

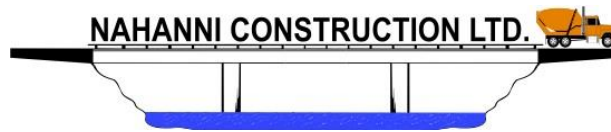
ABANDONMENT & RESTORATION PLAN

LUPIN WINTER ACCESS

Lac de Gras, Northwest Territories to Lupin Mine, Nunavut

September 2019





PLAIN LANGUAGE SUMMARY

This Plan describes what Nahanni Construction Ltd. (NCL) will do at the end of each winter to close the winter road in a manner that is safe for people and protects the environment.

REVISION HISTORY

Revision #	Date	Section	Summary of Changes	Author	Approver
1	Dec 2018	All	New document	S. Hamm	K. Ruptash
2	September 2019	1.1, 1.2, 3.0	Revised to reflect new scope, including staging equipment and fuel. Added new section 3.0 to address seasonal closure	S. Hamm	J. Buchko

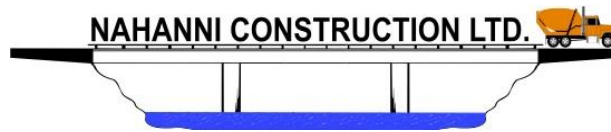


TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1	Scope	1
1.2	Site Description	1
1.3	Closure Objectives.....	2
1.4	Plan Management.....	2
1.5	Plan Implementation.....	2
2.0	ROLES AND RESPONSIBILITIES	2
3.0	SEASONAL CLOSURE	3
4.0	FINAL CLOSURE	3
5.0	REPORTING AND DOCUMENTATION	3
6.0	SECURITY	3
7.0	REFERENCES	5

LIST OF TABLES

Table 1 Relevant guidance documents including legislation, permits and licences.	1
---	---

LIST OF FIGURES

Figure 1 Lupin Winter Access site map.....	4
--	---

1.0 INTRODUCTION

In support of ongoing reclamation of the Lupin Mine, Nahanni Construction Ltd.'s (NCL) is planning to access the Lupin Mine in winter along a portion of the existing Tibbitt to Contwoyto Winter Road corridor between the Ekati Mine turnoff on Lac de Gras and the Lupin Mine in Northwest Territories and Nunavut, respectively (the Project). This Plan considers the guidance and requirements provided in the documents listed in Table 1.

Table 1 Relevant guidance documents including legislation, permits and licences.

Document	Authority
Nunavut Mine Site Reclamation Policy (2002)	Indigenous and Northern Affairs Canada
Abandonment and Reclamation Policy for Inuit Owned Lands (Version 2.0)	Qikiqtani Inuit Association
Environmental Guidelines for the Construction, Maintenance and Closure of Winter Roads in the Northwest Territories (1993)	Government of Northwest Territories
Guidelines for Safe Ice Construction (2015)	Government of Northwest Territories
<i>Nunavut Water Nunavut Surface Rights Tribunal Act (2002) and Nunavut Water Regulations (2013)</i>	Indigenous and Northern Affairs Canada
<i>Territorial Lands Act (1985) and Land Use Regulations (2016)</i>	Indigenous and Northern Affairs Canada
<i>Mackenzie Valley Resource Management Act (1998)</i>	Government of Canada
<i>Northwest Territories Lands Act (2014)</i>	Government of Northwest Territories
<i>Northwest Territories Lands Use Regulations (2014)</i>	Government of Northwest Territories
<i>Northwest Territories Waters Regulations (2014)</i>	Government of Northwest Territories
<i>Environmental Protection Act (1988)</i>	Government of Northwest Territories
<i>Waters Act (2014)</i>	Government of Northwest Territories
Screening Decision Report	Nunavut Impact Review Board
Approval Without a Licence	Nunavut Water Board
Land Use Permit	Crown-Indigenous Relations and Northern Affairs Canada Mackenzie Valley Land and Water Board

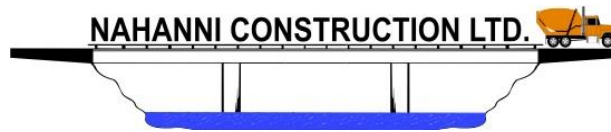
1.1 SCOPE

This Plan applies to seasonal and final decommissioning of the winter road and related staging areas, from the Ekati turnoff on the Tibbitt to Contwoyto Winter Road on Lac de Gras in Northwest Territories to landfall at the Lupin Mine in Nunavut (the Winter Road).

Seasonal closure includes annual decommissioning of the road at the end of each season, and equipment staging. Final closure includes decommissioning at the end of the final season of use.

1.2 SITE DESCRIPTION

The Winter Road occurs along an existing route established in the 1970's and since used intermittently to service the Lupin Mine and the Jericho Mine. The Winter Road route predominantly traverses lakes, with few portages where the road occurs overland. Of the 213 km, 95 km occur in Northwest Territories



and 118 occur in Nunavut. Seven (7) portages occur in Northwest Territories and there is one (1) portage in Nunavut. Staging areas along the route which may be utilized to store equipment and fuel include existing portage areas as discussed with and approved by the Inspector.

The Winter Road occurs entirely above the tree line, with overland portions traversing the barren lands of the Southern Arctic Ecozone and the Tundra Shield Low Arctic Ecoregion, within the Slave Geologic province. Portages generally follow low-lying terrain found between lakes along the road route (EBA 2001, Ecosystem Classification Group 2012).

The Winter Road is accessed in mid- to late-winter only. At this time, ground is frozen and snow-covered, and ice thickness on lakes is up to 2 m thick.

1.3 CLOSURE OBJECTIVES

Closure objectives for the site are to:

- re-establish pre-disturbance terrain conditions, where possible;
- restore areas occupied by the undertaking to a condition compatible with future land use.

1.4 PLAN MANAGEMENT

This Plan is intended to fulfill requirements associated with water use authorizations and land use licences and permits.

The Plan will be reviewed annually by the Project Manager and updated as needed.

1.5 PLAN IMPLEMENTATION

This Plan is effective upon approval and is valid throughout all phases of the Project.

The Project Manager or designate is responsible for Plan implementation.

A copy of this Plan is maintained in NCL's office in both Yellowknife and on site at Lupin.

2.0 ROLES AND RESPONSIBILITIES

NCL is responsible for activities associated with winter access to the Lupin Mine, including implementation and management of this Plan, and directing, documenting and reporting pertaining to closure activities.

NCL's contact information is provided below.

Nahanni Construction Ltd.

P.O. Box 2076

100 Nahanni Drive

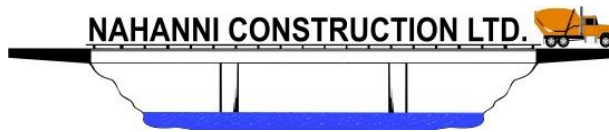
Yellowknife, NT

X1A 2P6

Phone: 867-873-2975

Fax: 867-873-9620

Contact: Kenny Ruptash



3.0 SEASONAL CLOSURE

Any equipment that may be used to construct or traverse the road in future years may be staged at adjacent mines sites or in designated staging areas, or as otherwise approved by the Inspector.

Equipment staged along the route is drained of fuel with a drip tray placed underneath to capture any fluid leaks.

Fuel staged along the route, including that contained in barrels, tidy tanks or a fuel truck, is placed in adequate, secondary containment.

At the end of each season, planned abandonment of the road corridor entails removal of all supplies and equipment from the road, and removal of snowfalls and V-notching ice bridges at portages prior to freshet.

Hazardous and domestic waste generated during the Program, either due to a spill response or use of camps, is dealt with in accordance with the *Waste Management Plan* (NCL 2019).

Water pumps used for construction, and the temporary camp are staged in approved staging areas either offsite or along the route, with other equipment when not in use.

4.0 FINAL CLOSURE

Final closure at the end of the project involves a planned abandonment of the road corridor, and entails removal of all supplies and equipment from the road, and removal of snowfalls and V-notching ice bridges at portages prior to freshet.

Hazardous and domestic waste generated either due to a spill response or use of the emergency shelter is backhauled for off-site disposal or treatment.

Water pumps used for construction and camps are removed.

5.0 REPORTING AND DOCUMENTATION

Annual reporting will occur in accordance with the terms and conditions of the relevant authorizations. Closure efforts will be photo-documented.

6.0 SECURITY

A security deposit will be held by the Government of the Northwest Territories in association with the land use permit in Northwest Territories.

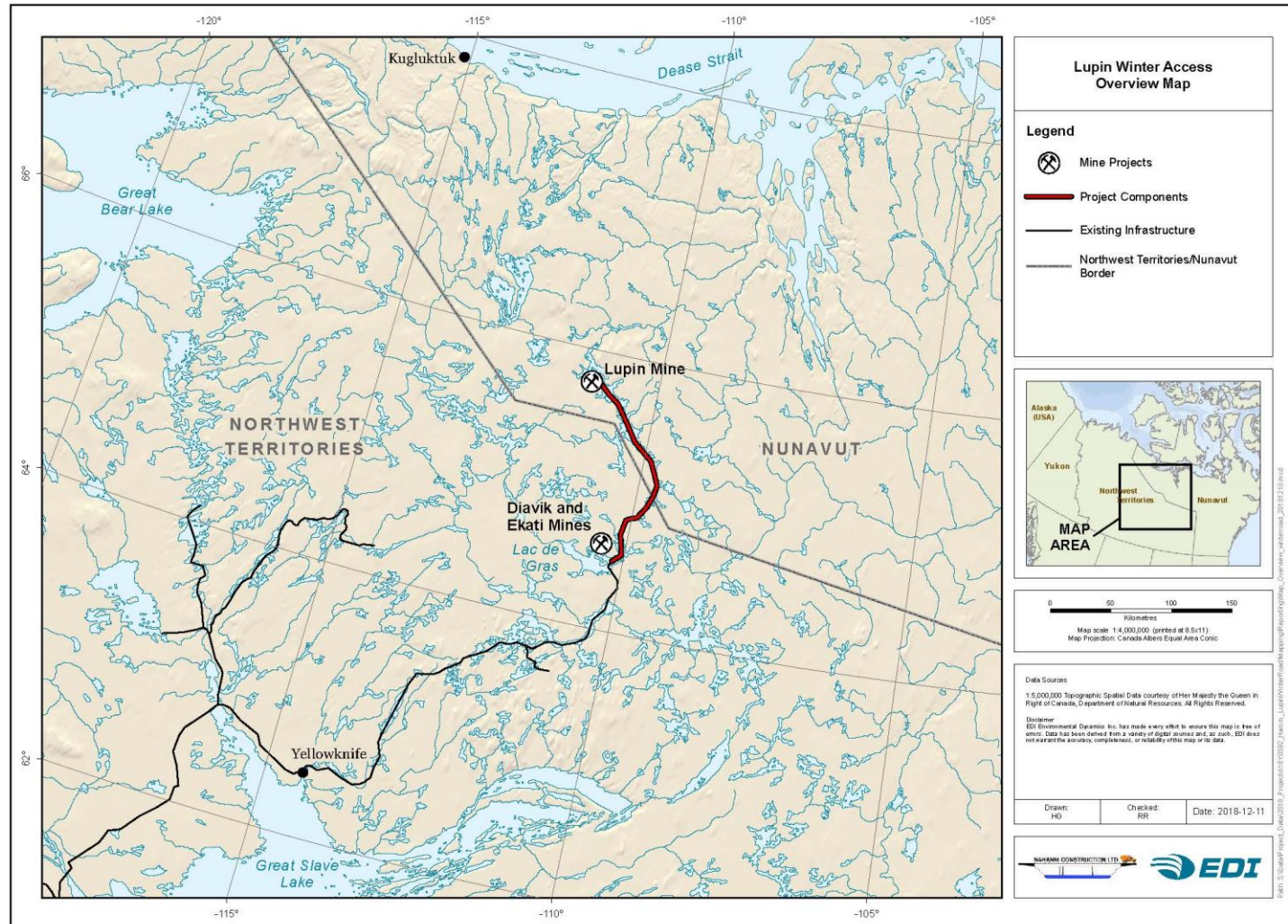
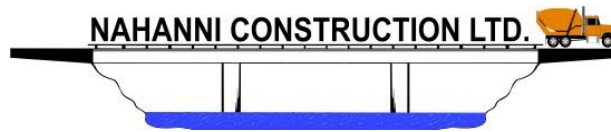


Figure 1 Lupin Winter Access site map



7.0 REFERENCES

- Environmental Protection Act. R.S.N.W.T. 1988,c.E-7*
- Mackenzie Valley Resource Management Act. S.C. 1998, c. 25*
- Northwest Territories Lands Act. S.N.W.T. 2014,c.13*
- Northwest Territories Waters Regulations. R-019-2014*
- Northwest Territories Lands Use Regulations. R-012-2014*
- Nunavut Waters and Nunavut Surface Rights Tribunal Act. S.C. 2002, c.10*
- Nunavut Waters Regulations. SOR/2013-69*
- Territorial Lands Act. R.S.C.. 1985, c. T-7*
- Territorial Land Use Regulations. SOR/2016 R-32, s.1.*
- Waters Act S.N.W.T.. 2014,c.18*
- DIAND 2002. Indian Affairs and Northern Development. Mine Site Reclamation Policy for Nunavut. ISBN 0-662-32073-5.
- EBA Engineering Consultants Ltd. 2001. Tibbitt to Contwoyto Winter Road Environmental Setting Report. Yellowknife, NT. Project No. 0101-01-14875.
- Ecosystem Classification Group.2012. Ecological Regions of the Northwest Territories – Southern Arctic. Department of Environmental and Natural Resources, Government of the Northwest Territories, Yellowknife, NT, Canada.
- Government of Northwest Territories. 2015. Guidelines for Safe Ice Construction. Produced by the Department of Transportation.
- International Air Transport Association (IATA). 2016. Dangerous Goods Regulations. 57th Edition. 1 January 2016. Montreal, Geneva.
- Nahanni Construction Ltd.. 2019. Waste Management Plan, Lupin Winter Access, Lac de Gras, NWT to Lupin Mine, Nunavut.
- Stanley Associates Engineering Ltd. and Sentar Consultants Ltd. 1993. Environmental Guidelines for the Construction, Maintenance and Closure of Winter Roads in the Northwest Territories. Prepared for the Department of Transportation, Government of the Northwest Territories.
- Qikiqtani Inuit Association. Undated. Abandonment and Reclamation Policy for Inuit Owned Lands (Version 2.0).