation*, the Yukon Water Board hereby grants a Type A water licence for a Municipal undertaking to:

Government of Yukon  
Box 2703  
Whitehorse YT Y1A 2C6

**LICENCE NUMBER:** MN17-028

**RENEWAL:** This licence shall be deemed to be a renewal of licence number MN11-064.

**LICENCE TYPE:** A **UNDERTAKING:** Municipal

**WATER MANAGEMENT AREA:** 05 Porcupine

**LOCATION:** Old Crow

**MAP CO-ORDINATES:** Northwest boundary: 67° 34'10.9" N and 139° 51'59.8" W  
Southeast boundary: 67° 34'9.3" N and 139° 51'48.2" W

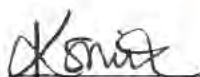
**PURPOSE:** Maintain and operate a municipal wastewater treatment facility.

**EFFECTIVE DATE:** The effective date of this licence shall be the date on which the signature of the Chairperson of the Yukon Water Board is affixed.

**EXPIRY DATE:** July 5, 2042

This licence shall be subject to the restrictions and conditions contained herein and to the restrictions and conditions contained in the *Waters Act* and the *Waters Regulation* made thereunder.

Approved this 3rd day of August 2017.

  
Witness

  
Minister, Executive Council Office  
Government of Yukon

Issued this 9th day of August 2017.

  
Witness

  
Vice-Chairperson, Yukon Water Board



## PART A - DEFINITIONS

“Act” means *Waters Act* and any amendments thereto.

“Application” means Water Use Application MN17-028, including any additional submissions and/or revisions submitted to the Yukon Water Board by the Licensee, up to the date of the Board’s decision.

“Board” means the Yukon Water Board.

“Inspector” means any person designated as an Inspector under the Act.

“Natural Boundary” means the visible high water mark of any lake, river, stream or other body of water where the presence and action of water is so common and usual and so long continued as to mark upon the soil of the bed of the lake, river, stream or other body of water a character distinct from that of the banks thereof, both in respect to vegetation and in respect to the nature of the soil itself. In addition, the best estimates of the edge of dormant or old side channels and marsh areas are considered to be Natural Boundaries.

“Regulation” means the *Waters Regulation* made under the Act.

“Spill Contingency Plan” means the *Spill Contingency Plan Old Crow Wastewater Facility* that was submitted as part of the Application and included in Water Use Register MN17-028 exhibit 1.2.8, and any subsequent revisions.

“Waste” means any substance as defined in the Act.

“Watercourse” means any stream, lake, pond, river, creek, spring, ravine or swamp whether ordinarily containing water or not.

“Wetted Perimeter” means the horizontal extent of the present water level while the work is taking place.

## PART B - GENERAL CONDITIONS

1. The Licensee shall ensure a copy of this Licence is maintained at the site during operations at all times

### Other Laws

2. No condition of the water use licence limits applicability of any statutory authority.
3. All construction or installation of works authorized by this licence shall occur on property that the Licensee has the right to enter upon and use for that purpose.



Correspondence

4. Where any direction, notice, order or report under this licence is required to be in writing, it shall be given:
- a) To the Licensee, if delivered, faxed, or mailed by registered mail, to the address identified on page 1 of this licence, and shall be deemed to have been given to the Licensee on the day it was delivered, faxed, or 7 days after the day it was mailed, as the case may be; or
  - b) To the Board, if delivered, faxed or mailed by registered mail to the following address:

Yukon Water Board  
Suite 106, 419 Range Road  
Whitehorse YT Y1A 3V1  
Fax: (867) 456-3890

and shall be deemed to have been given to the Board on the day it was delivered or faxed, or 7 days after the day it was mailed, as the case may be.
  - c) The Board or the Licensee may, by notice in writing, change its address for delivery.

Non-Compliance

5. In the event that the Licensee fails to comply with any provision or condition of this licence, the Board may, subject to the Act, cancel the licence.

Spills and Unauthorized Discharges

6. Where a spill or an unauthorized discharge occurs, that is of a reportable quantity under the Yukon *Spills Regulations*, the Licensee shall immediately contact the 24-hour Yukon Spill Report number, (867) 667-7244 and implement the Spill Contingency Plan. A detailed written report on any such event including, but not limited to, dates, quantities, parameters, causes and other relevant details and explanations, shall be submitted to the Board not later than 10 days after the occurrence.
7. The Licensee shall apply the relevant procedures in the Spill Contingency Plan. The Licensee shall review the Spill Contingency Plan annually and shall provide a summary of that review, including any revisions to the plan, as a component of the annual report.
8. The Licensee shall maintain a log book of all spill or unauthorized discharge occurrences, including spills that are less than the reportable quantities under the Yukon *Spills Regulations*. The log book shall be made available at the request of an Inspector. The log book shall include, but not necessarily be limited to the:
- a) date and time of the spill;
  - b) substance spilt or discharged;
  - c) approximate amount spilt or discharged;

- d) location of the spill;
  - e) distance between the spill or discharge and the nearest Watercourse; and
  - f) remedial measures taken to contain and clean-up the spill area or to cease the unauthorized discharge.
9. The Licensee shall include a summary of all spills or unauthorized discharges that occurred during the year reported, as part of the annual report.
10. All personnel shall be trained in procedures to be followed and the equipment to be used in the containment of a spill.

#### Fuel Storage and Transfer

12. Fuel, lubricants, hydraulic fluids, coolants and similar substances shall be stored and/or transferred a minimum of 30 metres from the Natural Boundary of any Watercourse, in such a way that said substances are not deposited in or allowed to be deposited in waters.

#### Reporting

13. The Licensee shall provide to the Board one unbound, single-sided, paper copy of all reports required by this licence. All reports must be reproducible by standard photocopier.
14. The Licensee shall upload electronic copies of all reports required by this licence to the Yukon Water Board's online licensing registry, Waterline. Electronic copies shall be submitted in one of the following formats: MS Word, MS Excel, or Adobe .pdf format.

#### Water Sampling Event Reporting

15. Within one month of each sampling event the Licensee shall submit a monitoring report to the Board. The report shall include the following information, but not necessarily limited to:
- a) Final and complete analytical report from an accredited laboratory;
  - b) Comparison of analytical results in tabular format to the effluent quality standards listed in Part E of this licence; and,
  - c) Discussion of any irregularities and corrective action.

#### Annual Reports

16. On or before the anniversary of the date of issuance of this licence, and for each year during which this licence is in effect, the Licensee shall submit an annual report to the Board. The report shall include the information required by the Regulation including, but not necessarily limited to:
- a) Data collected according to the requirements of Schedule A of this licence;
  - b) Data collected during the annual inspection conducted by the Licensee which, at a minimum, will include:
    - i. Visual observations of the condition of the lagoon berms;



- ii. Visual observation of the water surrounding the lagoon berms (e.g. odour, colour, evidence of flow, etc.);
  - iii. Visual observations of the vegetation surrounding the lagoon berms (e.g. vigour of growth, dying vegetation, etc.);
  - iv. Visual observations of surface drainage patterns (e.g. verify if this is in south-easterly direction toward the two culverts);
  - v. An estimate of the volume of wastewater in the lagoon (based on water level gauge (as per exhibit 1.4 of the Application) readings and area of lagoon);
  - vi. Representative photographs;
- b) The results of any physical inspections of the wastewater facility, as described in Part E of this licence;
  - c) A detailed record of any major maintenance work carried out or planned to be carried out;
  - d) Record of the daily number of eductor loads and quantity of wastewater deposited into the lagoon;
  - e) Summary of data generated as a result of the monitoring requirements outlined in Part E of this licence, including analysis and interpretation by a qualified individual or firm and a discussion of any variances from baseline conditions or from previous years' data;
  - f) Description of status of decommissioning plan as per Part H of this licence;
  - g) Description of any major environmental events, which occurred throughout the year, with the potential to impact the wastewater treatment facility (e.g. flooding of the Porcupine River);
  - h) Details of the methods, procedures, and standards used in the collection and sample testing;
  - i) A detailed record of the operation of wastewater treatment facility, including operational difficulties, significant maintenance work, and modifications;
  - j) Any other information or reports required by this licence or the Regulations; and
  - k) Results of the groundwater monitoring program.

### **PART C - OPERATING CONDITIONS**

17. The Licensee is hereby authorized to:

- a) operate and maintain an existing wastewater treatment facility;
- b) to deposit a maximum of 45.5 m<sup>3</sup> per day of wastewater into the lagoon;
- c) to deposit a waste, in the form of treated wastewater from the lagoon, to the Unnamed tributary of the Porcupine River;
- d) install septage receiving station and solids handling chamber;
- e) install laydown area for sludge dewatering and composting;
- f) construct earthworks and erosion protection;
- g) install constructed wetland treatment system;
- h) replace valve outfall structure; and
- i) construct drainage improvements between the south berm and access road

as described in the Application, subject to the terms and conditions of this licence. Where there is a discrepancy between the Application and this licence, the conditions of this licence shall prevail.

18. The Licensee shall operate and maintain the wastewater treatment facility in a manner which is consistent with standard municipal practices.
19. The Licensee shall submit a sludge management plan for the wastewater treatment facility to the Board, in writing, within one year of the sludge drying beds construction being completed, or 30 days prior to the commencement of use of the sludge drying beds, whichever occurs first.
20. The Licensee is authorized to use a polymer to facilitate the dewatering of sludge. The Licensee must submit Material Data Safety Sheets (MSDS) to the Board prior to use of polymers.
21. Dewatered sludge from the sludge laydown area shall be disposed of in a manner that meets the requirements of appropriate legislation including, but not limited to, the *Environment Act* and associated regulations.
22. The Licensee shall submit a Wastewater Treatment Facility Operations Manual to the Board, in writing, within one year of any major construction works being completed; including, but not limited to, the septage receiving station and solids handling chamber, the outfall valve structure, and the sludge laydown area.

## **PART D - DESIGN AND CONSTRUCTION**

### Design

23. Ten days prior to the commencement of construction, the Licensee shall submit to the Board final detailed design construction drawings for the septage receiving station, solids holding chamber, sludge drying beds, valve outfall structure, constructed wetlands, and associated infrastructure. The final detailed design drawings must be consistent with the drawings which were submitted as part of the Application and sealed by a Professional Engineer licensed to practice in Yukon. All construction shall be carried out in accordance with the final design drawings.
24. Within 60 days of completion of the construction of the septage receiving station, solids holding chamber, sludge drying beds, valve outfall structure, constructed wetlands, and associated infrastructure, the Licensee shall submit to the Board, as-built design drawings of the above-described infrastructure, sealed by a Professional Engineer licensed to practice in the Yukon.



25. Where site conditions require minor modifications to the designs submitted to the Board, the Licensee shall notify the Board, a minimum of 10 days in advance, of the details of the modifications or variations from final detailed design, specifications and quality assurance/quality control procedures previously submitted to the Board, provide a detailed construction schedule and the name and contact number(s) of the construction superintendent. The notice shall be in writing and must include an explanation of the reasons for the change and an assessment of the potential impact on the performance of the works. The notice shall be sealed by a Professional Engineer licensed to practice in Yukon.

Construction

26. All works associated with the undertaking shall be maintained in good repair.
27. Construction and/or maintenance equipment shall be mechanically sound and free of leaks.
28. Granular bedding and backfill material shall consist of non-frozen material.
29. Waste substances shall be used, transported, stored or disposed of in such a manner that they are not deposited, or allowed to be deposited, into any Watercourse or on any surrounding land, unless authorized by this licence.
30. Except as authorized by this licence, no Waste shall enter any Watercourse as a result of any operation carried out by the Licensee.
31. All disturbed ground surfaces shall be stabilized in such a manner so as to prevent erosion and surface runoff from carrying sediment into any Watercourse.

### PART E – EFFLUENT QUALITY STANDARDS

32. Water discharge from the wastewater treatment facility at the primary and secondary compliance points, as described in Schedule A of this licence, shall meet the following effluent discharge standards:

Parameter	Maximum Concentration for any Sample
<b>Applicable to Primary Compliance Point<sup>1</sup></b>	
CBOD <sub>5</sub>	25 mg/L
pH	6 - 9
Oil and grease	5 mg/L
Fecal Coliforms	400 counts/100 ml
Total Suspended Solids	25 mg/L
Un-ionized Ammonia (NH <sub>3</sub> )	1.25 mg/L @ 15° C, +/- 1° C
Bioassay <sup>2</sup> (LT <sub>50</sub> – 96 hr) PH adjusted	non-toxic
Total Phosphorous (P)	1 mg/L
<b>Applicable to Secondary Compliance Point<sup>3</sup></b>	
Un-ionized Ammonia (NH <sub>3</sub> )	0.019 mg/L @ 15° C, +/- 1° C

1 = Primary Compliance Point as described in Schedule A of this licence.

2 = Must have 96 hour rainbow trout mortality of 50% or less (LT<sub>50</sub>), pH adjusted to be considered nontoxic.

3 = Secondary Compliance Point as described in Schedule A of this licence.

### PART F – MONITORING AND SURVEILLANCE

#### Water

33. The Licensee shall comply with the monitoring and surveillance requirements specified in Schedule A of this licence.
34. All data collection shall be conducted in accordance to a nationally recognized sampling protocol (e.g. CCME Protocols Manual for Water Quality Sampling in Canada, 2011).
35. Laboratory analyses shall be performed by a laboratory accredited under the International Organization for Standardization ISO/IEC 17025:2005 standard and the accreditation must include the actual tests being performed by the laboratory.
36. Water sampling stations OCL 1, OCL 2, OCL 3, OCL 4, OCL 5, OCL 6, and OCL 7 shall be sampled as specified in Schedule A.
37. Groundwater sampling stations BH03, BH04, BH05, BH06, and BH08 shall be sampled as specified in Schedule A.



Wastewater Input to Lagoon

38. The Licensee shall monitor and record daily the number of eductor loads and quantity of wastewater deposited into the lagoon.

Wastewater Discharge from the Lagoon

39. The Licensee shall monitor if effluent begins to exfiltrate through the lagoon. The findings shall be included in the annual report described in Part B of this licence.
40. If effluent begins to exfiltrate through the lagoon, the Licensee shall contact an Inspector immediately for mitigations.

Sludge

41. In August of each year the sludge levels in the facultative lagoon shall be measured and recorded.

Physical Inspections

42. An annual inspection of the wastewater facility shall be carried out by a Professional Engineer licensed to practice in Yukon. A report on the inspection, prepared by the Professional Engineer, shall be submitted as part of the annual report described in Part B of this license. The report shall assess the condition and performance of the facility, include inspection locations and methodologies, present remedial measures recommended.
43. The Licensee shall monitor and record observations pertaining to the stability of the lagoon berms, in particular during or after high water events. If monitoring indicates potential berm failure, corrective action shall be taken immediately. The inspection findings shall be submitted as part of the annual report described in Part B of this licence.

**PART G – ASSESSMENTS / STUDIES**

44. The Licensee shall develop and implement a plan to manage the collection, storage and disposal the wastewater during a flood event. The Licensee shall submit this plan to the Board as part of the annual report by the third operating year authorized by this Licence.

**PART H – MAINTENANCE**

45. Lagoon berms shall be maintained annually to keep trees and shrubs from taking root, populating and destabilizing the lagoon and earthen structure.
46. All works associated with the undertaking shall be maintained in good repair.
47. Maintenance equipment shall be mechanically sound and free of leaks.