



## CLOSURE AND RECLAMATION PLAN

WATER LICENSE NO. S12L3-002

LAND USE PERMIT NO. S16F-001

QUARRYING PERMIT NO. 2020QP0013

Report Prepared for:  
**GREAT BEAR LAKE LODGE LTD**

Prepared by:  
**PLUMMER'S ARCTIC LODGES**

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Winnipeg, Manitoba

950 Bradford St.  
Winnipeg, MB R3H 0N5  
T 204.774.5775  
[www.plummerslodges.com](http://www.plummerslodges.com)

## VERSION CONTROL & REVISIONS

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## TABLE OF CONTENTS

1	PROGRAM SUMMARY.....	1
2	LODGE INFRASTRUCTURE AND USE AREAS .....	1
	2.1 Water Intake and Treatment Infrastructure.....	1
	2.2 Sewage and Solid Waste .....	1
	2.3 The Petroleum and Chemical Storage Areas .....	2
	2.4 Any Site Affected by Potential Contamination or Spills.....	2
3	GREYWATER TREATMENT AREA .....	2
4	ACCESS ROAD.....	2
5	QUARRY.....	3
6	AIRSTRIP .....	3
7	INTEGRATED SCHEDULE OF ACTIVITIES .....	3
8	POST CLOSURE SITE ASSESSMENT .....	3
9	FINANCIAL SECURITY.....	4
10	APPENDIX A – LOCATIONS OF DISTURBED AREAS, BORROW MATERIAL LOCATIONS, AND SITE FACILITIES.....	5

## 1 PROGRAM SUMMARY

The Great Bear Lake Lodge Ltd. closure and reclamation plan contain the closure and reclamation plans for the existing lodge infrastructure and use areas, greywater treatment area, access road, quarry, and airstrip.

Any remediation and reclamation will be carried out to a Closure Goal, defined as:

*“To return the [project] site and affected areas to viable, and wherever practicable, self-sustaining ecosystems that are compatible with a healthy environment and with human activities.”*

Great Bear Lake Lodge Ltd. intends to carry out its closure and reclamation activities (outlined in the sub-sections below), guided by the Board’s four closure principles of Physical Stability, Chemical Stability, No Long-Term Active Care, and Future Use. It is anticipated that any reclaimed sites will be inspected as required over subsequent years after the completion of the closure and reclamation plan to confirm reclamation success.

## 2 LODGE INFRASTRUCTURE AND USE AREAS

### 2.1 Water Intake and Treatment Infrastructure

The water treatment infrastructure consisting of a UV filter and protective case will be brought to Yellowknife for subsequent sale or storage.

The water intake is located on the Northside of the lodge building and is composed of an intake unit with a fine mesh screen, hoses, and water pump. The water intake will be pulled out of the water and all components will be brought to Yellowknife for subsequent sale or storage.

### 2.2 Sewage and Solid Waste

There are four sewage and solid waste tanks on site. Two 1000-gallon tanks and two 500-gallon tanks. These would be removed from the ground and transported to Yellowknife for sale or disposal. The remaining holes would be filled to match the surrounding lithology using material that is readily available on site. Backfill will be completed to maintain drainage and continuous topographic contouring.

All material suitable for burning using an open pit methodology (i.e., untreated wood, paper, cardboard) will be incinerated on-site. Ash will be tested in an approved laboratory before it is placed into a landfill site. There is a Caterpillar dozer on-site to construct a landfill and a grader for the completion of these closure activities. Landfill material will be covered by a minimum of 90cm of fill.

All material unsuitable for open burning will be removed from the site and disposed of in an approved facility. This includes hazardous materials and Great Bear Lake Lodge has registered to transport hazardous goods with the GNWT. There is a Caterpillar dozer on-site to construct a landfill and a grader for completion of the remediation. All empty drums will be crushed on-site and removed to Yellowknife for recycling as well as all salvageable metals. All equipment, tools, and items that can be salvaged will be loaded onto the barge and transported to Deline to be shipped to Yellowknife on the winter road to await sale or disposal. This material will include all items deemed unacceptable for landfill by the inspector.

### **2.3 The Petroleum and Chemical Storage Areas**

The aboveground fuel storage tanks described in the Great Bear Lake Lodge Ltd. Spill Contingency Plan, vehicles, and heavy equipment will be removed from the site, transported to Deline by barge, and then to Yellowknife for sale, storage, or disposal.

### **2.4 Any Site Affected by Potential Contamination or Spills**

To date, there have been no contaminated sites at the time of the issuance of this reclamation and closure plan. Should there be an occurrence that results in a contaminated site, the contamination will be dealt with according to the approved 'Spill Contingency Plan' attached to the license, and remediation/clean-up activities will be completed to the satisfaction of the regulator/governing authority.

## **3 GREYWATER TREATMENT AREA**

The Greywater Treatment area located between the lodge and quarry is greater than 300 m away from the water's edge (original high-water mark) and greater than 20 m above historical water levels. All infrastructure leading to the treatment area will be removed and transported back to Yellowknife for disposal, re-sale, or storage. The site will be inspected for any adverse effects to vegetation and to ensure that natural drainage through the site is maintained.

## **4 ACCESS ROAD**

The access road running from the airstrip to the lodge is approximately 3.2 km long. There is one culvert that has been placed under this road that would be removed along with the material used to install and support the culvert to restore natural drainage and topography. During this removal, a silt fence and other sediment control measures will be implemented to mitigate any environmental impacts during the reclamation process. Drainage will be improved and established at the time of closure and reclamation. The road will overgrow with natural vegetation and be reclaimed over time.

## **5 QUARRY**

All facilities, structures, machinery, and materials will be removed from the quarry area to be transported off-site or for approved materials to be incinerated. Using equipment already on-site, natural drainage will be restored, and contouring completed to make the site aesthetically pleasing and to promote re-vegetation where possible. In areas where the material has been borrowed, natural lithology will be restored where possible.

## **6 AIRSTRIP**

All facilities, structures, machinery, and materials will be removed from the airstrip to be transported off-site or for approved materials to be incinerated. Upon implementation of the reclamation and closure plan and when grading/maintenance of the airstrip is stopped, the natural vegetation that we prevent from taking it over, would cover the airstrip and return it to its natural state. To promote natural re-vegetation, the company will consult with an environmental consultant to determine if additional steps would be required (e.g., re-contouring or scarifying). The site will be remediated to its pre-disturbed condition and will be suitable for any use that it would have been suited to before the establishment of the lodge.

## **7 INTEGRATED SCHEDULE OF ACTIVITIES**

The site, should the company choose to abandon it, would be remediated over 12-14 months starting in the spring of the year of abandonment. The reason for the time frame is to make use of two summer seasons and one winter season for the removal of all materials. Project activities will be contingent on weather conditions especially if any winter access is required.

Any environmental monitoring and reclamation treatments will be conducted from July – August.

## **8 POST CLOSURE SITE ASSESSMENT**

Great Bear Lake Lodge Ltd. acknowledges its obligation to address any residual environmental impacts of the abandonment and reclamation activities. These locations will be assessed after the activities have been completed until the conditions set out in the land use permit have been met. If any residual impacts are identified, Great Bear Lake Lodge Ltd. will carry out activities to mitigate them to the satisfaction of the regulator.

## **9 FINANCIAL SECURITY**

Great Bear Lake Lodge Ltd. through its operation throughout the years is financially secure with a strong balance sheet. Money has been set aside in trust to be used towards reclamation and closure costs. Costs will be kept low due to there being equipment owned by Great Bear Lake Lodge Ltd. already being available on-site (e.g., dozer and grader).

**10 APPENDIX A – LOCATIONS OF DISTURBED AREAS, BORROW MATERIAL LOCATIONS, AND SITE FACILITIES**

