

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:

Government of Yukon
P.O. Box 2703
Whitehorse, YT Y1A 2C6

LICENCE NUMBER: MN02-046-60

APPLICATION: MN02-046-60

LICENCE TYPE: B **UNDERTAKING:** MUNICIPAL

LOCATION: Km 1755, Alaska Highway

MAP CO-ORDINATES: Latitude: 61°22'N Longitude: 139°03'W

PURPOSE: Burwash Landing Sewage Treatment and Disposal Facility

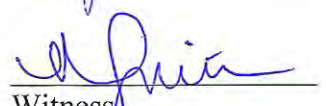
EFFECTIVE DATE: The effective date of this Licence shall be the date on which the signature of the Chairperson of the Yukon Water Board is affixed.

EXPIRY DATE: October 11, 2013


This licence is deemed to be a renewal of licence MN02-046.

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.

Dated this 15th day of

August, 2013.

Witness

Approved by:


Chairperson
YUKON WATER BOARD

PART A - GENERAL CONDITIONSDefinitions

1.
 - a) “the *Act*” means *Waters Act* and any amendments thereto.
 - b) “Application” and “Water Use Application” mean Water Use Applications MN02-046 and MN02-046-60, including any additional submissions and/or revisions, submitted to the Board by the Licensee, up to the date of the Board’s decision.
 - c) “Board” means the Yukon Water Board.
 - d) “Inspector” means any person designated as an Inspector under the *Act*.
 - e) “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.
 - f) “the *Regulation*” means the *Waters Regulation* made under the *Act*.
 - g) “Waste” means any substance as defined in Section 1 of the *Act*.
 - h) “Watercourse” means any stream, lake, pond, river, creek, spring, ravine, or swamp whether ordinarily containing water or not.
 - i) “Wetted Perimeter” means the horizontal extent of the present water level while the work is taking place.

Representations, Warranties and Undertakings

2. The Board has relied on the representations, warranties and undertakings provided by the applicant in the material filed in the Application. Such representations, warranties and undertakings are considered by the Board to be a part of the licence, but shall be subject to, and may be modified by the conditions of the licence.

Other Laws

3. No condition of this licence limits the application of any other federal, territorial, first nation or municipal legislation.

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 following address:

Government of Yukon
Community Services
Community Development Branch
P.O. Box 2703
Whitehorse, YT Y1A 2C6
Fax: (867) 393-6216

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

- (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, Yukon 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 seven (7) days after the day it was mailed, as the case may be.

If normal mail service is interrupted by a strike, slowdown, force majeure or other cause, a notice sent by registered mail will not be deemed to be received until actually received and the party sending the notice shall, if possible, deliver such notice by other means in order to ensure prompt receipt thereof.

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.

Deleterious Substances

6. No deleterious substances shall be deposited or allowed to be deposited into any Watercourse. This includes, but is not limited to, fuels, coolants, hydraulic fluids and lubricants.
7. Fuel, lubricants, hydraulic fluids, coolants, equipment and materials shall be stored and/or transferred a minimum of thirty (30) metres from the Natural Boundary of any Watercourse.

Other Uses

8. If, subsequent to the issuing of this licence, the Licensee uses water and/or deposits Waste in one or more ways not authorized in this licence, and the combined effect of those uses and/or deposits of Wastes, as determined by an Inspector:
 - a) has no potential for significant adverse environmental effects,
 - b) does not interfere with existing rights of other water users or Waste depositors, and
 - c) satisfies the criteria set out in column 2 of Schedule 8 of the *Regulation*,

no amendment to this licence will be required for that use of water and/or deposit of Waste.

Spills and Unauthorized Discharges

9. The Licensee shall immediately contact the 24-hour Yukon Spill Report number (867) 667-7244 and implement the spill contingency plan, should a spill or an unauthorized discharge occur. 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 ten (10) days after the occurrence.
10. All personnel shall be trained in procedures to be followed in the operating plan and procedures to be followed and the equipment to be used in the containment of a spill.
11. The spill contingency plan shall be posted on site for the duration of the works.

Reports

12. Unless otherwise specified in this licence, all monitoring data and reports shall be submitted to the Board in an unbound form that is reproducible by standard photocopier and shall be accompanied by five (5) copies.
13. All monitoring data and reports shall be submitted in digital form on computer diskette using an IBM compatible format that is readable using commonly available software.

Annual Reports

14. Annual reports shall be submitted to the Board by the Licensee. The initial report shall cover the period from the effective date of this licence to December 2003 and shall be submitted to the Board on or before March 31, 2004. Subsequent reports shall cover the period from January 1 to December 31 of each year and shall be submitted to the Board on or before the following March 31st.
15. Annual reports shall include the information required by this licence and by the *Regulation*, including, but not limited to:
 - a) a record of construction activities for the year reported;
 - b) data collected as required by this licence;
 - c) details of the methods, procedures and standards used in the data collection and sample testing;

- d) an analysis and interpretation of the collected data by an individual qualified to do so;
- e) a detailed record of the operation of the sewage treatment and disposal facilities, including operational difficulties;
- f) physical structure inspection reports, including recommendations for maintenance, repairs and improvements to the physical works associated with the sewage treatment and disposal facility;
- g) details of any maintenance, repairs or improvements to physical works, including details of how all recommendations from inspection reports have been addressed;
- h) the level of sludge in the treatment lagoons;
- i) the location of monitoring wells established during the year reported,
- j) details of any discharge from the wetland to the infiltration basin,
- k) the identification and a description of the location(s) of monitoring wells BL-6 and BL-7;
- l) inspection results, monitoring and surveillance data, including photographs, repairs or plans for modification; and
- m) any other information or reports required by this licence or the *Regulation*.

Term of Licence

- 16. The term of this licence is for the period from the effective date to August 12, 2013.
- 17. Notification, including the name and phone number of the field supervisor and a detailed construction schedule, shall be provided to the Board, in writing, ten (10) days prior to the start of construction of any structure or facility.

PART B – OPERATING CONDITIONS

- 18. Subject to the conditions of this licence, the Licensee is hereby authorized to:
 - a) construct a wastewater treatment and disposal facility;
 - b) collect, store and treat sewage in the wastewater treatment facility;
 - c) discharge treated effluent from the wastewater treatment facility to the wetlands from May 15 to September 30 of each year;
 - d) discharge from the wetlands to the south infiltration basin;all as described in the Application and subject to the conditions of this licence.
- 19. Where there is a discrepancy between the Application and this licence, the conditions of this licence shall prevail.
- 20. Construction or installation of associated works authorized by this licence shall occur on property that the Licensee has the right to enter upon and use for that purpose.
- 21. The Licensee shall operate and maintain the sewage collection, sewage treatment and disposal systems in a manner that is consistent with standard municipal practices for the type of system being used.

22. Sewage may only be conveyed to the sewage treatment and disposal facility by truck or similar conveyance.
23. Operators transporting septage shall be properly trained in the transportation and handling of hazardous substances and shall follow the requirements of the Government of Yukon

Standards for Transportation of Sewage.

24. Effluent shall only be discharged from the wastewater treatment facility to the wetlands and the infiltration basin. No effluent shall be allowed to directly enter the surface waters of Copper Joe Creek.
25. The Licensee shall notify the Board at least twenty one (21) days prior to commencing any effluent discharge from the lagoon to the wetland.

Sludge Disposal

26. The Licensee shall submit to the Board, at least thirty (30) days prior to the disposal of any sludge, details of the proposed method of removal and disposal.
27. All sludge disposal areas operated by the Licensee shall be located, posted and fenced so as to adequately ensure public safety.
28. The Licensee shall monitor sludge accumulation in the lagoons annually and shall remove sludge as required to maintain lagoon effectiveness.

PART C - DESIGN AND CONSTRUCTION

29. The design of all structures and facilities associated with the project shall be carried out using sound engineering practices. All drawings and specifications submitted to the Board shall be sealed by a Professional Engineer licensed to practice in Yukon.
30. All construction shall be carried out in accordance with the designs, drawings and procedures submitted to the Board.
31. The sewage treatment disposal facility shall be constructed no less than 350 metres from any residence. The south infiltration basin shall be constructed no less than 70 metres from the natural boundary of Copper Joe Creek.
32. Vegetative and/or treed buffer zones shall be maintained between the sewage treatment and disposal facility and the Northwestel site and Alaska Highway as described in the Application.
33. Public access to the lagoons and sludge drying area shall be restricted by fencing and lockable gate(s). Fences shall be posted with signs warning of human health hazards associated with the facility.

34. Upon completion of construction works, disturbed work site areas shall be recontoured and revegetated with appropriate reclamation seeds and/or plants so as to ensure the establishment of stable vegetated areas.

Notices, Designs and Drawings

35. Final detailed design drawings, construction plans, procedures and specifications for any structure and facilities authorized by this licence shall be submitted to the Board at least ninety (90) days prior to the proposed date of commencement of construction of each proposed structure or facility. Structures and facilities shall include, but are not limited to, wastewater treatment facilities, impoundments, drainage works, diversions authorized by this licence or the *Regulation*.
36. Final detailed designs shall conform with the designs submitted in the Application.
37. Final as-constructed (record) drawings of any structures and facilities shall be submitted to the Board within one hundred and twenty (120) days of completion of construction of the structures.
38. During construction, where site conditions require minor design modifications to a structure or facility authorized by this licence, the Licensee shall provide written notification to the Board, in advance of implementation, of the details of the modifications or variations from the final designs and specifications previously submitted to the Board. The notice shall include an explanation of the reasons for the change and an assessment of the potential impact on the performance of the structure. The notice shall be sealed by a Professional Engineer licenced to practice in Yukon.

Operating Plan

39. Thirty (30) days prior to initiating use of the wastewater treatment and disposal facility, the Licensee shall submit to the Board an Operating Plan. The facility shall be operated in accordance with that plan.
40. The Operating Plan must include, at a minimum, the following components:
- a) Protocols for collection, transport, handling and disposal of wastewater;
 - b) Spill contingency plans and programs;
 - c) Protocols for the discharge of effluent from the storage lagoon to the wetlands;
 - d) Protocols for the discharge of the wetlands to the infiltration basin, if applicable;
 - e) Training programs;
 - f) Protocols for sludge removal, handling, drying and disposal;
 - g) Facility inspection protocols and procedures;
 - h) Protocols for completing monitoring and surveillance requirements;
 - i) Protocols for maintaining sufficient winter water levels in lagoons;
 - j) Protocols for draw-down of lagoons; and
 - k) Protocols for maintenance of facility.

PART D – EFFLUENT QUALITY STANDARDS

41. All effluent discharged at the overflow from the final hydraulic control structure at the downstream end of the wetlands (location BL-3), shall meet the following standards:

PARAMETER	MAXIMUM CONCENTRATION OF ANY GRAB SAMPLE
BOD ₅	15 mg/L
pH	6 – 9
Oil and Grease	Not detectable
Faecal Coliforms	20,000 counts/100 mL
Ammonia	5 mg/L
Non Filterable Residue	15 mg/L
Bioassay (LC ₅₀ static 96 hr. bioassay)	non toxic at 100% concentration

PART E – MONITORING AND SURVEILLANCE

42. The Licensee shall comply with the following monitoring and surveillance program:

a) LOCATIONS OF SAMPLING STATIONS:

Station	Description
BL-2	Grab sample of effluent from storage lagoon(s) to wetlands
BL-3	Grab sample from wetland D2 discharge (at hydraulic control structure or ponded water)
BL-4	Grab sample from Copper Joe Creek upstream of the facility at station BLW-5
BL-5	Grab sample from Copper Joe Creek downstream of the facility at station BLW-6
BL-6	Groundwater well to be installed and located up gradient of wetland hydraulic control structure
BL-7	Groundwater well to be installed and located down gradient of wetland hydraulic control structure
BL-8	Groundwater well TP48-east of wetland D2, near Copper Joe Creek
BL-9	Groundwater well TP49-east of wetland D2, near Copper Joe Creek

b) MONITORING PROGRAM:

Sampling Location/Parameter	BL-2	BL-3	BL-4	BL-5	BL-6	BL-7	BL-8	BL-9
Flow	D	WDi	2Di	2Di	-	-	-	-
Water Surface Elevation	-	-	-	-	2A	2A	2A	2A
ICP Total Metals	2Di	2Di	2Di	2Di	-	-	2A	2A
pH	2Di	2Di	2Di	2Di	-	-	2A	2A
BOD ₅	2Di	2Di	2Di	2Di	-	-	2A	2A
NFR	2Di	2Di	2Di	2Di	-	-	-	-
Oil & Grease	2Di	2Di	2Di	2Di	-	-	2A	2A
Total N	2Di	2Di	2Di	2Di	-	-	2A	2A
NH ₄	2Di	2Di	2Di	2Di	-	-	2A	2A
NO ₂ /NO ₃	2Di	2Di	2Di	2Di	-	-	2A	2A
Dissolved Oxygen	2Di	2Di	2Di	2Di	-	-	2A	2A
Total PO ₄	2Di	2Di	2Di	2Di	-	-	2A	2A
Conductivity	2Di	2Di	2Di	2Di	-	-	2A	2A
Total Coliforms	2Di	2Di	2Di	2Di			2A	2A
Faecal Coliforms	2Di	2Di	2Di	2Di	-	-	2A	2A

LEGEND: D = Daily during discharge from lagoon, 2Di = 30 & 90 days after commencing discharge from the lagoon, WDi = Weekly if discharging from lagoon, 2A = Twice Annually in mid May and late September.

43. The Licensee shall comply with the following physical monitoring program and shall submit any data, information, or observations collected and interpretations made as part of the annual report:
- Inspect the sewage treatment facility monthly and repaired as required;
 - Monitor sludge accumulation in anaerobic lagoon annually;
 - Monitor the volume of effluent discharged from the storage lagoon to the wetlands weekly during discharge;
 - Monitor the solution level within the storage lagoon(s) monthly;
 - Monitor the volume of influent to anaerobic lagoon daily, or when deposited;
 - Monitor the D1/D2 wetland vegetation (description of changes in wetland vegetation) annually;
 - Monitor elevations of survey control points annually;
 - Monitor of Copper Joe Creek dike annually.

44. All data collection and analysis shall be conducted in accordance with the most recent edition of Standard Methods for the Examination of Water and Wastewater, prepared and published jointly by the American Water Works Association and the Water Pollution Control Federation.
45. All sewage lagoons and hydraulic control structures shall be inspected annually, by June 30, by a Professional Engineer licenced to practice in Yukon. The results of the inspection, including all problems identified, photographs taken, remedial measures proposed, and remedial measures implemented, shall be compiled in a report that shall be submitted to the Board as part of the annual report.
46. Survey control points shall be installed to monitor potential settlement of the lagoon dykes and the Licensee shall submit to the Board within ninety (90) days of construction:
 - a) a plan indicating the location of all survey control points;
 - b) a description of the location for each survey control point installed.

PART F - SITE DECOMMISSIONING AND RESTORATION

47. The Licensee shall submit a decommissioning plan to the Board, ninety (90) days prior to commencing decommissioning activities. The Licensee shall not implement the plan until notified by the Board to do so.
 48. As part of final decommissioning, 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 plants.
 49. All wastewater treatment facility materials, equipment, temporary structures and debris shall be removed from the site as part of final decommissioning of the facility.
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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:

**Government of Yukon
P.O. Box 2703
Whitehorse, YT Y1A 2C6**

LICENCE NUMBER: MN13-043

LICENCE TYPE: B

UNDERTAKING: MUNICIPAL

WATER MANAGEMENT AREA: 2 Yukon

LOCATION: Km 1755, Alaska Highway

MAP CO-ORDINATES: Latitude: 61° 22' N Longitude: 139° 03' W

PURPOSE: Maintain and Operate the Burwash Landing Municipal Wastewater 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.

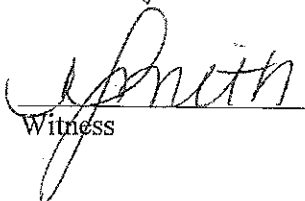
EXPIRY DATE: January 5, 2024

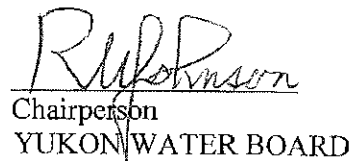
This licence shall be subject to the restrictions and conditions contained herein and to the restrictions and conditions contained in the *Waters Act* and the *Waters Regulation* made thereunder.

Dated this 28th day of

Approved by:

February, 2014


Witness


Chairperson
YUKON WATER BOARD

PART A - DEFINITIONS

"Act" means *Waters Act* and any amendments thereto.

"Application" means Water Use Application MN13-043 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* that was submitted as part of the Application and included in Water Use Register MN13-043 as exhibit 1.3 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 the 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 following address:

Government of Yukon – Department of Community Services (C-9)
Box 2703
Whitehorse YT Y1A 2C6

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

- 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.

Spills and Unauthorized Discharges

5. 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.
6. 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.
7. 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) distance between the spill or discharge and the nearest Watercourse; and
 - e) remedial measures taken to contain and clean-up the spill area or to cease the unauthorized discharge.
8. The Licensee shall include a summary of all spills or unauthorized discharges that occurred during the year reported, as part of the annual report.
9. All personnel shall be trained in procedures to be followed and the equipment to be used in the containment of a spill.
10. The Spill Contingency Plan shall be posted on site for the duration of the works.

Non-Compliance

11. 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.

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 waters.

Water Sampling Event Reporting

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

Annual Reports

14. 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 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;

- d) a detailed record of the operations of the sewage treatment and disposal facilities including operational difficulties, including monthly inspection reports;
- e) physical structure inspection reports;
- f) details of any maintenance, repairs or improvements to physical works, including details of how all recommendations from inspection reports have been addressed;
- g) the level of sludge in the treatment lagoons, as per condition 25 of this licence;
- h) the location of monitoring wells established during the year reported;
- i) details of any discharge to the wetland;
- j) inspection results, monitoring and surveillance data, including photographs, repairs or plans for modification; and
- k) any other information or reports required by this licence or the regulation.

Reports

15. 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.
16. The Licensee shall upload electronic copies of all reports required by this licence to the Yukon Water Board's online licensing registry, the WATERLINE. Electronic copies shall be submitted in one of the following formats: Word 97 - 2003, Excel 97 - 2003 workbooks, or Adobe .pdf format. Water quality results uploaded to the WATERLINE must be presented in Excel 97-2003.xls format.

PART C - OPERATING CONDITIONS

17. Subject to the conditions of this licence, the Licensee is hereby authorized to:
 - a) collect, store, and treat sewage in the wastewater treatment facility; and
 - b) discharge treated effluent from the wastewater treatment facility to the wetland from August 15 to September 30 of each year, at a rate not exceeding 200 m³/d

as described in the Application, and subject to the 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 sewage collection, sewage treatment and disposal systems in a manner that is consistent with standard municipal practices for the type of system being used.
19. Sewage may only be conveyed to the sewage treatment and disposal facility by truck or similar conveyance.
20. Operators transporting septage shall be properly trained in the transportation and handling

of hazardous substances and shall follow the requirements of the Government of Yukon.

21. The gate to the facility shall remain locked except when accessed by authorized users.

Effluent Discharge

22. Effluent shall only be discharged from the long-term storage lagoon to the wetlands. No effluent shall be allowed to directly enter the surface waters of Copper Joe Creek.
23. The Licensee shall notify the Board at least twenty one (21) days prior to commencing any effluent discharge from the long-term storage lagoon to the wetland.
24. The Licensee shall use pumping or other conveyance methods to remove treated effluent from near the surface of the long-term storage lagoon in order to minimize the uptake and release of settled solids and sludge.

Sludge Monitoring

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

PART D – PLANS

26. Ninety (90) days following the issuance of this License, the Licensee shall submit to the Board an updated Operating Plan for the Facility that summarizes operation as per the terms of this Licence. The facility shall be operated in accordance with that plan.
27. The Operating Plan must include at minimum the following components:
- a) protocols for collection, transport, handling, and disposal of wastewater;
 - b) spill contingency plans and programs;
 - c) protocols for the discharge of effluent from the storage lagoon to the wetland;
 - d) training programs;
 - e) protocols for sludge monitoring;
 - f) facility inspection protocols and procedures;
 - g) protocols for completing monitoring and surveillance requirements;
 - h) protocols for maintaining sufficient winter water levels in lagoons;
 - i) protocols for draw-down of lagoons; and
 - j) protocols for maintenance of the facility.

PART E – EFFLUENT QUALITY STANDARDS

28. No Waste discharged from the long term storage lagoon to the wetlands (at BL-2) shall exceed the following limits:

Parameter	Maximum Concentration in a Grab Sample
pH	6.0 to 9.5 pH Units
Total Suspended Solids	25 mg/L ¹
CBOD ₅	25 mg/L
Un-ionized Ammonia	1.25 mg/L at 15°C ± 1°C
Total oil and grease	5 mg/L
Fecal Coliforms	400 cfu/100 mL
Acute Lethality ^{2,3} – 96h LC ₅₀	Non-toxic at 100% concentration

¹ As per the *Water System Effluent Regulations*, if TSS result >25 mg/L during July – October the result is not considered an exceedences of the effluent quality standard.

² Reference Method EPS 1/RM13 or EPS 1/RM/50 of Biological Test Method: Reference for Determining Acute Lethality of Effluents to Rainbow Trout – Second Edition, as amended from time to time.

³ Acute Lethality test may be pH stabilized.

29. The point of compliance at BL-2 for the effluent quality standards included in this licence shall be the final point of control prior to discharging effluent to the environment.

PART F – MONITORING AND SURVEILLANCE

30. The Licensee shall comply with the water quality monitoring program and surveillance network program contained in Schedule A of this licence.
31. 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).
32. 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.
33. Water sampling stations shall be sampled as specified in Schedule A.

Wastewater Input to Lagoon

34. The Licensee shall monitor and record daily the number of educator loads and volume of Wastewater deposited into the lagoon.

Physical Inspections

35. 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 licence. The report shall assess the condition and performance of the facility, and include inspection locations and methodologies and remedial measures recommended.
36. 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.
37. The Licensee shall comply with the following physical monitoring program and shall submit any data, information, or observations collected and interpretations made as part of the annual report:
 - a) Inspect the sewage treatment facility monthly and repaired as required;
 - b) Monitor sludge accumulation in anaerobic lagoon annually;
 - c) Monitor the volume of effluent discharged from the storage lagoon to the wetlands weekly during discharge;
 - d) Monitor the solution level within the storage lagoons monthly;
 - e) Monitor the volume of influent to anaerobic lagoon daily, or when deposited; and
 - f) Monitor the wetland vegetation (description of changes in wetland vegetation) in the vicinity of the discharge pipe annually.

CABIN Sampling

38. The Licensee shall conduct CABIN sampling according to the protocol for wadeable streams at the frequency and locations indicated in Schedule A.
39. The monitoring and reporting will be carried out by a certified practitioner. The results of the studies will be included in the next annual report.

PART G - SITE DECOMMISSIONING AND RESTORATION

40. 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.
41. All construction materials, equipment, temporary structures and debris shall be removed from the site upon completion of the work.

42. 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.
43. The Licensee shall develop a decommissioning and reclamation plan for the closure of the Burwash Landing Wastewater Treatment Facility and submit the plan to the Board a minimum of one year prior to the commencement of decommissioning activities. The plan shall include, but not necessarily be limited to a schedule and cost for completion of decommissioning and reclamation activities. As part of each annual report, the Licensee shall report on the status of the decommissioning and reclamation plan.
44. Subject to any required assessments, authorizations or approvals, the Licensee shall implement the plan required by this section of this licence.

SCHEDULE A – MONITORING AND SURVEILLANCE REQUIREMENTS

1. LOCATIONS OF SAMPLING STATIONS:

Station	Description
BL-1A	Grab sample of effluent from the anaerobic lagoon (below surface), near the point of outflow to facultative lagoon (below surface)
BL-1B	Grab sample of effluent from facultative lagoon, near the point of outflow to the long-term storage lagoon (below surface)
BL-1C	Grab sample of effluent from long-term storage lagoon, near the outflow to discharge header (below surface)
BL-2	Grab sample of effluent at the discharge header structure (the release point to the wetland discharge area)
BL-4	Copper Joe Creek upstream of the Facility.
BL-5	Copper Joe Creek downstream of the Facility, within approximately 150 m upstream from the Alaska Highway Crossing
BL-6	Volume of influent to the primary lagoon

2. SAMPLING AND MONITORING SCHEDULE (Years 1-5):

Sampling Location/Parameter	BL-1A	BL-1B	BL-1C	BL-2	BL-4	BL-5	BL-6
Water Surface Elevation	A	A	A	-	-	-	-
Total Metals	-	-	-	2D	3Y, 3D	3Y, 3D	-
pH	3Y	3Y	3Y, 1P	2D	3Y, 3D	3Y, 3D	-
CBOD ₅	3Y	3Y	3Y, 1P	2D	3Y, 3D	3Y, 3D	-
Total Suspended Solids	3Y	3Y	3Y, 1P	2D	3Y, 3D	3Y, 3D	-
Specific Conductance ¹	-	-	-	2D	3Y, 3D	3Y, 3D	-
Dissolved Oxygen ²	-	-	-	2D	3Y, 3D	3Y, 3D	-
Un-Ionized Ammonia at 15°C ± 1°C	3Y	3Y	3Y, 1P	2D	3Y, 3D	3Y, 3D	-
Nitrate	3Y	3Y	3Y	2D	3Y, 3D	3Y, 3D	-
Nitrite	3Y	3Y	3Y	2D	3Y, 3D	3Y, 3D	-
Oil and Grease (total)	3Y	3Y	3Y, 1P	2D	3Y, 3D	3Y, 3D	-
Fecal Coliforms (CFU)	3Y	3Y	3Y, 1P	2D	3Y, 3D	3Y, 3D	-
Bioassay ³ (LC50 – 96 hr)	-	-	-	2D	-	-	-
CABIN ⁴ Biomonitoring	-	-	-	-	A	A	-
Discharge Volume	-	-	-	D	-	-	-
Influent Volume	-	-	-	-	-	-	D

1 = In situ and in lab

2 = In situ

3 = Must have 96 hour rainbow trout mortality of 50% or less (LC50) to be considered nontoxic, may be pH adjusted.

4 = Must be performed in accordance with the Canadian Aquatic Biomonitoring Network (CABIN) wadeable streams protocol, and implemented by a CABIN certified practitioner

LEGEND

D = Total volume recorded.

1P = Prior to Discharge (may be combined with August or September event of "3Y", below).

2D = Twice during surface discharge to wetlands (near the beginning and near the end).

3Y = Three times per year in mid-July, August, and September. Sampling to be depth stratified at three depths at location BL-1C in September.

A = Annually in late July to mid-August

3D = Approximately 100 days following the start of any discharge event.

3. SAMPLING AND MONITORING SCHEDULE (Years 6-10):

Sampling Location/Parameter	BL-1A	BL-1B	BL-1C	BL-2	BL-4	BL-5	BL-6
Water Surface Elevation	A	A	A	-	-	-	-
Total Metals	-	-	-	2D	1Y, 3D	1Y, 3D	-
pH	1Y	1Y	1Y, 1P	2D	1Y, 3D	1Y, 3D	-
CBOD ₅	1Y	1Y	1Y, 1P	2D	1Y, 3D	1Y, 3D	-
Total Suspended Solids	1Y	1Y	1Y, 1P	2D	1Y, 3D	1Y, 3D	-
Specific Conductance ¹	-	-	-	2D	1Y, 3D	1Y, 3D	-
Dissolved Oxygen ²	-	-	-	2D	1Y, 3D	1Y, 3D	-
Un-Ionized Ammonia at 15°C ± 1°C	1Y	1Y	1Y, 1P	2D	1Y, 3D	1Y, 3D	-
Nitrate	1Y	1Y	1Y	2D	1Y, 3D	1Y, 3D	-
Nitrite	1Y	1Y	1Y	2D	1Y, 3D	1Y, 3D	-
Oil and Grease (total)	1Y	1Y	1Y, 1P	2D	1Y, 3D	1Y, 3D	-
Fecal Coliforms (CFU)	1Y	1Y	1Y, 1P	2D	1Y, 3D	1Y, 3D	-
Bioassay ³ (LC50 – 96 hr)	-	-	-	2D	-	-	-
CABIN ⁴ Biomonitoring	-	-	-	-	A	A	-
Discharge Volume	-	-	-	D	-	-	-
Influent Volume	-	-	-	-	-	-	D

1 = In situ and in lab

2 = In situ

3 = Must have 96 hour rainbow trout mortality of 50% or less (LC50) to be considered nontoxic.

4 = Must be according to Canadian Aquatic Biomonitoring Network Standards, performed by a certified practitioner.

LEGEND

D = Total volume recorded.

1P = Prior to Discharge (may be combined with September event of "1Y" below if appropriate).

2D = Twice during surface discharge to wetlands.

1Y = One time per year in mid-September.

A = Annually in late July to mid-August

3D = Approximately 100 days following the start of any discharge event.

YUKON WATER BOARD**AUTHORIZATION OF ASSIGNMENT OF WATER USE LICENCE**

Pursuant to the *Waters Act* and *Waters Regulation*, the Yukon Water Board hereby authorizes the assignment of the water use licence which is described as:

Licence Number: MN11-043

Application Number: MN11-043-1

Classification of Undertaking: Municipal

Licence Type: B

Location: Destruction Bay

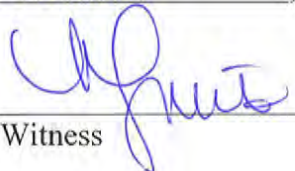
Together with all legal rights and obligations conferred thereby,

From: Government of Yukon
Department of Community Services
P.O. Box 2703
Whitehorse YT Y1A 2C6


To: Garry Van Der Veen
Mile 1083 Alaska Highway
Destruction Bay YT Y0B 1H0

The effective date of the assignment of this water use licence shall be the date on which the signature of the Chairperson of the Yukon Water Board is affixed.

Dated this 12th day of
June, 2013.


Witness

Approved by:


Chairperson
YUKON WATER BOARD