

**MELIADINE GOLD PROJECT** 

# ROADS MANAGEMENT PLAN

MARCH 2019 VERSION 7 6513-MPS-03

## $\sigma \Delta \sigma_{e} \Lambda \Gamma 4e$

▷ሃናትርሲላት ልውትውና ፌትፐውሲነውላውት ውል፫ናጋት, ርልևትልታትው, ውል፫ት ላዛኒው ላቀበርሲውነትና ላውርናበውት ላውርርውላት Lcሁትዮውና ውልቃተ ውል፫ናውነትና ላትዮቴበቦታበታና. ፫፡ፌ በበትቴት ላናነፅበውት ላውርናበውነታና ሩሴውበርሲላት (ሩናልውበ) ▷ሃናትርሲላነታና ላዛኒው ላቸምትረናውው ልርቦን ▷ላናት በበትቴርሲት ላርውላውት Type A ልኒነታና ርልነትላፐት ጋትረፍውበታና. በበናትለኒተና >Γና-ትህተና, ርልነትላትና, ላትዮቴበስታስና, ለተትልትበርውታና, ላዛኒው ልዛኒቦን ▷ተናላታቸው ሩናልውበታና ርልኒውላና.

## ⋖<sub><</sub>९∪←, ⋖⊳୯<sub>c</sub>∪←<sub>ë</sub>

 $<^{\circ}aD\Pi^{\circ}aLD^{\circ}c$   $\wedge bD^{\circ}c$   $a^{\circ}a^{\circ}c$ ,  $\wedge b^{\circ}G\Delta\sigma^{\circ}$ ,  $A^{\circ}LDD^{\circ}b^{\circ}C^{\circ}\sigma^{\circ}L^{\circ}$   $A^{\circ}d\dot{G}^{\circ}$   $\wedge cLA^{\circ}c$ ,  $A^{\circ}LD^{\circ}D^{\circ}$   $\wedge a^{\circ}D\sigma^{\circ}c$ ,  $A^{\circ}DC^{\circ}c$ , A

AGNICO EAGLE

## >⊀₽ĊΓ゚◁▷८゚೧₢₷

ᡔᡲᢐᢗᡃᢐᠴ᠌ᢦᢐᢗ᠘ᠵ᠒ᠻᠬᡉᠻ᠋ᢥᡫᢞᢗ᠘᠘ᢣᡲ᠂ᠺᢣ᠘ᡥ᠒ᠻᡙᡠᢐᡥ᠒ᢣ᠘ᡎᢗ᠘᠘ᢣ᠔ᡏᡧᠵᡊ᠘᠒᠘᠘



#### **EXECUTIVE SUMMARY**

Agnico Eagle Mines Limited (Agnico Eagle) is developing the Meliadine Gold Project (the Project), located approximately 25 kilometres (km) north of Rankin Inlet, and 80 km southwest of Chesterfield Inlet in the Kivalliq Region of Nunavut. The Project is located within the Meliadine Lake watershed of the Wilson Water Management Area (Nunavut Water Regulations Schedule 4).

The mine is located on Inuit Owned Lands and, as such, land and environmental management are generally governed by the provisions of the Nunavut Land Claims Agreement. This document presents the Roads Management Plan (the Plan) for the mine and forms a component of the documentation series produced for the Type A Water Licence Application. A list of permits, licenses, agreements, authorizations, and approvals applicable to this Plan are provided.

## **Roads Management**

The Plan includes access, service, and haul roads within the Project area, and covers construction, operations, closure and post-closure phases of the Project. This Plan is linked to the Spill Contingency Plan and the Terrestrial Environment Management and Monitoring Plan (Agnico Eagle 2014a). Access roads are used by Agnico Eagle but they also provide unrestricted access to the public, if it is safe to do so. Roads outside the mine area include:

- 1. A 30 km All-weather Access Road (AWAR) from Rankin Inlet to the mine site. The AWAR is used to transport the building materials, construction/mining equipment, fuel, reagents, supplies, workers, and contractors to the mine site. The road is also used to transport saline water from the mine site to Itivia where it is discharged into Melvin Bay. This road has unrestricted public access providing rules of the road are observed.
- 2. A 5.9 km bypass road around the Hamlet of Rankin Inlet from the Rankin Inlet Itivia land-based facilities (Itivia) to the AWAR. This road is closed to public use.

A manned gate is located on the south side of the AWAR at km 7 to prevent public access to the mine site. There is also an unmanned gate at Meliadine Camp's entrance, kilometer 30 of the AWAR. The road is closed during periods of bad weather, in the event of a road accident, during periods of major road maintenance, and, during caribou migration.

A sign is installed near Rankin Inlet giving the daily status of the AWAR, stating whether it is open or closed to the public that day. Monitoring the average daily traffic on the AWAR including the type and numbers of vehicles depending on the season, is included in the Plan.

This Plan presents mitigation measures and protocols to be implemented during operations to preserve wildlife, to prevent permafrost degradation, to control surface runoff and sedimentation, and to mitigate dust. Agnico Eagle has put in place operational procedures for daily operation and maintenance of the roads including dust suppression methods, snow removal, de-icing and snow drifts/banks management, and snow management at bridges and culverts.



Protocols for accidents and anticipated use of police services are presented in the sections below. Agnico Eagle has procedures in place and will keep resources close-at-hand to respond to emergencies on the roads in a timely manner. Agnico Eagle also reports all reportable incidents to the appropriate Government authorities.

Reclamation of the access, service and haul roads will follow the completion of all mining. For a third party to take over the road(s), that third party would have to complete its own arrangements with the landowner (the Kivalliq Inuit Association and/or the Hamlet) and then complete its own environmental assessment and permitting process covering future use.

## **Dust Management**

Agnico Eagle uses best management practices to minimize dust generation from becoming airborne at the mine site, Itivia, AWAR, Bypass road, service roads, and haul roads. This includes identification of major sources of dust, implementation of dust mitigation measures, inspections for unacceptable levels of dust, and recording dust monitoring data to document Agnico Eagle's success in controlling and reducing dust at the Project. The Dust Management Plan focuses primarily on dust generated from roads, with some reference to other mining activities such as the tailings storage facility which are addressed in other plans, including the Mine Waste Management Plan.

Dust could potentially be generated by such activities as road use, drilling, blasting, crushing, conveying, loading, hauling, unloading, stockpiling, and by wind erosion of dry, exposed mine areas. Dust emissions are prevalent during late spring and summer, while being much reduced in fall and winter.

Mitigation measures to control dust include mine design and operational procedures. Operational practices, such as speed limits and road maintenance, assist in reducing dust. Water and the addition of Calcium Chloride (CaCl<sub>2</sub>) is used to control and reduce dust on roads and other mine areas when airborne dust becomes a safety hazard or impacts sensitive natural areas.

Dust suppression measures are in place during operations and closure.



# **TABLE OF CONTENTS**

حγφ⊸،	∖Г4 <sub>°</sub> ₽				
Executiv	ve Sui	mmary	ii		
Roads N	/lana	gement	ii		
Dust Ma	anage	ment	i\		
Table of	f Cont	ents			
Figures	and T	ables	vii		
Docume	ent Co	ontrol	i>		
Acronyı	ms		x		
Units			x		
Section	1 • Ir	troduction	1		
1.1	Pro	ject Description	1		
1.2	Acc	ess Roads, Service Roads, and Haul Roads	1		
1.2	2.1	Road Routes	2		
1.2	2.2	All-weather Access Road	3		
1.2	2.3	Hamlet Bypass Road	3		
1.2	2.4	Traditional ATV and Snowmobile Trails			
1.2	2.5	Haul Roads	4		
Section	2 • R	egulatory Setting	8		
2.1	Lar	nd Tenure	8		
2.2	Per	mitting Regime	8		
Section	3 • R	elated Documents	13		
Section	4 • C	onsultation	14		
4.1	Up:	coming Consultations Prior to Opening the All-weather Access Road to Publ	ic Use		
4.2	Roa	nd Use by Nunavummiut and Other Developers	15		
4.3	Use of Inuit Qaujimajatuqangit in the Planning of the Roads Management Plan16				



Section	5 • Measures to Prevent Permafrost Degradation	19
Section	6 • Traffic Management on Access Roads	20
6.1	Management of Agnico Eagle Traffic on the Access Roads	20
6.2	Management of Non-Agnico Eagle Traffic on the All-weather Access Road.	21
6.3	Other Access Control Procedures	21
6.4	Projected All-weather Access Road Traffic between Itivia and the Mine	23
Section	7 • Inspection and Maintenance of Access, Service, and haul Roads	25
7.1	Sedimentation Control	25
7.1	1.1 Construction	25
7.1	1.2 Operation	26
7.2	Watercourse Crossings Inspections and Maintenance	26
7.2	2.1 Regular Crossing Inspection and Maintenance	27
7.2	2.2 Archaeological Sites and Ice Buildup	27
7.2	2.3 Event Crossing Inspection and Maintenance	28
7.2	2.4 Culvert Location Inspection	28
7.3	Snow Removal and Snow Management – Winter Maintenance	28
7.4	Dust Suppression	29
Section	8 • Road Safety	31
8.1	Road Signage	32
8.2	Policing of Rules of the Road	33
8.3	Public Use of Private Roads in Other Jurisdictions	34
Section	9 • Accidents, Spills, Malfunctions, and Emergency Response	35
9.1	Accidents and Malfunctions	36
Section	10 • Wildlife Management	39
10.1	Wildlife Monitoring Program	39
10.2		
Section	11 • Reclamation	
11.1	Reclamation of Quarries and Borrow Pits Sites	45
	nces	

vi



Appendix A • Agnico Eagle Consultation on the All-weather Access Road	. A-1
Appendix B ● Applicable Acts, Regulations, and Guidelines for the Access, Service and haul Roa	ads .
	. B-1



# FIGURES AND TABLES

Figure 1-1	Meliadine Access Road Network with Quarries and Drainage	1
Figure 1-2	Itivia General Arrangement and Access	6
Figure 1-3	Meliadine Haul Roads Network	7
Table 2-1	Licenses and Permits held by Agnico Eagle – Roads	9
Table 2-2	Approvals and Authorizations for All Roads	10
Table 6-1	Estimated Average Daily Traffic on the All-weather Access Road	24
Table 8-1	Road Signage	33
Figure 11-1	Schematic Showing the Ripping of the Road upon Closure	44



# **DOCUMENT CONTROL**

Version	Date	Section	Page	Revision	Author
1	September 2012			First draft of the Roads Management Plan	John Witteman, Env. Consultant, Agnico Eagle
2	March 2013			Additions made throughout the Plan	John Witteman, Env Consultant, Agnico
		6.4	17	Addition of Section 6.4	Eagle
3	April 2014	1.2.1	4	Added IQ box	Larry Connell, Corp.
		1.2.5	6-7	Details on snowmobile trails	Dir. Reg. Affairs,
			8	Added new Figure 1-2 (Itivia)	Agnico Eagle
		2.2	12-14	Update including Navigation	
				Protection Act	
		4	17	Added details on	
				consultation wrt road mgmt.	
		6.1	20	and use	
				Details on emergency	
		6.5	23	reporting	
		6.6	24	Territorial Park	
		7.1	25-26	Periodic survey of road use	
				Section on sedimentation	
		7.2.1	28	control	
				Protection of archaeological	
		7.3	29	sites	
		7.5	23	Meadowbank experience wrt	
		8.2	34	winter maintenance	
		App. C	34	Role of the Royal Canadian	John Witteman, Env
		дрр. С		Mounted Police (RCMP)	Consultant, Agnico
				New Appendix: Dust	. •
				• •	Eagle
1	April 2015			Management Plan	John Witteman Free
4	Whili 5012			Complete plan update based	John Witteman, Env
				on Feasibility Study and NIRB	Consultant, Agnico
				Conditions for the Water	Eagle
	Manuals 2047			Licence Application	Factoring
5	March 2017			General review of the plan	Environment
					Department, Agnico
					Eagle Mines
6	March 2018			Update plan based on NIRB	Environment and E8
				requests	Departments, Agnic
					Eagle Mines



MARCH 2019 ix

7	March 2019		•	-General review/update of	Terry Ternes, Sean
				the plan reflecting	Arruda, Bethany
				production phase.	Hodgins,
				-Updated Appendix A	Environment
		1.2.3,	3	-Added information about	Department, Agnico
		6.4	23, 24	trucking of treated saline	Eagle Mines
		0.4	23, 24	water to Itivia.	
		6.1	20,21	Traffic Management update	
		10	42	Updated information on	
				bypass road	
				Removed mine plan from	
		1.1	1	introduction as it is non-	
				essential to the Roads	
				Management Plan	
		10.1	39-40	Updated with AWAR closure	
				during Caribou migration	



#### **ACRONYMS**

Agnico Eagle Agnico Eagle Mines Limited

ARD/ML Acid Rock Drainage/Metal Leaching

ATV All-Terrain Vehicle

AWAR All-weather Access Road

CGS Department of Community and Government Services, Government of

Nunavut

DFO Department of Fisheries and Oceans Canada

ERT Emergency Response Team
GN Government of Nunavut

HTO Hunters and Trappers' Organization
INAC Indigenous and Northern Affairs Canada

IOL Inuit Owned LandsIQ Inuit QaujimajatuqangitKIA Kivalliq Inuit Association

MDAG Multidisciplinary Advisory Group
NIRB Nunavut Impact Review Board
NLCA Nunavut Land Claims Agreement
NTI Nunavut Tunngavik Incorporated

NU Nunavut

NWB Nunavut Water Board

RCMP Royal Canadian Mounted Police

## **UNITS**

km kilometre m metre



MARCH 2019 xi

#### **SECTION 1 • INTRODUCTION**

#### 1.1 Project Description

Agnico Eagle Mines Limited (Agnico Eagle) is developing the Meliadine Gold Project (Project), located approximately 25 kilometres (km) north of Rankin Inlet, and 80 km southwest of Chesterfield Inlet in the Kivalliq Region of Nunavut. Situated on the western shore of Hudson Bay, the Project site is located on a peninsula between the east, south, and west basins of Meliadine Lake (63°1′23.8″ N, 92°13′6.42"W), on Inuit Owned Lands (IOL). The Project is located within the Meliadine Lake watershed of the Wilson Water Management Area (Nunavut Water Regulations Schedule 4).

Figure 1-1 provides an overview of the Project access road network. There is presently a controlled access, Phase 1 All-weather Access Road (AWAR) between the mine site and Rankin Inlet<sup>1</sup> (constructed in 2013/2014). A bypass road that was built around the Itivia site and links to the AWAR outside of Rankin Inlet. The remote location of the Project necessitates that access, service, and haul roads be built to support the development of the mine.

The following structures and facilities located near the Tiriganiaq gold deposit include:

- Two open pits for the Tiriganiaq gold deposit and ancillary facilities;
- · Underground and ancillary facilities;
- Tailings storage facility consisting of dry stack tailings;
- Overburden/waste rock/ore storage facilities;
- Plant site and ancillary facilities;
- Storage areas;
- Fuel tanks holding up to 9 million litres;
- Quarries and granular borrow pits;
- Water management facilities;
- All-weather access, bypass, service and haul roads;
- Incinerator building;
- Landfarm for petroleum hydrocarbon contaminated soils and snow/ice; and
- Industrial waste landfill.

The following structures and facilities located in Rankin Inlet include:

<sup>&</sup>lt;sup>1</sup> The Meliadine Phase 1 AWAR was authorized under a separate process (Golder Associates 2010, 2011a, 2011b) and subject to separate monitoring and management plans (Agnico Eagle 2011, 2012). The concepts and monitoring and management plans are being merged with the current Project.



- Spud barge located at Itivia and serving as a dock;
- Oil Handling Facility at Itivia holding up to 38 million litres of diesel;
- Laydown yard at Itivia;
- 5.9 km bypass road around the community;
- Two kilometres of the AWAR located on municipal land;
- Bridges over the Char and Meliadine Rivers on municipal land; and
- Reclaimed rock quarry (R19) on unicipal land.

NO. DESSIN DRAWING NO. FORMAT ANSI B-11x17 PROPOSED MINE SITE QUARRY/BORROW PIT LOCATION ESKER LOCATION WATERCOURSE CROSSING ALL-WEATHER ACCESS ROAD (AWAR) ROAD - NEW ROAD - EXISTING Road - New Bypass WATERCOURSE WATERBODY TERRITORIAL PARK AGNICO EAGLE DESSINS EN RÉFÉRENCE/REFERENCE DRAWING 13-03-2017 MI DATE DESC RIPTION MTE 20-10-2016 AGNICO EAGLE — MELIADINE DIVISION FIGURE 1-1 LOCATION OF BORROW PITS AND QUARRI FOR THE MELIADINE GOLD MINE Scale: 1:125,000 REFERENCE

1. BASE DATA OBTAINED FROM AGNICO EAGLE MINES LIMITED.

2. DATUM: NAD83 PROJECTION UTM ZONE 15 製造性/ 1:125,000 配体 .DWG 

Figure 1-1 Meliadine Access Road Network with Quarries and Drainage



#### 1.2 Access Roads, Service Roads, and Haul Roads

#### What is the difference between access roads, service roads and haul roads?

Access Roads have public access. The public can use small vehicles such as All-Terrain Vehicle (ATVs), skidoos, and pick-up trucks on these roads, providing the use is in a safe manner. Small mine and contractor vehicles frequently use access roads. Large vehicles such as fuel tankers, buses, transport trucks, graders, and snow plows can also be expected. If oversized vehicles were to use an access road, they are be accompanied by escort vehicles. Access roads have two-way traffic, are 6.5 metres (m) wide with pull offs approximately every  $400 \pm 50 \text{ m}$ .

**Service Roads** do <u>not</u> have public access. These roads are restricted to mine and Agnico Eagle contractor vehicles. All mine and contractor drivers using service roads are trained to do so. Large equipment occasionally makes use of service roads but normally use haul roads. Service roads have two-way traffic and are 6.5 m wide.

**Haul Roads** do <u>not</u> have public access. All mine and contractor drivers using haul roads are trained to do so. Haul roads are essentially reserved for haul trucks transporting waste rock and ore from open pits. Haul roads are approximatively 17 m wide, and have safety berms where required.

Access, service, and haul roads are needed in the operation of the Project. Access roads are used by Agnico Eagle but also have unrestricted access by the public, if it is safe to do so. The only access road is the 30 kilometer AWAR between Rankin Inlet and the mine site as shown on Figure 1-1. The bypass road around Rankin Inlet is closed to public use. It is used by Agnico Eagle and its contractors to transport fuel, supplies, and reagents from Itivia to the AWAR. The AWAR and the Bypass road is also used to carry saline water from the mine site to Itivia for discharge to Melvin Bay.

A gate is installed on the AWAR near the mine site to prevent public entry. There is a manned gate at km 7 at the south end of the AWAR. The road is closed during periods of bad weather, in the event of a serious road accident, during periods of major road maintenance, and during migration. A chronological record of consultation on the AWAR to date is provided in Appendix A.

Service roads are exclusively for Agnico Eagle and its contractors use; the public does not have right of entry to these roads that service mine areas. They are found in and around open pits, leading to waste rock storage facilities, around the mill site, to the landfill and Emulsion Plant to mention a few. Service vehicles, trucks carrying explosives, and small trucks with mine personnel use the service roads. All Agnico Eagle workers and its contractors using service roads receive training before doing so.



Haul roads are primarily restricted to haul trucks, loaders, and other heavy machinery. Small vehicles operated by Agnico Eagle and its contractors can also use haul roads, but only after driver training and when it is safe to do so.

The Plan applies equally to access, service, and haul roads. Operations and maintenance of all types of roads will largely be the same. While public safety is emphasized in the use of the access roads, the safety of its workers and contractors is of no less importance to Agnico Eagle in their use of all roads.

#### 1.2.1 Road Routes

The routing of the AWAR and service roads were selected to minimize possible effects of construction and operation on the environment, and to facilitate maintenance of the road, particularly during winter. Prior to future road construction, Agnico Eagle conducts a survey along road routes to verify that dens of foxes, bears or wolverines are not destroyed or damaged. Other considerations include the overall length of the road, the route's proximity to satellite ore bodies, the number of stream crossings, the availability of quarries along the route, acid rock drainage/metal leaching (ARD/ML) potential of borrow materials, geomorphology, avoidance of archaeological resources, avoidance of the Iqalugaarjuup Nunanga Territorial Park, Inuit Qaujimajatuqangit (IQ), and avoidance of raptor nesting sites. An additional design consideration for roads is to remain on the height of land as much as possible to allow for drainage in the summer and for wind to assist in clearing snow in the winter.

The location of the Meliadine Bridge was in part determined by IQ. Inuit Elders spoke of graves on an esker downstream of the present bridge location, which ruled out crossing at this location.

The elevation of the bridge above the Meliadine River was based on IQ as Elders spoke of significant overflow at the selected location, which could impinge on the bridge. This caused Agnico Eagle to raise the elevation of the bridge more than first described in the engineering design.

Wildlife concerns also factor into road routes. Their design takes into account measures that roads do not prevent or unduly limit the movement of wildlife. This includes limiting the height of the road above the surrounding topography and limiting safety berms on haul roads where possible. Ore from the underground mine is transported by conveyor underground to the primary crusher. This design feature eliminates the surface transport of underground ore and mitigates possible interactions with wildlife.

Haul roads will be proximal to open pits and used year round; they connect open pits to Waste Rock Storage Facilities, ore storage pads and the primary crusher. Haul roads will be kept as short as possible and, where feasible, follow routes that limit the need for safety berms, which can block the movement of wildlife.



The routing of the bypass road, as shown on Figure 1-1, avoids the built-up part of the Hamlet thereby ensuring homes, businesses, recreation centres, schools, and healing centre are not disturbed by mine traffic. It does not interfere with the operation of the airport, potential runway expansion, community's water intake source (i.e. Nipissar Lake) or the new Hamlet landfill, and joins the municipal road leading to the AWAR, Iqalugaarjuup Nunanga Territorial Park, and a community borrow pit.

#### 1.2.2 All-weather Access Road

The AWAR, as shown on Figure 1-1, connects Rankin Inlet to the mine site. The route was selected following consultation with the Inuit. The AWAR is a 30 km private road built with a 6.5 m running surface between the Char River bridge turn-off and the mine site, and has passing turnouts approximately every  $400 \pm 50$  m (9.5 m total road width at passing turnouts<sup>2</sup>).

There is controlled access to the mine area by a seasonally manned gate located on the AWAR just south of the mine area (kilometer 30). There is also a year-round manned gate at kilometer 7 at the south end of the AWAR. The road is closed during periods of bad weather, in the event of a road accident, during periods of major road maintenance and, during caribou migration. Finally, a sign will be installed near Rankin Inlet giving the daily status of the AWAR stating whether it is open or closed to the public.

## 1.2.3 Hamlet Bypass Road

A bypass road was completed in 2018 and is built around the south of the airstrip to Itivia as shown on Figure 1-1. Its design and width is identical to the AWAR (6.5 m). The bypass road is approximately 5.9 km long and allows traffic from Itivia to bypass the Hamlet in delivering materials and fuel to the

## Why a bypass road is preferable to using existing roads in the Hamlet?

Thirty million litres of fuel are required annually for mine operations and it is stored in the Itivia tank farm. All this fuel needs to be transported to the mine site where two tank farms, each having 2 tanks are located. The total fuel that can be stored on site is approximately 9 million litres. If each fuel tanker carries 45,000 litres, it results in a total of approximately 667 trips annually or, on average, 1.8 trips per day. Added to this would be moving 20,000 to 40,000 tonnes of dry cargo from Itivia to the site annually, and up to 350 workers to and from the airport for each two-week work rotation. It is estimated that approximately 1,800 trips per year will occur when the mine hauls saline water to Itivia for discharge to the sea.

AGNICO EAGLE

 $<sup>^{\</sup>rm 2}$  Passing turnouts allow vehicles to pass each other when travelling in opposite directions.

mine site or saline water to Itivia from the mine. By building the bypass road, use of municipal roads by Agnico Eagle is kept to a minimum. The bypass road is closed to the public.

A small amount of material is also transported from the mine site to Itivia for transport south by sea, including hazardous materials and other wastes that require shipment to the south.

In 2019 Agnico Eagle will begin transporting treated saline water from the underground mine, to the Itivia area for discharge to sea. This will result in an increased amount of traffic on both the AWAR and the Bypass road. It is estimated that approximately 1,800 trips per year will be made from the mine to Itivia for the discharge of saline water.

#### 1.2.4 Traditional ATV and Snowmobile Trails

The building of roads and the infrastructure at Itivia impacts existing ATV and snowmobile trails. Where these trails cross a road, a ramp has been constructed to ease road crossing, and signage is in place to alert road users of the crossing. Similarly, there are signs alerting ATVs and snowmobiles when approaching a road. Maintenance of the roads would ensure the snowmobile crossings are kept clear of snow.

Rankin Inlet residents, the Rankin Inlet and Kangiqliniq Hunters' and Trappers' Organization (HTO) have identified that there is an existing snowmobile trail in the area of the Itivia laydown yard that local residents use in winter months to access the sea ice at Melvin Bay. Agnico Eagle is aware of this trail and has accommodated the trail to allow continued unfettered snowmobile access along the east side of the laydown yard to the sea ice at Melvin Bay. The location of this trail in relation to the laydown yard is shown in Figure 1-2.

While the laydown area is fenced, this snowmobile trail is not hampered or blocked by any fencing.

#### 1.2.5 Haul Roads

The building of additional haul roads will be governed by the sequence of the two open pits to be mined, Tiriganiaq 1 and 2, and their width determined by the size of the haul trucks and other equipment using the roads. Haul roads are kept separate from access and service roads to ensure road safety. The layout of haul roads in the vicinity of the mine site is presented in Figure 1-3.

Haul roads outside the open pits are 26 m wide to allow for two way traffic, or 17 m for single lane traffic with passing zones spaced accordingly. A two-lane 17 m wide haul road designed for 70-t trucks in dual lanes is required for access to the TSF and Paste Plant. Safety berms are installed where necessary along the haul roads.

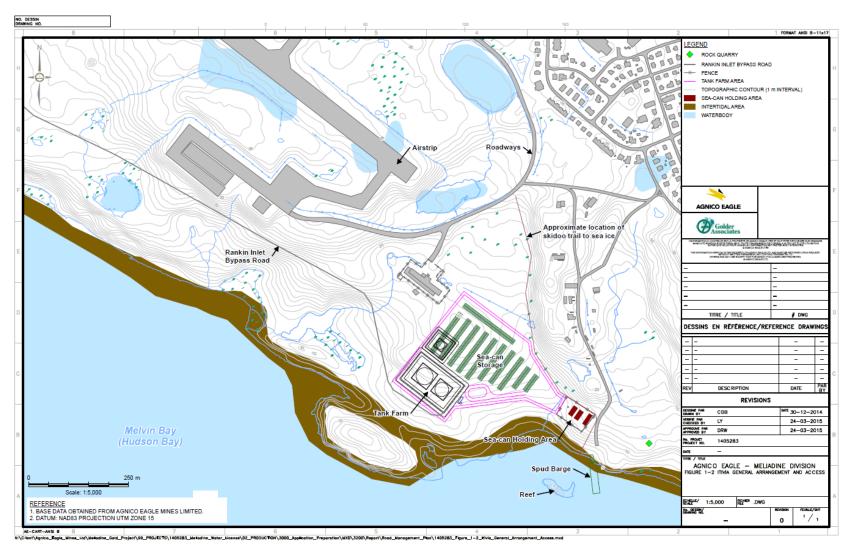
The ramps and haul roads were designed for the largest equipment (70 payload tonne class haul trucks), with an operational width not exceeding 5.7 m, in accordance with Nunavut mine regulations. For double lane traffic, the ramp width will be 21.5 m decreasing to 15.8 m for single



lane traffic at the pit bottom (last three benches) to reduce waste stripping. The ramp's width will include a protection berm and a drainage ditch. The safety berm on the outside edge will be constructed of crushed rock to a height equal to 3/4 of the rolling radius of the largest tire using the ramp. To facilitate drainage, ramp gradients will be established at 10% and will increase to 12% for the last three benches at the bottom of the open pit.

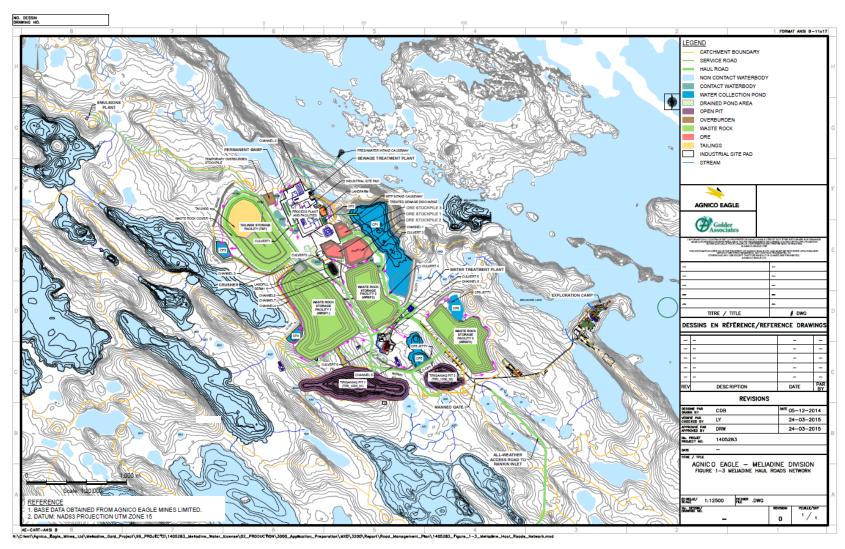


Figure 1-2 Itivia General Arrangement and Access



AGNICO EAGLE

Figure 1-3 Meliadine Haul Roads Network



AGNICO EAGLE

#### **SECTION 2 • REGULATORY SETTING**

#### 2.1 Land Tenure

The majority of all access, service and haul roads are located on IOL administered by the Kivalliq Inuit Association (KIA). The surface ownership of the land encompassing the roads right-of-ways was transferred to the KIA when the Nunavut Land Claims Agreement came into effect. Land and environmental management in this area are generally governed by the provisions of the Nunavut Land Claims Agreement.

Closer to Rankin Inlet, 2.3 km of the AWAR and the complete bypass road are on Commissioner's land held by the Department of Community and Government Services (CGS) for the benefit of the Hamlet of Rankin Inlet.

The Phase 1 AWAR was constructed under land use permits issued by CGS on municipal land, and the KIA on IOL. Leases followed the completion of construction and a legal survey of the road right-of-way. The width of the land leases is 20 m for the length of the roads, wide enough to accommodate their 6.5 m width.

Service and haul roads will exclusively be constructed on IOL under the mine lease(s) issued by the KIA.

## 2.2 Permitting Regime

Federal, territorial, and municipal laws and regulations that apply to the construction, operation and closure of all access, service, and haul roads are itemized in Appendix B. No land use permit, operating permit, authorization, or license can be issued by any regulatory agency that would allow Agnico Eagle to undertake construction on any other road until the Nunavut Impact Review Board (NIRB) has completed its environmental assessment and issued a Project Certificate Amendment of No. 006.

Table 2-1 outlines the current licences and permits held by Agnico Eagle in relation to the Phase 1 AWAR and for advanced exploration. Most winter roads right-of-way permits are being allowed to expire because the AWAR is complete, but are included for sake of completeness. After receiving a Project Certificate and all necessary authorizations, land use permits were issued by CGS on behalf of the Hamlet for the construction of the bypass road. This permit has subsequently been taken to lease.

A list of anticipated permits, licenses, agreements, authorizations, and approvals for all roads is presented in Table 2-2.



Table 2-1 Licenses and Permits held by Agnico Eagle – Roads

License Number	Explanation	Issued By	NIRB File	Remarks
KVL100B195	Meliadine Prospecting – Land Use	KIA		general land use permit applying to exploration and drilling
KVL302C268	NTI RI-01 Parcel Drilling	KIA		drilling on RI-01 Inuit Owned Lands
KVL308C07	Mel E Exploration RI-01	KIA		drilling on RI-01 Inuit Owned Lands
N2010C0002	PB1, Drilling Permit	INAC	10EN006	
N2013-C002	Exploration, drilling claims CWM	AANDC		
KVCL102J168	Commercial Lease	KIA	07EN044	commercial lease for exploration and underground activities
KVRW98F149	Meliadine Right-of-Way	KIA		amended to allow access to old Discovery camp (renewed annually)
KVRW07F02	Overland Right-of-Way	KIA	07AN063	winter road along all-weather road route(will be allowed to expire)
KVRW11F02	Permanent Road Right-of- Way	KIA	11RN017	
KVCA07Q08	Mainland Esker Quarry Permit	KIA		Tiriganiaq Esker quarry
KVCA11Q01	Permanent Road Quarries	KIA	11RN017	
	WCB Program Authorization	WCB		annual renewal
2BB-MEL1424	Bulk Sampling - Water License	NWB	07EN044, 11RN017	
2BE-MEP1318	Exploration – Water License	NWB	08EN043	
2AM-MEL1631	Meliadine Mine	NWB	11MN034	



Table 2-2 Approvals and Authorizations for All Roads

Authorization	Authority	Basis
Conformity determination with Keewatin Regional Land Use Plan	Nunavut Planning Commission	allows Project to proceed to screening
Article 12, Part 5 Environmental Assessment	Nunavut Impact Review Board	allows Project to proceed to authorizations to build and operate roads
Type A Water License	Nunavut Water Board	allows for construction of the mine and related roads
Navigation Protection Act evaluation	Transport Canada	Agnico Eagle provided a list of water crossings for the Phase 1 AWAR and requested a navigability determination for each from Transport Canada.  Subsequently, a navigation evaluation was prepared for small streams, lakes, and ponds impacted by the Project
Inuit Impact and Benefits Agreement	Kivalliq Inuit Association	impacts are compensated and benefits provided to Inuit
Water Compensation Agreement	Kivalliq Inuit Association	compensation for Inuit Water Rights under NLCA Section 20
Right-of-way Lease	Kivalliq Inuit Association	allows right-of-way for AWAR across Inuit lands
Land Use Permit	Rankin Inlet and Community and Government Services	allows construction of the bypass road on municipal land
Right-of-way Lease	Rankin Inlet and Community and Government Services	allows right-of-way for AWAR and bypass road located on municipal lands
Quarry License	Kivalliq Inuit Association	various quarry and borrow pit sites on Inuit Owned Land along the right-of-way for building the road to the mine site and infrastructure pad.
Explosive Magazine Permit Renewal	Workers' Safety and Compensation Commission	permits an explosive magazine on-site and at other approved locations
Class 2 Permit for Heritage Sites (obtained by qualified professional archaeologist)	Department of Culture, Language, Elders and Youth	unavoidable impacts of roads on heritage sites have been mitigated



Amendments to the *Navigable Waters Protection Act* came into force in April 2014 as part of the Federal Government's 2012 Bill C-45. In part, these amendments:

- Changes the name of the Navigable Waters Protection Act to the Navigation Protection Act;
- Includes a schedule, which clearly lists the major waterways for which regulatory approval is required prior to the placement or construction of work;
- Allows proponents of works in non-scheduled waters to opt-in and seek approval of their proposed work to give them additional legal certainty; and
- Expands the list of low risk works (e.g., minor repairs on bridges) that can be pre-approved because they pose very little impact on safe navigation.

Schedules listing major waterbodies requiring regulatory approval include Schedule 2 Part 1 – Oceans and Lakes, and Schedule 2 Part 2 – Rivers and Riverines. Schedule 2, Parts 1 and 2 do not include any waterbodies found within the Project's footprint. As such, all are non-scheduled waterbodies and Agnico Eagle undertook an assessment to determine navigability.

Using the *Navigation Protection Act*, Agnico Eagle assessed the navigability of the small lakes, ponds and streams within the Project's footprint through the following questions<sup>3</sup>:

- Are the waterbodies within the Project's footprint capable of being navigated by floating vessels for the purpose of transportation/recreational use?
  - o If the answer is "no" to this question, the waterbodies are not navigable.
  - o If the answer is "yes", then additional questions were asked.
- Is there a public right to travel?
- Is there any historical use of the waterbodies for navigation?
- Is there any proposed future use of the waterbodies for navigation?
- Is the waterbody part of a navigational network or transit route to other waterbodies?
- Is the waterbody a self-contained route for fishing or recreation?
- Will Agnico Eagle's roads offer access to waterbodies within the Project's footprint?

Based on these questions, Agnico Eagle determined that:

- Navigation of streams found within the Project's footprint is not feasible;
- Navigation to and between waterbodies is not feasible;



<sup>&</sup>lt;sup>3</sup> The questions being asked are in part based on the *Draft Working Framework for determining a Navigable Water under the Navigation Protection Act* prepared by Transport Canada.

- The waterbodies within the Project's footprint do not form part of a navigational network or transit route;
- There is no evidence of historical use of the waterbodies for navigation or recreation; and
- There is no anticipated future use of the waterbodies for navigation.

At this time, Agnico Eagle does not believe that the small lakes, ponds, and streams within the Project's footprint are navigable waterbodies. Agnico Eagle does recognize that Meliadine Lake, Meliadine River, and Melvin Bay<sup>4</sup> as navigable waterbodies.

AGNICO EAGLE

<sup>&</sup>lt;sup>4</sup> The port of Itivia is located in Rankin Inlet at Melvin Bay, which is part of Hudson Bay.

#### **SECTION 3 • RELATED DOCUMENTS**

Final Environmental Impact Statement documents and documents submitted in support of the Water Licence Application that provided input to the Roads Management Plan include the following:

- Terrestrial Environment Management and Monitoring Plan (Golder 2015);
- Spill Contingency Plan;
- Preliminary Closure and Reclamation Plan;
- Borrow Pits and Quarries Management Plan; and
- Dust Management Plan.

The Plan is part of the Environmental Management and Protection Plan for the Project and will be in effect during the operation and closure of the Project.



#### **SECTION 4 • CONSULTATION**

Consultations on the road route with the community of Rankin Inlet, Inuit Elders, Kangiqliniq HTO and KIA were ongoing from as early as 2004. A chronological record of consultation on the AWAR is provided in Appendix A. Extensive details on all consultation for the Project can be found in the Public Engagement and Consultation Baseline Report. In Agnico Eagle's June and August 2014 Kivalliq community consultations, concerns with the AWAR or the bypass road were not raised.

On several occasions in 2013, Agnico Eagle met with the KIA and with the Rankin Inlet HTO to discuss how the Phase 1 AWAR should be managed and to develop a plan on how limited public access would be provided. The HTO told Agnico Eagle that they believe the AWAR should be open to unlimited public access but acknowledged that for Phase 1, the AWAR must be operated with controlled, limited public access until NIRB has the time and opportunity to assess the impact of such open public access. In the interim closure, Agnico Eagle and the HTO discussed how to control and manage limited public access on the Phase 1 AWAR beginning in the summer of 2014. It was agreed that access be limited to ATVs only unless otherwise permitted and be via a pass system where the HTO has involvement over who is granted a pass. Agnico Eagle and the HTO have also been discussing a program that would see the HTO provide wildlife monitoring services for Agnico Eagle along the Phase 1 AWAR. In 2016, 3 meetings were attended by Agnico Eagle personnel at the KHTO meetings. Agnico provided the KHTO with offers and opportunities to assist in the AWAR road surveys. Agreement on this program still remains to be concluded with KTHO. In 2017 and 2018, Agnico continued communicating with KTHO to engage the organization in assisting in these programs. Further meetings are scheduled in 2019 to discuss these items.

Agnico Eagle presented its proposed management procedures for the AWAR, along with options for the development of the Rankin Inlet by-pass road at public meetings held in Rankin Inlet in 2012 (mid-October) and 2013 (mid-February).

There were some elders who would have preferred the AWAR be built using a different alignment that ran west of the Iqalugaarjuup Nunanga Territorial Park and then cut north towards the Project. This would have given them better access to the Diana River and traditional hunting and fishing area to the northwest. Agnico Eagle explained that this was a much longer route as it moved away from the site (i.e. was not a straight line to the Project site) and involved more water crossings and was thus not an acceptable route from Agnico Eagle's needs and perspectives. The community spoke to its preference to the Rankin Inlet by-pass route going along the southwest side of the Rankin Inlet airport and not along the northeast side as proposed in one option by Agnico Eagle. This option placed the by-pass road in conflict with the entry to the airport terminal and future housing development areas.

At the NIRB's technical meeting and pre-hearing conference in early December 2013, road issues were raised by various Kivalliq communities. Unrestricted road accessibility to Inuit, road interactions with

AGNICO EAGLE

caribou, peregrine nests, dust control, what happens to the roads upon closure, and fuel transport were all raised as concerns.

## 4.1 Upcoming Consultations Prior to Opening the All-weather Access Road to Public Use

Agnico Eagle wants to meet the expectation of Rankin Inlet residents in opening the AWAR to public use. However, Agnico Eagle shares the concerns of others that all AWAR users need to abide by 'rules of the road' to protect their own safety and that of others. While Agnico Eagle will maintain the AWAR in good operating condition and close it when poor driving conditions prevail, it will be incumbent on all organizations and the public to share in the responsibility in educating AWAR users in safe and responsible road use. This could be as simple as leading by example to participating in developing and endorsing the rules of the road.

Prior to the opening of the All-weather Access Road to public use, Agnico Eagle will:

- Undertake extension consultation with the KIA, HTO, residents of Rankin Inlet, and the Hamlets of Rankin Inlet and Chesterfield Inlet with the purpose of developing rules of the road and safety requirements for public use of the AWAR;
- Update this Plan, with particular emphasis on public safety, and submit it to the Nunavut Impact Review Board, KIA, HTO, the Government of Nunavut (GN), Nunavut Water Board (NWB), Hamlet of Rankin Inlet and authorizing agencies;
- Prior to opening the AWAR to the public, hold community meetings to go over the rules of the road and impress on all potential AWAR users their responsibility for their own safety and that of others in using the AWAR safely; and
- Place signs emphasising safe use of the AWAR at strategic locations along the AWAR.

The rules of the road will be posted on community bulletin boards; and on a quarterly basis, read over the community radio and placed on the local television station. Agnico Eagle will also post them on its Nunavut web site.

# 4.2 Road Use by Nunavummiut and Other Developers

The AWAR partly covers existing ATV and snowmobile trails, which were used as access to traditional areas for hunting, fishing, and recreation in the Meliadine Lake, Machum Lake, and Twin Lakes areas. Agnico Eagle is unaware of any possible future developments near the Project that could make use of the access and/or service roads.

It is Agnico Eagle's responsibility to decommission and reclaim the roads once its activities in the area are complete. For a third party to take over the road(s), that third party would have to complete its own arrangements with the landowners (the KIA and the Hamlet) and then complete its own environmental assessment and permitting process covering future use. Agnico Eagle does not own the land on which the roads are constructed and, thus, cannot transfer future ownership or use privileges to any third party. Agnico Eagle must complete its obligation to decommission and reclaim



all roads unless directed otherwise by a combination of the landowners and other regulatory agencies who issued permits/authorizations for the roads.

## 4.3 Use of Inuit Qaujimajatuqangit in the Planning of the Roads Management Plan

Inuit Qaujimajatuqangit (IQ) is the most successful and oldest monitoring practice in Nunavut, where the resource users do the observing or monitoring. Information collected through IQ can contribute to mine design and planning, as well as monitoring activities. Agnico Eagle is committed to including IQ and public concerns raised through IQ, where practical, in the design of management and monitoring plans for the Project. Agnico Eagle continues active engagement with communities and Inuit organizations as the Project proceeds through permitting, operations, and closure. Additional IQ collected through consultation and engagement will be included in updates to the design and implementation of environmental programs.

The Road Management Plan considered IQ (including TEK, TLU) and concerns regarding Project effects on traditional resources and traditional land use sites through the following Project design and mitigation measures:

- In allowing public access on the AWAR, Agnico Eagle took into consideration that the area in the vicinity of the Project will continue to be used for traditional purposes during the construction, operation, and closure phases of the Project.
- Access to traditional use sites are being mitigated by constructing ramps and installing signage
  along Project roads to facilitate road crossings for existing ATV and snowmobile trails. Snow
  clearing takes into consideration the location of snowmobile trails such that they are not
  blocked, and snowmobile crossings are identified with signs identifying the location of the
  trail prior to snow removal.
- The Itivia laydown yard was designed to avoid impacting the existing snowmobile trail so that local residents can continue to access the sea ice at Melvin Bay.
- Elders expressed the greatest concern regarding potential effects of the Project on caribou including road construction and motorized vehicles potentially limiting or altering their movement patterns, and the potential for overhunting to occur as a result of increased access to caribou migration routes and calving grounds. Agnico Eagle consulted with the Government of Nunavut, the KIA, the Kivalliq Wildlife Board, local HTOs, and the public in developing appropriate monitoring and mitigation measures related to the ease of harvesting of caribou afforded by the AWAR. The result of these consultations was a Road Access Management Agreement (see Section 10.2).
- IQ indicated that land mammals including Arctic fox, wolverine, and wolf are important traditional resources for harvesting, and community concerns were raised regarding the potential effects of snowmobiles, and the potential of road construction creating barriers to



wildlife movement. The routing and design of the AWAR and service roads were selected to minimize potential Project effects on the environment, including wildlife movement. Potential adverse effects to wildlife abundance or movement were considered in setting the rules of the road, including setting maximum speed limits and ensuring wildlife has right-of-way on the roads, wildlife will not be harassed and hunting is prohibited within 1 km of the AWAR. Furthermore, locations of large aggregations of animals is reported and all incidents between vehicles and wildlife will be reported and investigated. Finally, a wildlife monitoring program will be implemented with input from the local stakeholders to record the species, numbers and location of wildlife observed along the roads, with particular focus on caribou, muskoxen, bears, wolves, migratory birds and raptors.

- Community concerns were also raised regarding the potential for the Project to change the land and water, subsequently impacting the diet of land animals. There was also concern that road construction could affect environmental stability and contaminate water. IQ also indicated that berry harvesting is an important activity in the area, and community members expressed concerns over dust that could impact the health of both water and vegetation. These concerns were considered in proposing the following mitigation measures and protocols to be implemented during construction and operations to preserve wildlife, prevent permafrost degradation, control surface runoff and sedimentation, and mitigate dust:
  - Sedimentation and erosion control measures were implemented prior to the start of work and maintained until after all disturbed areas have been stabilized; and
  - Regular inspection of the roads are conducted to identify areas of ponding, erosion or sedimentation.
- IQ indicated that the rivers and Meliadine Lake are considered important fish harvesting sites, and community concerns were raised regarding potential contamination of waterbodies in the entire Meliadine watershed, and for potential adverse effects to fish and other traditional resources. Accordingly, to protect fish spawning and nursery periods of local fish populations, no in-water work was taken place from May 1<sup>st</sup> to July 15<sup>th</sup>. In addition, areas where dust deposition could impact fish habitat and/or water quality, mitigation measures were implemented, including grading of the road surface, placement of new coarser topping, and/or watering/addition of CaCl<sub>2</sub> on the road surface.
- IQ has indicated that the entire Meliadine valley, including Iqalugaarjuup Nunanga Territorial Park, has a long history of traditional use and many important cultural sites. To mitigate the potential for disturbance to cultural sites, all employees or contractors are not allowed to construct any side roads/trails off the west side of the AWAR between Km 1 and Km 8, and regular road inspections occur to ensure that no unauthorized trails or access routes leading from the AWAR into the Park are being created. In addition, Agnico Eagle and GN-DoE Park staff will work together to discuss what other measures can be taken to prevent unauthorized



access into the park, including potential signage, public education and the placement of barriers.

• To prevent potential ice buildup at the lower Meliadine River crossing bridge resulting in flooding of important cultural sites upstream from the bridge, regular inspections and monitoring occurs so that potential risks to cultural sites can be mitigated.



#### SECTION 5 • MEASURES TO PREVENT PERMAFROST DEGRADATION

Roads have been designed with a minimum fill thickness to maintain permafrost conditions within the subgrade soils. The thermal modelling indicated a minimum road fill thickness of 1 m is required above ice poor subgrade soils to maintain the soil in a frozen condition year round. Similarly, a minimum road fill thickness of at least 1.3 m is required above ice rich subgrade soils.

To the greatest extent possible, roads are constructed in the winter when the subgrade soils are frozen to prevent insulation of thawed subgrade soils. A rough base is advanced at the full road width so that the base of the roads is laid down in winter frozen ground conditions. The stream crossing culverts are also installed in the winter. Once the rough base and stream culverts were installed, the remainder of the construction was completed by building up the rough base primarily under winter conditions, and placing the final topping materials during the spring and early summer.

Mitigation and environmental design features to reduce the potential for permafrost degradation are as follows:

- Road alignments avoid, where possible, fine-grained, poorly drained, ice-rich, frost susceptible soil conditions as noted by geomorphologic mapping, due to their susceptibility to thaw related settlement;
- Regions of high ground relief (higher elevations) are sought to provide better drainage conditions, to minimize the potential for snow drifting on the road and to avoid organic depressions and/or other poor ground conditions, which are more abundant in the low lying areas;
- Road fill material was placed directly over the existing soil layer without cutting, stripping, or grubbing to avoid disturbing the subgrade soils;
- Thick drifted snow was removed before road fills were placed;
- The road fill thickness was a minimum of 1 m in thaw-stable soils, and 1.3 m in thaw-sensitive soils; and
- Construct access, service, and haul roads in the winter when the subgrade soils are frozen to prevent insulation of thawed subgrade soils, to the greatest extent possible.

The road and its shoulders is inspected weekly (at a minimum) during the summer period (June to August) for evidence of seasonal freeze and thaw adjacent to the toe of the road embankment. Such movements are expected and may lead to longitudinal cracking and thaw settlement especially for portions of the road founded on thaw susceptible (ice rich) soils. When such areas are discovered, the affected area is repaired using granular material and/or crushed rock. Agnico Eagle will maintain stockpiles of such material in select borrow/quarry areas along the road.



#### **SECTION 6 • TRAFFIC MANAGEMENT ON ACCESS ROADS**

## 6.1 Management of Agnico Eagle Traffic on the Access Roads

All of the required fuel, supplies, and equipment for the mine will be transported to the mine via the bypass road and AWAR. Saline water delivery from the mine to Itivia occurs on the bypass road and AWAR. All drivers transporting these materials and personnel will either be Agnico Eagle employees or employees of contractors directly hired by Agnico Eagle. They must possess a valid driver's license from a Canadian province or territory, for the appropriate class of vehicle, for them to be allowed to operate vehicles on access roads. Agnico Eagle educates all of its employees and all of its contractor's employees on road safety rules during the safety introduction training that occurs when first starting work at the mine site.

All Agnico Eagle vehicles that routinely travel on the access roads are equipped with a radio set to the requisite road frequency. Similarly, contractor's vehicles that routinely travel on the access roads are also equipped with a radio set to the requisite road frequency. Consequently, Agnico Eagle and contractor traffic on the road always have radio contact with the northern gatehouse, security, Agnico Eagle and contractor traffic. This system is used to report any unusual conditions along the roads such as: location of other vehicles, presence of wildlife on or near the roadway, presence of non-Agnico Eagle traffic such as ATVs, snowmobiles or other vehicles on the access roads, special road conditions, and special weather conditions. All Agnico Eagle drivers and contractors using the road are required to monitor and report to the northern gatehouse by radio any observed unauthorized or unsafe use of the road.

The AWAR is open to restricted public access and as such when there is a scheduled shut down of the road due to weather or special shipments of restricted products Agnico Eagle will notify the Hamlet. It is proposed in the future that Agnico Eagle may be able to establish full cell phone service along the full length of the AWAR during the operation of the mine. When this occurs the prime mechanism for contacting Agnico Eagle in the event of an emergency will be by cell phone. Once such service capability is in place, Agnico Eagle will take the following action to communicate how the public can contact Agnico Eagle to report an emergency on the AWAR. The following guidelines are presently being used to notify the public:

- Signage at the Rankin Inlet end of the road and at the mid-point Emergency Spill Response station(at a minimum) will provide the public with the Agnico Eagle phone contact number (site security) to which the public can report an emergency along the AWAR.
- Signage near Rankin Inlet will provide the current status of the AWAR, stating whether it is open or closed to public use that day.
- Include this information on periodic public information sessions on the rules of the road and road safety procedures delivered in Rankin Inlet.
- Include this information in periodic community radio and TV announcements.



- Information is provided on Agnico Eagle's Nunavut web page.
- AEM webpage indicates road closures and information.
- The gatehouse at the 7 km marked will be closed and the gate house attendant can discuss the closure with interested parties.

## 6.2 Management of Non-Agnico Eagle Traffic on the All-weather Access Road

Agnico Eagle works with the KIA, HTO, the Government of Nunavut, and the Hamlet of Rankin Inlet to devise a system for unrestricted public access to the AWAR at a future date. Until this system is in place, traffic on the AWAR is controlled by Agnico Eagle through an unmanned gate at its southern end and a manned gatehouse at its northern end.

The rules of the road<sup>5</sup> developed for the roads apply to all users of the road, including Agnico Eagle employees, Agnico Eagle contractor employees, and the public. Agnico Eagle holdsd public information sessions in Rankin Inlet for AWAR users, on a regular basis (minimum of twice per year). The Government of Nunavut will also be consulted prior to opening the AWAR to unrestricted traffic. A copy of the rules of the road, which will have a strong emphasis on road safety, will be presented at these sessions.

Agnico Eagle will also holds public information sessions in Chesterfield Inlet for AWAR users on a regular basis (minimum of once per year). A copy of the rules of the road will be presented at these sessions. This is required because Chesterfield Inlet has now built approximately 17 km of trail/road south from their community towards Rankin Inlet and occasionally drive their ATVs/snowmobiles to Rankin Inlet.

Agnico Eagle will also use other communication tools to get the road access procedures and road safety rules out to the public in Rankin Inlet. These will include community radio, community TV<sup>6</sup>, Facebook page, postings around town, through the Project office in Rankin Inlet, and via an Agnico Eagle Project website. The communication will be in both English and Inuktitut. All non-Agnico Eagle road users will also be encouraged to monitor and report any observed unsafe use of the roads to Agnico Eagle.

## 6.3 Other Access Control Procedures

There will be occasions when access to the AWAR will be restricted for short time periods for special reasons. This includes bad weather, unsafe road conditions, maintenance activity on the roads, heavy project related truck traffic, movement of oversized loads, and/or presence of large numbers of

<sup>&</sup>lt;sup>6</sup> Notices on rules of the road will be placed on community radio and television a minimum of 4 times a year.



<sup>&</sup>lt;sup>5</sup> See Section 8 for complete details on rules of the road measures proposed for the AWAR.

caribou on or adjacent to the road. The AWAR could also be temporarily closed in the event of an incident, accident or other event requiring mitigation or response. These short-term closures will be required to ensure safety.

In communicating such short-term closures, Agnico Eagle will take the following actions:

- Agnico Eagle will issue a daily road condition bulletin by means of email to a subscriber list, through an Agnico Eagle website, and through community radio. The bulletin will provide information on current road and weather conditions and on special activity planned for that day on the AWAR.
- Agnico Eagle (with the consent of the Hamlet of Rankin Inlet) will set up and maintain a sign
  in English and in Inuktitut to be located close to Rankin Inlet on the existing municipal road
  out to the Char River and the Territorial Park that indicates whether the AWAR is "open" or
  "closed" at that specific point in time.
- Agnico Eagle will limit access and, in certain conditions, close the roads to all traffic during bad winter weather (blizzard or white out conditions). In the worst weather, the southern gate on the AWAR near the Char River will be closed and signed accordingly;
- Agnico Eagle will limit access to the AWAR when it is not safe as a result of an accident or a road maintenance problem.
- Agnico Eagle will limit access to the AWAR when large numbers of caribou are near to or crossing the road. This will occur in consultation with the Kangigliniq HTO.
- Agnico Eagle will work with the GN, KIA, and HTO to establish a one kilometre no shooting
  zone on both sides of the AWAR to ensure that project workers and all other road users are
  not inadvertently exposed to the risk of accidental shooting.
- Agnico Eagle reserves the right to refuse access to individuals who do not respect the rules of the road on safety, speed and the no shooting zone when using the AWAR.

The GN Department of Environment (GN-DoE) has expressed a valid concern that there is potential for unauthorized trails/access routes to be created from the AWAR into a designated preservation zone within the Iqalugaarjuup Nunanga Territorial Park at an area to the northeast of the Meliadine River just north of the new Meliadine River Bridge. The AWAR is in close proximity to the park boundary in this location. The GN-DoE have pointed out that such an unauthorized use of this designated preservation zone could cause irreparable damage to the natural and cultural features meant to be protected within this territorial park. Agnico Eagle acknowledges this concern and commits to work with the GN-DoE to reduce/prevent this potential unauthorized access from the AWAR to this part of the Iqalugaarjuup Nunanga Territorial Park.

In this respect, Agnico Eagle will take the following actions:

Agnico Eagle commits that it will not allow any of its employees or contractors to construct
any side roads/trails off the west side of the AWAR between Km 1 and Km 7. Agnico Eagle has
no intention of constructing any side roads and/or trails off the designated AWAR corridor at



any point along its length, and if so, additional regulatory approval would be needed under the Terms of the Road Use Lease with the KIA and/or Community & Government Services before any side road/trail could be constructed;

- Agnico Eagle will task its Road Supervisor with keeping an eye on this critical section of the AWAR as part of its regular road inspections (as outlined in Section 7 of this Roads Management Plan) with the objective of identifying any signs of unauthorized trails/access routes leading from the AWAR into this area of the Park. If any evidence of unauthorized access trails is discovered, the Road Supervisor will contact GN-DoE Park Staff in Rankin Inlet to inform the GN-DoE Park staff of the discovery and to jointly work on a plan to prevent any further use of such access points. Agnico Eagle would then take the agreed upon measures to implement the plan provided that such measures are reasonable; and
- Agnico Eagle will meet with GN-DoE Park staff to jointly discuss what other measures can be
  taken to dissuade/prevent such potential unauthorized access into this area of the Park
  (e.g. possibly signage, public educational measures, placement of barriers, etc.). Agnico Eagle
  will then implement the agreed upon measures. Agnico Eagle will continue to periodically
  meet with GN-DoE park staff (at least annually, but more frequently if required) to discuss
  protection of this designated preservation zone within the Park.

## 6.4 Projected All-weather Access Road Traffic between Itivia and the Mine

Agnico Eagle and contractor traffic on the AWAR between Itivia and the mine site is not expected to vary as much as public traffic between summer and winter. Table 6-1 provides the projected traffic for the bypass road and AWAR.

Agnico Eagle and contractor vehicles which use the road include, but are not limited to: pick-up trucks, cube vans, buses, fuel trucks, tractor-trailers, snowplows and graders. However, the amount of traffic will be highly dependent on the level of activity on site and the time of year, such as when supplies and materials arrive by sea, as well as on the weather and the traffic as a result of transporting saline water from the mine to Itivia. Also, should flights not be able to get into Rankin Inlet, passenger vans/buses would only transport local employees to the mine site, which would reduce the number of vans/buses by half.

Summer traffic is expected to be moderately higher than winter traffic as more contractual work can be expected over the summer. Fuel deliveries and passenger van/bus traffic are not expected to vary a great deal between winter and summer.

In the summer of 2019 Agnico Eagle will begin trucking treated saline water from the underground mine, to Itivia, where it will be discharged to sea. This process will result in increased traffic along the AWAR and Bypass road.



Table 6-1 Estimated Average Daily Traffic on the All-weather Access Road

Type of vehicle	Wint	ter	Summ	er
# of vehicles	Week Days	Weekends	Week Days	Weekends
Mine-Related Traffic				
Pick-up trucks	10-12	4-8	12-14	6-10
Cube vans	4	1	4	1
Passenger vans/buses	2	1	2	1
Fuel trucks <sup>(a)</sup>	2	2	2	2
Transport trucks(b)	1	1	6-14	6-14
Saline Trucks <sup>(c)</sup>	0	0	16-20	16-20
Public Road Use				
Pick-up trucks	4-6	2-4	6-8	12-16
ATVs/snowmobiles	4-8	4-10	10-16	10-20

<sup>(</sup>a) Transport of fuel is continuous, year round. A fuel truck carries on average 45,000 litres.

Projected public traffic on the access roads has greater uncertainty as it will be weather dependent. Agnico Eagle estimates that 25-50% of the anticipated trips will be incremental to current access, which is by ATVs and snowmobiles. During periods of mild weather, more traffic can be expected as those living in Rankin Inlet may travel up the AWAR for a day of fishing, hunting, berry picking, or other leisure activities. During poor weather conditions, public traffic on the road can be expected to drop significantly and it is likely that no public access will occur during such conditions.

During the Phase 1 operation of the AWAR, Agnico Eagle will collect information on traffic volume on the road on a daily basis. The survey information will record the number and types of mine vehicles, and the number and types of public vehicles using the AWAR over a 12-hour period, typically from 8:00 AM to 8:00 PM. The surveys will gauge the accuracy of the predictions contained within Table 6-1. The survey results will form part of Agnico Eagle's annual report.



<sup>(</sup>b) Transport of dry goods from Itivia largely takes place over a 4-month period, from August to November.

<sup>(</sup>c) Transport of treated saline water from mine to Itivia is estimated at 800 m3/day over approximately 3-month period (July 1 to October 1)

## SECTION 7 • INSPECTION AND MAINTENANCE OF ACCESS, SERVICE, AND HAUL ROADS

Agnico Eagle recognizes that inspection precedes maintenance, and believes that a thorough inspection program leads to the early identification of areas of the roads where improvements are necessary. The early resolution of any deficiencies results in less ongoing maintenance and repair of the driving surface and water crossings.

Agnico Eagle has the sole responsibility for the ongoing inspection and maintenance of all of the components of the access, service, and haul roads, including road beds, bridges, culverts, and borrow/quarry sites used in the construction and maintenance of the roads. Agnico Eagle applies the experience that it has gained from the ongoing operation of the Meadowbank All-Weather Road, which has now been in operation for eight years. This experience is applied in the planning of day-to-day operation, inspection, and maintenance of the Project roads. Agnico Eagle has a road supervisor who is responsible for the ongoing road inspection and maintenance of the access, service and haul roads. The operation and maintenance of all roads applies the same principles.

The road supervisor conducts periodic inspections (minimally on a weekly basis) of the roads to ensure that the roads are maintained for safe travel of personnel, equipment, and supplies. These inspections are recorded, including deficiencies which are followed up by a corrective plan. These periodic inspections include an inspection of the bridge abutments and a visual observation of the road surfaces to assess the status of road foundation.

During the summer period (June to August), the road surface is maintained with fresh gravel being spread as required and regular grading of the road. By September, the road starts to freeze; therefore, gravel is added for safety reasons. Snow clearing and road sanding along the road are done to operate vehicles on the roads safely. The manner in which the snow is cleared will also take into account the road configuration to avoid snow accumulation that could cause problems during the freshet or block snowmobile trails.

All roads are inspected for signs of accumulation of ponded water either on the road surface or along the sides of the road. Where noticed, the Agnico Eagle road supervisor evaluates and monitors the accumulation to determine why water is accumulating in these areas. Based on these evaluations, the road supervisor takes remedial action where and when necessary to correct the cause of such ponding, such as grading of the road surface to remove areas of ponding or installation of additional culverts if the road is causing excessive water ponding.

## 7.1 Sedimentation Control

#### 7.1.1 Construction

Various mitigations and best practices that were followed during the bypass road construction to control sedimentation and these are as follows:

AGNICO EAGLE

- No in-water works took place from May 1<sup>st</sup> to July 15<sup>th</sup>, to protect fish spawning and nursery periods of local fish populations; this would apply to all stream crossings;
- Sediment and erosion control measures were implemented prior to the start of work and maintained during the work phase to prevent entry of sediment into water or the movement of re-suspended sediment into the stream crossings;
- Sediment and erosion control measures were left in place until all disturbed areas were stabilized;
- All disturbed areas were physically stabilized as soon as possible following construction using rock and/or vegetation;
- Machinery used near stream crossings or working within the drainage of Nipissar Lake arrived on-site in a clean condition and be maintained free of fluid leaks to keep contaminants out of the drainage basin;
- The equipment was re-fueled, serviced, and washed away from the stream crossings to prevent deleterious substances from entering the water. Fuel, lubricants, hydraulic fluids, etc., were not stored within 31 m of the high water mark of any waterbody, and were kept in an area where spillage can be contained, and in a manner inaccessible to all wildlife; and
- An emergency spill kit was kept at the work site in case of fluid leaks or spills from machinery.

In addition to those listed above, the following mitigation measures will be used to minimize potential effects on water resources should road construction activities occur in non-winter months:

- Regular inspection of the road to identify areas of ponding, erosion, or sedimentation, will be conducted:
- Construction runoff will be captured and managed to minimize suspended solids in the watercourses, where applicable; and
- In-stream construction work will be avoided, or limited, to the minimum extent possible.

#### 7.1.2 Operation

During the operational phase, routine periodic inspections of the AWAR and bypass road continue to be conducted as discussed previously in this Section. These inspections will include looking to identify areas of ponding, erosion, or sedimentation. If identified, any such areas will be addressed using the same mitigation measures described in this section for the construction phase.

## 7.2 Watercourse Crossings Inspections and Maintenance

The watercourse crossing inspection and maintenance program has three main components:

• A regular inspection program to identify issues relating to watercourse crossings, such as structural integrity and hydraulic function;



- An inspection program to track the impacts of large storm events on watercourse crossings, such as structural integrity and hydraulic function; and
- A culvert location inspection program to ensure that culverts have been installed in the right
  locations with respect to the watercourse and that culvert capacity is adequate to ensure that
  the culvert(s) pass the water under all hydraulic conditions. In most cases there will be
  multiple culverts installed at different elevations at each stream crossing to ensure that these
  culverts can adequately pass normal summer flows as well as spring freshet and heavy rainfall
  flows.

## 7.2.1 Regular Crossing Inspection and Maintenance

Just prior to spring freshet, all culverts and stream crossings (including the bridge crossings at the Char River, lower Meliadine River and at the M5 Bridge (see Figure 1-1) will be inspected to confirm that they are in a state that will allow them to accommodate the rapid spring thaw that is seen in the north. During the freshet period, crossings inspections will be performed twice a week (mid-May through June) and weekly during the remainder of the ice-free period prior to fall freeze-up (July through October).

These inspection activities for each watercourse crossing will consist of:

- Visual inspection of its infrastructure to identify defects, cracks or any other risks to structural integrity. Particular attention will be paid to the inlet and outlet structures of culverts, and to bridge abutments and their foundations, as required;
- Visual inspection to identify sediment or other debris accumulation impeding the free flow of water through the crossings. Maintenance operations will consist of hand removal of accumulated debris and repairing damages as soon as possible; and
- Visual inspection of upstream and downstream channel to identify bed erosion or scour around the watercourse crossing structure. Particular attention will be paid to bridge abutments and abutment foundations as they will be vulnerable to scouring and erosion during flood events. Particular attention will also be paid to potential sources of sediment transport at the crossing.

Inspection results will be recorded by Agnico Eagle to help track changes in conditions over time. Maintenance operations will consist of undertaking remediation of any detected problems and repairing damage as soon as possible.

#### 7.2.2 Archaeological Sites and Ice Buildup

Agnico Eagle acknowledges that the GN Territorial Archaeologist has concerns that potential ice buildup at the site of the lower Meliadine River bridge crossing can cause water to back up and flood important archaeological sites upstream from the bridge in the Iqalugaarjuup Nunanga Territorial Park. Agnico Eagle has committed to work with the GN to inspect and mitigate where possible such



risks. To this effect, Agnico Eagle has committed to provide copies of its twice weekly inspections at the lower Meliadine River Bridge to the GN Territorial Archaeologist in the spring/early summer freshet period via email or fax. The intention is to allow both Agnico Eagle and the GN Territorial archaeologist to monitor for this potential risk, specifically for the purpose of taking appropriate action in a timely manner should ice buildup reach the point where these sites are at risk of flooding. The intent is for action to be taken prior to harm being done. The action plan would be developed and implemented by Agnico Eagle in consultation with the GN.

Agnico Eagle has agreed to work with the GN to develop other protective measures to protect important archaeological sites upstream of the Meliadine River Bridge within the Iqalugaarjuup Nunanga Territorial Park if it is shown that these sites continue to be damaged by flooding caused by ice and snow accumulation at the bridge.

#### 7.2.3 Event Crossing Inspection and Maintenance

Inspection frequency will increase just after heavy or prolonged rainfall storm events. Visual inspection of each watercourse crossing will be completed to identify potential risks to the crossing's structural integrity, debris accumulation, and whether erosion and scouring have occurred. Water accumulation along the road will also be monitored. Results will be recorded by Agnico Eagle to help track changes in condition over time. The remediation of any detected problem and any necessary damage repairs will be undertaken as soon as possible, under the direction of Agnico Eagle's road supervisor.

## 7.2.4 Culvert Location Inspection

Following their installation, the culvert crossings were visually inspected to confirm they have been properly executed and installed. These culverts were installed during winter conditions and thus it is possible that a culvert will not be sited correctly to pass all ponding of water through the road. The road supervisor or designate checks for such conditions during the first snow melt and after rain events so that adjustments can be made accordingly. Additional culverts will be installed, if necessary, should the inspection indicate that the culverts were installed in a location that does not optimally route water flows.

#### 7.3 Snow Removal and Snow Management – Winter Maintenance

Sections of the Meliadine roads are expected to experience snow drifts because of strong winds over the winter period<sup>7</sup>. As much as possible, this snow will be cleared to the downwind side of the road

<sup>&</sup>lt;sup>7</sup> This has been the experience along the AWAR where significant snow accumulation occurs at one location on municipal land known as Apache Pass.



to limit the wind re-depositing the same snow on the cleared road. Routine spring snow management will include the removal of any snow that accumulates at bridges and culverts so that water at freshet can move freely through the culverts and under bridges. In the case of culverts, snow will be removed from both ends but not from the inside.

Where snowmobile trails cross the road, snow clearing will be mindful of not placing snow on the trails thereby making crossing the roads easy.

The report, "Preliminary Snow Drift Assessment of the Meliadine All-Weather Road from Rankin Inlet to the mine site, Nunavut" (Golder Associates 2011c) provides an assessment where snow drifts can be expected. It states:

"Observations seem to indicate that snow drifts can be expected on the lee of short, steep slopes and along lake shores." and

"Maintenance will be required during operations to manage snow accumulation along the road alignment; however, most of the alignment appears to be located along the windward slopes and ridge crests where there should be a limited tendency for snow to build up."

The design of the AWAR between the mine site and Rankin Inlet factored in snow accumulation and this is one of the reasons the road is located along the height of land as much as possible and has a northerly alignment.

Dangerous ice formation on road surfaces, including the AWAR, is expected to occur periodically leading to their temporary closure until the roads can be graded and/or sanded. These procedures are employed at Meadowbank and were adopted for the Project. Road sanding and grading equipment is available at Meliadine to address icy road conditions.

## 7.4 Dust Suppression

The Dust Management Plan addresses in detail the actions that Agnico Eagle takes to suppress dust generated by road traffic during the non-winter months when dust becomes an issue. Particular attention is paid to the dryness of the bypass road surface, the number of vehicles, weight and speed, and maintenance road near Nipissar Lake where dust suppression is a priority.

In general, the amount of dust generated along a road is dependent on the driving surface. Regular grading of the roads combined with the addition of granular material to the driving surface is needed. This improves road safety and reduces the amount of dust generated. Dust is also mitigated by maintaining posted speed limits.

In areas or times identified by the Agnico Eagle road supervisor as being prone to high dust levels, where safe road visibility is impaired, or in areas where dust deposition could impact fish habitat and/or water quality, the road supervisor arranges mitigation measures as appropriate. This could



involve actions such as grading of the road surface, placement of new coarser topping, and/or watering of the road surface. Use of chemical dust suppressants, such as Calcium Chloride, is only used as a last resort and only in accordance with the Guideline for Dust Suppression on Unpaved Roads published by the Government of Nunavut Department of Environment (GN 2014).

Dust control measures along the AWAR, service and haul roads, and travel surfaces such as yards at the mine site have been identified by the community of Rankin Inlet as an important health concern important health concern<sup>8</sup>.

<sup>&</sup>lt;sup>8</sup> Following the technical review and community roundtable sessions held by the NIRB on the Draft EIS, NIRB directed Agnico Eagle to prepare a Dust Management Plan for inclusion with the Final EIS. This plan was prepared and was updated following receipt of Final Hearing Report.



#### **SECTION 8 • ROAD SAFETY**

Agnico Eagle security personnel along with Agnico Eagle's road supervisor monitor activity on all roads through radio contact with both staff at the gatehouse and drivers on the roads, and through periodic patrols of the roads. All Agnico Eagle and contractor vehicles that routinely travel on the roads are equipped with a radio set to the requisite road frequency (Section 6). This radio system is used to report any unusual conditions along the roads such as:

- Location of other Agnico Eagle vehicles;
- Presence of wildlife on the roadway;
- Presence of non-Agnico Eagle traffic such as ATVs, snowmobiles, or other vehicles;
- Non-Agnico Eagle vehicles broken down on the roads;
- Any unsafe practices noticed;
- · Any special road conditions; and
- Any special weather conditions; etc.

Agnico Eagle works to develop partnerships with the residents of Rankin Inlet, community organizations, and government departments in developing rules of the road, and educating the non-Project related users on road safety, on good driving practices, and on influencing people's behaviour on the roads. Emphasis is directed to the use of helmets, seat belts, observing the posted speed limits, improving one's visibility by wearing reflective clothing when on a snowmobile or ATV, not drinking and driving, dealing with driver inexperience, etc.

These are the same safety rules that apply to all users of the roads, including Agnico Eagle employees, Agnico Eagle contractor employees, and public users of the roads. The rules of the road include but not limited to the following:

- Maximum speed limits:
  - on AWAR: 50 km/h;
  - on the bypass road: 30 km/h;
- Use of seat belts by all drivers and passengers is mandatory;
- Driving under the influence of alcohol or intoxicating drugs is prohibited;
- Wildlife has right-of-way on the roads, and no harassment of wildlife is allowed;
- All hunting activity must avoid shooting across the road and should respect a safe shooting distance from the road (suggested at 1 km);
- Hunting is prohibited within 1 km of the AWAR and the Project;
- Vehicles are not to park on the travelling surface of the roads but pull off the road at a safe location such as passing turnouts to prevent accidents (passing turnouts are spaced approximately every 400 ± 50 m along AWAR length); and



 No public traffic is allowed within mining areas; these are industrial work sites and, thus, non-Project related vehicles are stopped at the gate when in operation. Signs are posted warning of an upcoming gate<sup>9</sup>.

Agnico Eagle holds public information sessions in Rankin Inlet for users of the roads prior to the roads opening and on a regular basis thereafter (minimum of twice per year). The rules of the road and safety considerations are presented at these sessions, and modified if necessary based on broad and frequent consultation.

Agnico Eagle also uses other communication tools to get the road access procedures and rules of the road and safety considerations out to the public in Rankin Inlet. These include community radio, community TV, Facebook/Internet, postings around town, signage near Rankin Inlet indicating whether the AWAR is open, through the Project office in Rankin Inlet and via the Agnico Eagle Project website. The communication is in English, Inuktitut, and French.

Agnico Eagle has placed an emergency spill response sea can at km 7 and km 18 along the AWAR. The station has the necessary spill response supplies to address any spills that occur along the road in an emergency situation.

## 8.1 Road Signage

Agnico Eagle has posted appropriate road signs along the roads in both English and Inuktitut. Typically, signs advise drivers of the posted speed limit, of approaching bridges, of approaching curves, and/or areas of lower visibility (blind hills or obstructed curves).

English and Inuktitut signs are posted at the southern and northern ends of the AWAR, and at an appropriate mid-point to advise any public travelling by snowmobile or ATV that they are entering an area that may be potentially hazardous due to the presence of heavy vehicle traffic. This recognizes that snowmobiles and ATVs can enter and leave the road from any point along the roads. Signs are also posted to advise the public that they are approaching the gate at the northern end of the AWAR where public access is not allowed. This is just before entering the mine site, where heavy industrial activity and large vehicles can be expected. Both ends of the bypass road have automatic manually operated gate with signs indicating it is not open to public access.

Signs are also located at the bypass road, where it enters the AWAR, indicating that the bypass road is a private and restricted road for Agnico Eagle employees and contractors only. A sign also occurs at the start of the bypass road located at Itivia indicating that the bypass road is a private road.

AGNICO EAGLE

<sup>&</sup>lt;sup>9</sup> A gate was installed on the AWAR near the mine site.

Speed limit signs are posted at intervals of approximately every 5 km along the roads. Reflective flags are installed along one side of the roads to help drivers identify the road shoulder during blizzard, white-out conditions or dense fog. Typically, these flags are black in colour to help them stand out in white-out conditions, and are nominally set at intervals of 100 to 200 m apart. Kilometer markers are posted at intervals of at least 1 km along the roads.

A list of road signage on roads is presented in Table 8-1.

Table 8-1 Road Signage

Element	Location
Safety precautions and users advice	at the southern and northern ends of the AWAR, and at an appropriate mid-point
Stop signs	where required at road junctions
Give way	at haul and service road junctions
Blind hill	200 m ahead of the beginning of a blind hill
Speed limit	nominally at 5 km intervals
Curve	200 m ahead of a curve
Bridge announcement	200 m ahead of a bridge
Bridge side sign	On each side of the bridge
Flexible delineators (flags)	nominally at 100 to 200 m intervals
Kilometres markers	nominally at 1 km intervals
Private Road	Bypass road at Itivia and where the bypass road intersects AWAR

## 8.2 Policing of Rules of the Road

For privately operated roads, responsibility for "policing" will not fall to the RCMP. Responsibility for all operating and maintenance activity on roads rests solely with Agnico Eagle. For the access roads, Agnico Eagle concentrates on raising public awareness and commitment to road safety, and improving communication, cooperation and collaboration among all stakeholders on the safe use of the roads. For all roads, all Agnico Eagle employees and its contractors who use the roads are required to take road safety training before being allowed to access the roads.

Agnico Eagle uses its road supervisor and site security to monitor what is occurring on the roads. They monitor activity on the roads through radio contact with the staff at the gatehouse, through periodic patrols of the roads, and in conversation with drivers on the roads at the time. Agnico Eagle monitors speed limit infractions by direct observation of drivers seen driving too fast and by recording the time taken to drive between the Project and the Hamlet. Agnico Eagle also relies on radio contact with all Agnico Eagle and Agnico Eagle contractor vehicles on the roads to monitor unsafe conditions or



activity. Agnico Eagle records unsafe practices, warns the person causing the infraction, and in severe or repeated cases of violation, removes all privileges for future access to the roads by an offending driver. In the case when Agnico Eagle is aware of unsafe or illegal activity on the road, the RCMP will be informed.

Regulatory inspectors can inspect the roads and any associated infrastructure at will. Agnico Eagle abides with the recommendations and directives provided by the inspectors.

However, the *Criminal Code* of Canada applies to private roads. For example, if an accident were to occur on a road and alcohol was involved, that person could be charged by the RCMP. Under their current mandate, while the RCMP is not responsible for policing of the AWAR as it is a privately operated road, the RCMP will have the right to access the AWAR at any time to investigate any accident or incident where they believe there is a need.

#### 8.3 Public Use of Private Roads in Other Jurisdictions

The AWAR is a private road constructed, operated, and maintained by Agnico Eagle. The AWAR covers traditional trails that were openly and continuously used by Inuit for many years. As well, most of the AWAR is on Inuit Owned Land. Agnico Eagle had to obtain land use permits from the KIA. After completion of the AWAR, these land use permits were taken to lease. Agnico Eagle is subject to the terms and conditions of the leases.

Before the construction of the bypass road was completed, Agnico Eagle met with all regulatory agencies and the public to finalize the rules of the road and this Plan.



## SECTION 9 • ACCIDENTS, SPILLS, MALFUNCTIONS, AND EMERGENCY RESPONSE

Emergency response is reactive whereas prevention lowers the frequency of incidents occurring requiring emergency response. Agnico Eagle's emphasis will be on the latter, while at the same time keeping resources nearby to respond to emergencies on the roads in a timely manner.

Three possible causes of road emergencies are the road, vehicle, and people. It is the interplay of these three elements that lead to either safe use of the roads or emergency response. Agnico Eagle is fully responsible for the design, construction, and maintenance of the roads for Project related use, and public use of the access roads. This includes regular inspection and maintenance of transportation infrastructure, including access roads, service roads, haul roads, road crossings, water crossings, signage and the two emergency spill response stations.

Agnico Eagle verifies its vehicles are in good working order prior to use. Agnico Eagle, however, has little influence on the condition of the non-Agnico Eagle owned vehicles that will use the AWAR. Vehicles could be poorly maintained and individuals could also make poor decisions such as using an ATV in winter when a snowmobile would be more appropriate. Nonetheless, Agnico Eagle will provide emergency assistance where the health or safety of people is at risk when travelling on the AWAR or on the land near Project facilities. Additionally, Agnico Eagle trains its employees and contractors on road safety and emergency response (first aid, firefighting, spill response, etc.). By educating and protecting its workers, they lead by example in road safety.

While Agnico Eagle feels it can successfully manage the condition of the AWAR and influence what vehicles use it, shaping an individual's responsible driving habits and attitudes to safety could prove more difficult. As a result, Agnico Eagle, in cooperation with Inuit organizations, authorizing agencies and others, will, to the best of its ability, implement all such measures necessary to protect public and mine traffic on all roads open to unrestricted public use. Responsibility and risk comes with driving on the AWAR and Agnico Eagle will:

- Impress on AWAR users that they should always remain aware of what is happening around them as they drive and make responsible decisions about hazards and problems;
- Highlight the environmental and human costs of irresponsible driving habits, and a driver's accountability for his/her decisions; and
- Repeatedly inform AWAR users of the rules of the road.

In 2018, Agnico Eagle educated the public on road safety, shaping good driving practices and influencing people's behaviour on the roads. Emphasis was directed to the use of helmets, seat belts, observing the posted speed limits, improving one's visibility by wearing reflective clothing when on a snowmobile or ATV, not drinking and driving, dealing with driver inexperience, etc. This also included encouraging all drivers to abide by the rules of the road to control speeds and advance considerate



driving. Vests and buggy whips will be available for borrow at the gatehouse (km 7) when accessing the AWAR.

An Agnico Eagle trained site-based emergency response and spill clean-up team<sup>10</sup> are available on site with appropriate equipment to respond to all spills and road accidents. The Emergency Response Team (ERT) are trained in emergency response (firefighting, first aid, mine rescue, spill response, vehicle accidents, etc.). In addition, emergency response equipment and spill kits are carried in all Agnico Eagle vehicles using the roads to improve response in the event of an incident or accident. This equipment includes emergency first aid equipment, and initial spill response equipment. Spill response is implemented by environmental staff who advise, document, and report on initial response and clean-up actions. The Spill Contingency Plan is activated in responding to a major spill. Minor spills are handled safely without the assistance of the ERT using initial spill response equipment carried in the vehicle. Major spills<sup>11</sup> require the ERT, who use spill response equipment and supplies maintained by Agnico Eagle at the mine site or from the two emergency spill response stations on the AWAR and/or at Itivia.

In urgent circumstances, where appropriate, Agnico Eagle may request assistance from other parties in Rankin Inlet. However, based on Agnico Eagle's experience with the Meadowbank access, service, and haul roads, Agnico Eagle does not believe that its Project roads will result in any increased demand on local public service providers (i.e., fire, police, ambulance, medical, and maintenance) in Rankin Inlet.

#### 9.1 Accidents and Malfunctions

Agnico Eagle understands that accidents can occur, but the prevention and mitigation measures along the roads, emergency response planning, training, and preparation will substantially reduce the risk, frequency, and severity of such incidents. Agnico Eagle emergency response personnel are tasked with responding to any vehicle accident resulting in personal injury or spillage of harmful material. Agnico Eagle will initiate response and transport to medical assistance at the mine's health centre or Rankin Inlet's medical center. Agnico Eagle staff will follow the procedures in place in Risk Management and Emergency Response Plan. The types of accidents and malfunctions that may occur are as follows:

<sup>&</sup>lt;sup>11</sup> A major spill is defined as an event that cannot be handled safely without the assistance of Emergency Response Team, including all events where a person is injured or contaminated.



<sup>&</sup>lt;sup>10</sup> For more details on emergency and spill response, please refer to the Risk Management and Emergency Response Plan and the Spill Contingency Plan, respectively.

- Vehicle collisions that may result in personal injury and spillage of potentially harmful materials such as fuel, lubricating fluids, saline water, and antifreeze;
- Contact between vehicles and wildlife that may result in harm to wildlife, personal injury and spillage of potentially harmful materials;
- Single vehicle accidents that may result in personal injury and spillage of potentially harmful materials;
- Risk of people getting stuck on the roads in bad weather such as in blizzard, white out or dense fog conditions, or due to mechanical breakdown;
- Risk of accident due to an intoxicated or impaired driver on the roads; and
- Spills of harmful materials onto the land or into water through a vehicle rollover or tipping over.

Agnico Eagle reports all reportable incidents to the appropriate Government authority (e.g., Mines Inspector, RCMP, NWB, NU Spill Line, Environment Canada, GN Department of Environment, Fisheries and Oceans Canada (DFO), KIA, and Hamlet of Rankin Inlet).

The following actions are to be taken in the event of an accident on the roads involving other vehicles (including ATVs), or in the event of an accident involving contact with wildlife such as caribou, muskox, bear, and wolf, the ERT will:

- Check the condition of people involved in the accident and provide immediate first aid if appropriate;
- Call the Meliadine road dispatch by radio and report the location and nature of the accident and indicate the type of assistance required (medical help, environmental cleanup, fire and/or mechanical help);
- Secure the accident site so that the vehicles do not continue to present a hazard to others. This may involve moving the vehicles to the nearest pull off in the event of a minor accident, or blocking off the road in both directions in the event of a more serious accident; and
- If safe to do so, secure the site to prevent continued spill or leakage of contaminants into the surrounding environment.

Upon receiving the accident call, the road dispatch will initiate the emergency response procedure passing along the information to the emergency response coordinator. The emergency response coordinator will then call out the required emergency response personnel to assist at the accident site.

Once the accident site is secured and all people requiring assistance have been removed to medical care, the emergency coordinator will turn the scene over to the mine's safety personnel so that an appropriate accident investigation can be initiated.

In the event of an incident involving contact with wildlife, the road dispatch will notify the site security personnel and the environmental representatives. Security and the site environmental team will then



initiate an appropriate accident investigation. The Environmental Department will ensure that appropriate reporting of such incidents is done in a timely manner to the KIA, the Rankin Inlet HTO, and the GN Conservation Officer in Rankin Inlet.

In the event of a serious accident, the RCMP will be contacted and advised of the incident. The RCMP will then decide on whether they will become involved or take the lead on any subsequent accident investigation.



#### **SECTION 10 • WILDLIFE MANAGEMENT**

Wildlife is occasionally expected to be observed on or near the AWAR, service, and haul roads. Caribou and other wildlife will have the right-of-way at all times. In case of problems (e.g., aggregations of caribou), the environmental personnel on-site will be in charge of managing the situation and, with the collaboration of the security department, will advise road users by patrolling the roads. The Project personnel will be notified by dispatch radio if any wildlife is observed on the roads.

The following protocol is implemented on the roads for the protection of wildlife:

- Vehicle traffic speeds on the access, service and haul roads will be limited to 50 km/h and 30 km/hr on the bypass road;
- Where small to moderate aggregations of caribou (i.e., 1 to 50 animals) are observed within 100 m of a road, travel speeds are reduced to 30 km/h;
- Where large aggregations of caribou (i.e., 50 or more) are observed within 100 m of a road, the protocol outlined in section 10.2 is followed;
- Caribou and all wildlife are given right-of-way on the road: vehicles must stop until the animal is off the road;
- Locations of large aggregations of animals are reported to the road supervisor who will inform
  all potentially affected employees and the environmental representative, and put the
  protocol in Section 10.2 into effect. Agnico Eagle's environmental coordinator will then inform
  the KIA, the Hamlet, HTO, and the GN Conservation Officer in Rankin Inlet;
- All incidents between vehicles and wildlife are reported to the Agnico Eagle road supervisor and the environmental representative whether they are:
  - Near-miss;
  - · Collision with injury to the wildlife; or
  - Accidental death.
- Each incident is investigated by the road supervisor and the Environment Department, and
  measures taken to avoid re-occurrence are put in place. Disciplinary measures will be taken
  against any employee if the investigation concludes that the accident is the result of
  negligence; and
- In the case of accidental death of an animal, the Environmental Coordinator will contact the GN Conservation Officer in Rankin Inlet. The carcass will be removed from the road and incinerated to avoid attracting scavengers such as Arctic foxes, wolves, grizzly bears, and/or wolverines.

## 10.1 Wildlife Monitoring Program

Agnico Eagle has implemented a monitoring program to record on a systematic basis the prevalence of wildlife seen along the roads. This program will be developed further with the input of the local

AGNICO EAGLE

HTO and the KIA as needs change. The program will focus on caribou, muskoxen, bears, wolves, migratory birds, and raptors. Agnico Eagle and the HTO have also been discussing a program that would see the HTO provide wildlife monitoring services.

The current program consists of year-round weekly ground surveys of wildlife observed along the roads. The survey is logged and includes type of wildlife observed, estimate of numbers, and nearest kilometre marking along the roads. The data is aggregated and presented in the annual report for the mine. Complete details on wildlife monitoring can be found in the Terrestrial Environment Management and Monitoring Plan (TEMPP) (Golder 2015).

During caribou migration daily AWAR surveys are completed. If more than 50 caribou are detected within 100 m of the AWAR the Road Utilisation Work Suspension Protocol as per the TEMMP (Golder 2015) is implemented.

## 10.2 Road Management Agreement

Agnico Eagle has consulted with the Government of Nunavut, the KIA, the Kivalliq Wildlife Board, local HTOs, and the public in developing appropriate monitoring and mitigation measures related to the ease in harvesting of caribou afforded by the AWAR. The result of these consultations are known as the Road Access Management Agreement that endorses the following measures:

- During periods when large aggregations of caribou (greater than 50 individuals) are detected
  within 1 km of the AWAR, the southern gate is closed to public cars and trucks. Public access
  using ATVs will still be allowed.
- In consultation with the Kivalliq Wildlife Board (KWB), as required under the Nunavut Wildlife Act, Agnico Eagle will seek the establishment of a no-shooting zone (1 km wide) on either side of the road. If the KWB, other agencies and the public are in agreement, AWAR use by hunters will be conditional on observing the 1 km no-shooting zone.
- Dedicated 'road monitors' patrol the road to ensure compliance relating to public safety and wildlife. Monitoring is increased during periods of road closure when large aggregations of caribou are present;
- All incidents of hunting involving shooting along or across the AWAR are reported by the Agnico Eagle to the GN.
- During periods when large aggregations of caribou are detected near the Project, harvest monitoring intensity is increased to properly document harvesting levels of caribou.

The roads supervisor, in consultation with the environment coordinator, or designate is responsible for ordering the southern gate shut and preventing the use of bridges by ATVs while large numbers of caribou remain on or near the AWAR. Similarly, the roads supervisor, in consultation with the environment coordinator, would open the southern gate and bridges to all traffic once the caribou have moved on.



#### **SECTION 11 • RECLAMATION**

Reclamation of the access, service, and haul roads will follow the completion of all mining. Progressive reclamation will, in some instances, lead to roads being reclaimed after they are no longer needed. As described in the Preliminary Closure and Reclamation Plan, the access roads should be one of the last mining components to be reclaimed.

In most circumstances, the AWAR will continue to be open to public access during any temporary closure of the mine. The status of the road during such periods would be assessed by Agnico Eagle on a case-by-case basis. For short duration temporary shutdowns (short-term temporary closure), the AWAR would remain open and be maintained in the same manner as proposed during the operational phase. While each case would be assessed separately, temporary shutdowns of less than 6 months duration would not change the way the access road is operated or maintained. For temporary shutdowns of greater than six months and less than 12 months in duration, and/or for indefinite shutdowns (period of time greater than one year: long-term temporary closure), Agnico Eagle would have to change the way it operates and maintains the road. In such an instance, Agnico Eagle would evaluate what level of activity was expected to continue at the site during the shutdown period and adjust its care and maintenance of the access road accordingly. For example, here are two possible scenarios:

#### Case 1: Long-term Temporary Closure of the Mine due to a low Gold Price

Under an indefinite shutdown of the mine due to a low gold price, in this case the duration of the event would be unknown and beyond the control of Agnico Eagle. Agnico Eagle would likely shutdown all mining and milling operations in a progressive manner and put the facilities into a care and maintenance mode with a minimal site presence to protect the integrity of the facilities at the site. In this event, Agnico Eagle would likely suspend winter snow clearing along the AWAR and would significantly reduce summer maintenance. Winter use of the AWAR by public would stop; summer access would still be open but likely limited to ATVs as the road would no longer be maintained to its normal standard.

## **Case 2: Short-term Temporary Closure of the Mine**

Short-term Temporary Closure is defined as the shutdown of the mine with a defined timeline, less than 1 year mill shutdown. The duration of the event would be known and would be within the control of Agnico Eagle. Agnico Eagle would reduce activity at the site while the mill is rebuilt and/or repaired. In this case, there would be a continued presence on site and thus regular road access would still be required. In this event, Agnico Eagle would likely maintain the road in the same manner as during normal operations with potential extended shut downs during the worst winter conditions. In this event, continued public access to the road would continue as normal except for periods when the road is closed due to severe winter conditions or some other eventuality.



There are a number of scenarios that could fall between those presented above and each would be considered on a case-by-case basis. In general, if during the short-term or long-term shutdown period there is ongoing activity planned at the site, the AWAR would for the most part remain open to public access. However, if during the shutdown period there is no ongoing activity planned at the site, the road would not be maintained, thereby limiting public access to snowmobiles or tracked vehicles during winter and to ATVs during summer months.

The question as to how public use of the AWAR will be monitored and how road use rules and procedures will continue to be enforced during any short-term or long-term temporary closure of the mine has been raised as a valid concern.

- For short-term temporary closures (up to 12 months in duration), the AWAR would continue
  to be monitored, maintained and operated (enforcement of rules and procedures) in the
  same manner as those laid out in Sections 6 through 10 of this Plan for normal operations;
  and
- For long-term temporary closures or for indefinite shutdowns (greater than 12 months in duration) where further site activity is being curtailed and the intention is that the mine will resume operations as soon as possible after the cause for the indefinite shutdown has been addressed, then AWAR monitoring, maintenance and enforcement activities would be significantly reduced. A decision on the estimated length of the indefinite shutdown would be made after the initial one year period. Decisions on possible extensions to the indefinite shutdown would be made every 6 months thereafter and would be based on the conditions at that time. At present, the maximum length of time or number of extensions for interim shutdown before moving to final closure has not been defined.

When further site activity is curtailed, a physical barrier would be established on the AWAR before the Meliadine River Bridge that prevents open public access by cars, trucks or other motorized vehicles larger than an ATV. This would likely be a rockfill barrier with appropriate signage. During winter months, the road would not be kept open thus curtailing travel other than by snowmobile or tracked snow vehicle. In summer months, Agnico Eagle would continue to carry out environmental monitoring both along the AWAR and at the mine site but at a reduced frequency in accordance with its license/permit requirements. During these inspections, Agnico Eagle personnel would continue to monitor for inappropriate use of the AWAR and for conditions along the AWAR that could result in risk to public safety or to the environment (e.g., wash outs, erosion, plugged culverts, etc.). This would include monitoring and addressing any unauthorized trails/access into the designated preservation zone of the Igalugaarjuup Nunanga Territorial Park as discussed in Section 6.3 of this Plan.

For the permanent closure scenario and as outlined in the Preliminary Closure and Reclamation Plan, the AWAR will remain available for use during closure as access to the mining areas is required until post-closure and reclamation activities have been completed. The road surface will at this point



be rehabilitated to promote natural re-vegetation, water crossings removed, and natural drainages re-established.

Agnico Eagle would like to emphasis that it has the responsibility of decommissioning and reclaiming all roads once construction, operations, closure, and post-closure activities are complete. For a third party to take over the road(s), that third party would have to complete its own arrangements with the landowners (the KIA and the Hamlet) and then complete its own environmental assessment and permitting process covering future use. Agnico Eagle does not own the land on which the roads are constructed and, thus, cannot transfer future ownership or use privileges to any third party. Agnico Eagle must complete its obligation to decommission and reclaim all roads unless directed otherwise by a combination of the landowners and other regulatory agencies who issued permits/authorizations for the roads.

Decommissioning of the roads will be accomplished by loosening compacted surfaces, flattening side slopes, and removing all culverts, bridges (not including the Char River bridge as this would become the property of the Hamlet of Rankin Inlet), and other potential obstructions to drainage paths. The objective will be to make the road surface impassable by vehicle traffic by ripping the entire road bed and removing all bridges and culverts along the route.

The loosening of compacted surfaces will be accomplished by ripping of the road bed using a dozer with a "ripper" attachment on the back. Successive passes with the dozer longitudinally along the road bed will eliminate the level road surface and make travel difficult (Figure 11-1). It is anticipated that, in this way, the abandoned roads will not be useable by wheeled vehicles (i.e., cars, trucks, and pick-up trucks). The road bed would still be useable by ATV or snowmobile and, thus, even after final reclamation, the reclaimed roadbed would offer similar passage to the existing set of trails that currently exist and are used by the residents of Rankin Inlet for traditional use purposes.



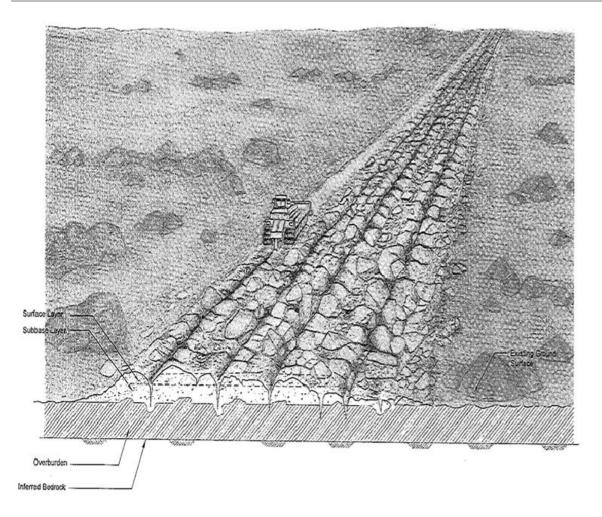


Figure 11-1 Schematic Showing the Ripping of the Road upon Closure

The road deactivation works will be carried out as necessary to stabilize any slopes where potential for slope erosion may exist. Stabilization measures may require pulling back of side-cast fills on locally steep slopes or buttressing and/or re-contouring of steepened out slopes using non-acid generating material.

These measures would also be applicable to borrow pits/quarries that remained open following construction and are located adjacent to the roadway. As much as practical, deactivated surfaces will be graded to blend with the existing topography.

To the extent practical, the reclamation would also restore the natural pre-road hydrology. Natural drainage courses would be restored primarily through the removal of all culverts and bridges (excluding the Char River bridge, which will belong to the Hamlet of Rankin Inlet), and through rehabilitation of channels and banks at the crossing sites. Cross-drain structures (cross-ditches) will also be installed where necessary between culvert sites. Where armouring rock (rip-rap) is required, this rock will be non ARD/ML for the protection of aquatic life. Where affected watercourses are fish

AGNICO EAGLE

bearing, the timing of work will have to be restricted to within the designated DFO fisheries work window (July 16<sup>th</sup> to April 30<sup>th</sup>). For these sites, appropriate fish exclusion measures will be undertaken prior to the in-stream works. All in-stream works will be carried out using best management practices for erosion and sediment control.

Decommissioning of the roads will start from the Project site and progress south towards Rankin Inlet and will include reclamation of the bypass road. Stream crossings will be rehabilitated as they are encountered during the progression of the work. The culverts and bridges, as previously mentioned, will be removed from the crossings using a backhoe and crane, and then removed materials (i.e., culvert steel, bridge decks, abutment steel, etc.) will be transported to Rankin Inlet using a semi-tractor and a low-boy trailer, for disposal and salvage.

#### 11.1 Reclamation of Quarries and Borrow Pits Sites

All quarry sites and borrow sources developed during the construction of the roads have been selected to generate only non-acid generating/low metal leaching materials (see Borrow Pits and Quarries Management Plan). Water quality monitoring and testing will be undertaken periodically during the construction and operational period of the roads to measure the quality of water draining from the open quarry/borrow sites and from the road base materials.

The quarries and borrow pits have gently sloping walls and are designed for positive drainage wherever possible. Reclamation and closure of quarries and borrow pits will depend on the individual site conditions. With a conservative initial design, the quarries should require little reclamation following completion of the roads. Loose rock will be pulled to the floor of the quarry and the entrance blocked with large boulders. Reclamation should lead to natural re-vegetation establishing on disturbed areas.

During reclamation of the roads, should acid-generating bedrock be exposed along the roadway or in borrow pit/quarries, these areas will be covered with a minimum 2m thick layer of non-acid generating soil or rock to direct water away from the surface.



#### REFERENCES

- Agnico Eagle (Agnico Eagle Mines Limited). 2011. Borrow Pit and Quarry Management Plan for the Phase 1 All-weather Access Road between Rankin Inlet and the Meliadine site; <a href="mailto:ftp://nunavutwaterboard.org/1%20PRUC/2%20MINING%20MILLING/2B/2BW%20-%20Watercourse/2BW-MEL1215%20AEM/3%20TECH/9%20MONITORING/111109%202BW-MEL----%20Borrow%20Pit%20and%20Quarry%20Mgmt%20Plan%20November%202011-ILAE.pdf</a>
- Agnico Eagle 2012. Monitoring Plan for the Phase 1 All-weather Access Road between Rankin Inlet and the Meliadine site;
  - ftp://nunavutwaterboard.org/1%20PRUC/2%20MINING%20MILLING/2B/2BW%20%20Watercourse/2BW-MEL1215%20AEM/3%20TECH/9%20MONITORING/120119%202BWMEL----%20Monitoring%20Plan-IMLE.pdf
- Golder Associates 2010. Geochemical Assessment of Potential Road Construction Material,
  Meliadine Golder Project, Nunavut. Submitted to Agnico-Eagle Mines Limited. December
  2010.
- Golder Associates 2011a. Phase 1 Meliadine All-weather Access Road Project Description and Environmental Assessment.
- Golder Associates 2011b. All-weather Access Road, Meliadine Gold Project, Feasibility Level Design.

  Prepared for Agnico-Eagle Mines Ltd. January 2011. Report number 09-1426-0015/4700-085,

  Rev.1.
- Golder Associates 2011c. Technical memorandum preliminary snow drift assessment of Meliadine all-weather road from Rankin Inlet to Meliadine Site, Nunavut. Prepared for Agnico-Eagle Mines Ltd. 30 August 2011. Report number 11-1428-0011/9999-152 Ver. 0 Rev.1.
- Golder Associates 2015. SD 6-4 Terrestrial Environment Management and Monitoring Plan \_ Meliadine Gold Project, Nunavut. Prepared for Agnico Eagle Mines Ltd. November 2015. Report Number DOC 300-131428007 Ver. 2.
- GN (Government of Nunavut) 2014. Guideline: Dust Suppression on Unpaved Roads. Published by the Government of Nunavut Department of Environment.



## APPENDIX A • AGNICO EAGLE CONSULTATION ON THE ALL-WEATHER ACCESS ROAD



A chronological record is provided of the consultation undertaken on the routing of the AWAR between Rankin Inlet and the mine site.

Date	Location	Parties involved and purpose of meeting
2004/10/21	Rankin inlet	Presentation on Project status to KIA Board of Directors with a request for a proposal of motion to support a future road from Rankin Inlet to the site.
2007/03/26	Chesterfield Inlet	Presentation to the KIA Board of Directors on the proposed underground Program and 2007 Meliadine West exploration plans. Verbal Motion of Support from the Board
2007/03/27	Rankin Inlet	Presentation of the proposed 2007 Meliadine West exploration program to the Rankin Inlet Community Lands and Resources Committee.
2007/03/28	Rankin Inlet	Presentation of the proposed 2007 Meliadine West exploration program to the Kivalliq Chamber of Commerce.
2007/03/28	Rankin Inlet	Town hall meeting - presentation of the proposed 2007 Meliadine West exploration program.
2007/07/04	Rankin Inlet	Briefing on Project status to Hamlet Council with specific discussions on road alignment and overwinter fuel storage in barge.
2007/07/04	Rankin Inlet	Elders Luncheon at Nunavut Arctic College. Project overview and immediate project plans for underground exploration was presented by Mark Balog with a slide show. Issues that were raised:
		<ul> <li>employment opportunities for young people;</li> <li>all-season road location and utility for other projects;</li> <li>Soapstone from Newfoundland.</li> </ul>
		Attendees: Hamlet Elders including Mr/Mrs Tatty, Mr/Mrs. Itinuar, Mr/Mrs Kabvitok, Mrs. Pissuk, others: Comaplex Minerals: Mark Balog, Ben Hubert. Arranged by John Hickes.
2009/05/06-08	Rankin Inlet	Multidisciplinary Advisory Group (MDAG), chaired by Bernie MacIssac, INAC: all regulatory groups in attendance. Presented the Project and All-weather Road to regulators. Met regulators who will work on Project, including Jackson Lindell and Stephen Hartman, KIA, and Keith Morrison and Jorgan Aitaok, NTI.
2009/06/17	Rankin Inlet	Meeting with Manager CED (Robert Connelly) and Nunavut Transport (Alan Johnson) regarding proposal to access federal infrastructure money

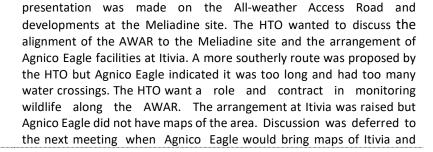


MARCH 2019 A-2

MELIADINE GOL	D PROJECT	ROADS MANAGEMENT PLAN
		for the Meliadine River bridge and Comaplex fund the road. Visit to the bridge site.
2009/06/18	Rankin Inlet	Discussion with Rankin Inlet Mayor John Hickes, the SAO, and several council members. Project update and proposed application for road and bridge funding.
2010/06/01	Chesterfield Inlet	Mark Balog and John Witteman, Comaplex sponsored a town hall meeting providing an update on the Project and the building of an All-weather Road. The road would link to the planned road to Chesterfield Inlet.
2010/06/02	Rankin Inlet	Mark Balog and John Witteman, Comaplex sponsored a town hall meeting providing an update on the Project and the building of an All-weather Road. The meeting was particularly well attended and there were no objections to the routing to the All-weather Road. There were no objections to the proposed road alignment.
2010/01/09	Meliadine site	John Witteman and Jacek Patalas (Golder Associates) met with Gary Cooper and Nicola Johnson of DFO to discuss fisheries habitat and compensation issues relating to the development of the Meliadine Gold Project. Discussions regarding compensation for road crossings were also discussed.
2011/01/06	Cambridge Bay	Eric Lamontange, Denis Gourde and John Witteman met with Ryan Barry, Kelli Gillard and one more staff member, NIRB, to describe the status of the Project and in particular the AWAR. Agnico Eagle described what had been done in regards to gathering baseline information for the road, regulatory permits required and use of the road (having it open access).
2011/02/07-09	Rankin Inlet	Larry Connell and John Witteman met with the Lands Division of KIA to discuss the road and other matters. A meeting with the HTO was cancelled due to a blizzard.
2011/03/01	Rankin Inlet	John Witteman, Bertho Caron and Selma Eccles of Agnico Eagle attended a meeting with the HTO, Rankin Inlet. The HTO raised a number of concerns with the route of the road, bridge location over the Meliadine River, wildlife monitoring along the road, plans for the Itivia port area, fish concerns with the bridge. Agnico Eagle talked to each of the concerns raised and were subsequently informed that the HTO Board was satisfied with the responses received
2011/03/23	Rankin Inlet	Denis Gourde, Eric Lamontagne, Larry Connell, Selma Eccles, John Witteman met with the Hamlet Council to describe the AWAR and ongoing activities at the Meliadine site. The Hamlet Council supports the All- weather Access Road and a letter of support can be expected. The

AGNICO EAGLE

MARCH 2019 A-3



Larry Connell and John Witteman met with the HTO. A PowerPoint



MARCH 2019 A-4

Rankin Inlet

2011/10/31

MELIADINE GOL	D PROJECT	ROADS MANAGEMENT PLAN
		surrounding area. Agreement was reached on a ski-doo trail along the east side of the laydown area.
2012/02/29	Rankin Inlet	A public meeting with the community. The meeting covered the status of the Meliadine Project with emphasis on the planned construction of the Phase 1 AWAR between Rankin Inlet and the Meliadine Project site. Options for a bypass road around the Hamlet were presented with support for keeping Agnico Eagle traffic outside the community. Other topics touched on the fate of the existing Char River Bridge, the formation of a Liaison Committee for Rankin Inlet, plans for the Itivia area and employment opportunities in the building of the road.
2012/04/18	Iqaluit	Presentation made to the NIRB and the NWB on the proposed Meliadine All-weather Access Road and update on the exploration project.
2012/08/16	Rankin Inlet	Site visit of the Phase 1 AWAR by two representatives of the Hunters and Trappers' Organization. Progress on the bridges and road was viewed.
2012/09/11	Rankin Inlet	Site visit of the Phase 1 AWAR by KIA and CLARC representatives. Progress on the bridges and road was viewed.
2013/06/21	Rankin Inlet	Meeting was held with the hamlet and Government Services (GN) concerning the removal of the Char River Bridge, the Apache Pass, and the airport by-pass road.
2013/06/27	Rankin Inlet	Presentation on Agnico Eagle exploration activities, Phase 1 AWAR and road access made to town council, community, Land and Resources, Hunters and Trappers' Organization, Kivalliq Inuit Association, NTI.
2013/07/10	Rankin Inlet	Discussions were held with the Airport Manager and Government Services (GN) concerning the airport by-pass road.
2013/08/08	Rankin Inlet	Meeting with town council, community, Land and Resources, Hunters and Trappers' Organization, Kivalliq Inuit Association, NTI on the Phase 1 AWAR and Road Access Policy – minutes are available.
2013/11/06	Rankin Inlet	Meeting with HTO Board explaining the status of the Project, Phase 1 Allweather Access Road, caribou migration, sewage treatment – minutes available.
2014/05/29	Rankin Inlet	Rankin Inlet Public consultation on the road access by ATV.
2016/05/05	Rankin Inlet	Meeting with the KHTO to discuss the proposed joint Wildlife Monitoring Program to be conducted along the AWAR.



MARCH 2019 A-5

MELIADINE GOL	D PROJECT	ROADS MANAGEMENT PLAN
2016/06/09	Rankin Inlet	Meeting with Nunavut Airports, Government Services (GN) and the Hamlet to present the updated road route for the bypass road. The permitting process was also discussed.
2016/07/07	Rankin Inlet	Meeting with the KHTO to discuss the proposed joint Wildlife Monitoring Program to be conducted along the AWAR.
2016/08/25	Rankin Inlet	Meeting with Nunavut Airports, Government Services (GN) and the Hamlet to provide an update on the bypass road design process and hear concerns. The permitting process was also discussed.
2016/09/20	Rankin Inlet	Meeting with KHTO to discuss signage erected on AWAR.
2016/11/28	Rankin Inlet	Pre-Hamlet Council meeting with Nunavut Airports, Government Services (GN) and the Hamlet to discuss the bypass road project. Pre-Council concerns were also shared by all parties.
2016/11/28	Rankin Inlet	Hamlet Council Meeting. Bypass road project presented to request support for the project by the Hamlet.
2016/12/13	Rankin Inlet	Hamlet Council Meeting. Bypass road project receives support from the Hamlet.
2017/02/27	Rankin Inlet	Hamlet Council Meeting. Bypass road project application for lease presented for approval by Council. Outstanding concerns discussed. Vote postponed.
2017/03/13	Rankin Inlet	Hamlet Council Meeting. Bypass road project application for lease discussed. Agnico Eagle is requested to provide design for road extension.
2017/07/17	Rankin Inlet	Meeting with SAO on dust control measures.
2017/07/18	Rankin Inlet	Public meeting on Itivia, including bypass road.
2017/07/27	Rankin Inlet	Information and consultation on Itivia Boat Launch and Johnson's Cove Boat Launch, dust control, road maintenance, bypass road, snowmobile

access for ski-doos and hunters.

Government.

trail, shooting range relocation, caribou migration and gravel pits.

Visit of bypass road area with HTO and Elder representative. Discussed

Meeting regarding Cyanide attended by: Rankin Inlet Emergency Services,

HTO, Health Centre, RCMP and Gun Club, Nunavut Parks, Airports and

Management Code, Cyanide transportation to Meliadine, Health and

Topics covered included: International Cyanide



MARCH 2019 A-6

Rankin Inlet

Rankin Inlet

2017/11/24

2018/06/05

MELIADINE GOLD PROJECT		ROADS MANAGEMENT PLAN	
		Safety regarding Cyanide storage and community sharing of the draf Emergency Response Plan. Main outcomes: Department of defence wil restrict access to their site during transportation, Agnico Eagle will provide shipping window and mock drill dates and Agnico Eagle will reach out to other Stakeholders.	
2018/06/13	Rankin Inlet	Public meeting on Meliadine and Itivia project update, AWAR health and safety procedures and Caribou Management on the AWAR.	
2019/07/31	Rankin Inlet	Rankin Inlet Emergency Services, HTO and Government meeting regarding cyanide. Topics covered included: International Cyanide Management Code, Cyanide transportation to Meliadine, Health and Safety regarding Cyanide storage and community sharing of the draft Emergency Response Plan.	
2019/08/18	Rankin Inlet	Rankin Inlet Public meeting regarding cyanide. Topics covered included: International Cyanide Management Code, Cyanide transportation to Meliadine, Health and Safety regarding Cyanide storage and community sharing of the draft Emergency Response Plan.	



MARCH 2019 A-7

# APPENDIX B • APPLICABLE ACTS, REGULATIONS, AND GUIDELINES FOR THE ACCESS, SERVICE AND HAUL ROADS



## Applicable Acts, Regulations, and Guidelines for the Access, Service and Haul Roads

Act	Regulation	Guideline
Federal		
Canadian Environmental Protection Act (1999 c.33)	Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations (SOR/2008-197) Environmental Emergency Regulations (SOR/2003-307) Interprovincial Movement of Hazardous Waste and Hazardous Recyclable Material Regulations (SOR/2002-301) Release and Environmental Emergency Notification Regulations (SOR/2011-90)	CCME - Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products  Notice with respect to substances in the National Pollutant Release Inventory (threshold for hydrochloric acid 6.8 tonnes)  Canada-Wide Standards for Particulate Matter (PM) and Ozone  Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil
Canada Wildlife Act (1985 w9)		
Species at Risk Act (2002 c.29)		Species at Risk Policies
Migratory Birds Convention Act (1994 c.22)	Migratory Birds Regulations (C.R.C., c. 1035)	
Canada Water Act (1985 c.11)		
Oceans Act (S.C. 1996, c. 31)		
Arctic Waters Pollution Prevention Act (R.S.C., 1985, c. A-12)	Arctic Waters Pollution Prevention Regulations (C.R.C., c. 354) Arctic Shipping Pollution Prevention Regulations (C.R.C., c. 353)	
Canadian Transportation Accident Investigation and Safety Board Act (S.C. 1989, c. 3)	Transportation Safety Board Regulations (SOR/92-446)	
Canada Shipping Act, 2001 (S.C. 2001, c. 26)	Response Organizations and Oil Handling Facilities Regulations (SOR/95-405) Pollutant Discharge Reporting Regulations, 1995 (SOR/95-351) Environmental Response Arrangements Regulations (SOR/2008-275) Ballast Water Control and Management Regulations (SOR/2006- 129) Vessel Pollution and Dangerous Chemicals Regulations (SOR/2012-69)	Oil Handling Facilities Standards – TP12402 Environmental Prevention and Response National Preparedness Plan 2008 – TP13585 Guidelines for Reporting Incidents Involving Dangerous Goods, Harmful Substances and/or Marine Pollutants – TP9834E 2009 Arctic Waters Oil Transfer Guidelines, 1997 - TP10783E Response Organizations Standards – TP 12401E 1995 Guidelines for the Control of Ballast Water Discharge from Ships in Waters under



Act	Regulation	Guideline
Navigation Protection Act		
Marine Liability Act (A.C. 2001, c.6)	Marine Liability Regulations (SOR/2002-307)	
Fisheries Act (1985, c. F-14)	Metal Mining Effluent Regulations (SOR/2002-2222)	The Policy for the Management of Fish Habitat
	Marine Mammal Regulations (SOR/93-56)	Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters
		Freshwater Intake End-of-Pipe Fish Screen Guideline
		Standard Operating Procedure – Clear Span Bridges
Safe Containers Convention Act (R.C.C. 1985, c. S-1)		
Transport of Dangerous Goods Act (1992, c. 34)	Transportation of Dangerous Goods Regulations (SOR/2001-286)	
Explosives Act (1985 c.E-17)	Explosives Regulations (C.R.C., c. 599)	
	Ammonium Nitrate and Fuel Oil Order (C.R.C., c. 598)	
National Fire Code of Canada (2010)		
Nuclear Safety and Control Act (s.c. 1997, c.9)	General Nuclear Safety and Control Regulations (SOR/2000-202)	
Canadian Human Rights Act (R.S.C., 1985, c. H-6)	Canadian Charter of Rights and Freedom	
Canada Labour Code (R.S.C., 1985, c. L-2)	Canada Labour Standards Regulations (C.R.C., c. 986)	
	Canada Occupational Health and Safety Regulations (SOR/86 304)	
Territorial Lands Act (R.S. 1985,	Northwest Territories and Nunavut	
c. T-7)	Mining Regulations (C.R.C., c. 1516)	
	Territorial Land Use Regulations (C.R.C. 1524)	
	Territorial Quarrying Regulations (C.R.C. c. 1527)	
Nunavut Waters and Nunavut Surface Rights Tribunal Act (2002, c.10)	Northwest Territories Waters Regulations (SOR/93/303)	
Nunavut Act (1993 c.28)	Nunavut Archaeological and Paleontological Sites Regulations (SOR/2001-220)	

B-3



Act	Regulation	Guideline
Nunavut Land Claims Agreement Act (1993, c.29)		
Territorial - Nunavut		
Environmental Protection Act (RSNWT (nu) 1988, c E-7)	Spill Contingency Planning and Reporting Regulations (NWT Reg (Nu) 068-93) Used Oil and Waste Fuel Management Regulations (NWT Reg 064-2003) [The removal of hazardous materials will require the registration with the Government of Nunavut, Department of Environment as a waste generator as well as carrier (if applicable) prior to transport.]	Guideline on Dust Suppression Guideline for the General Management of Hazardous Waste in Nunavut Guidelines on Mercury-Containing Products and Waste Mercury Environmental Guideline for Waste Asbestos Guideline for Industrial Waste Discharges in Nunavut Guideline for Air Quality – Sulphur Dioxide and Suspended Particulates Guideline for the Management of Waste Antifreeze Guideline for the Management of Waste Batteries Guideline for the Management of Waste Paint Guideline for the Management of Waste Solvents Guideline for Industrial Projects on Commissioner's land Environmental Guideline for Ozone Depleting Substances
Scientists Act (RSNWT (Nu) 1988, c S-4)	Scientists Act Administration Regulations (NWT Reg (Nu) 174-96)	
Historical Resources Act (RSNWT (Nu) 1988, c. H-3)		
Territorial Parks Act (RSNWT (Nu) 1988, c T-4)	Territorial Parks Regulations (RRNWT (Nu) 1990 c T-13)	
Wildlife Act (RSNWT (Nu) 1988, c W-4)	Wildlife General Regulations (NWT Reg (Nu) 026-92)	
	Wildlife Licences And Permits Regulations (NWT Reg (Nu) 027-92)	
	Wildlife Management Barren-Ground Caribou Areas Regulations (NWT Reg (Nu) 099-98)	
	Wildlife Management Grizzly Bear Areas Regulations (NWT Reg (Nu) 155- 96)	



Act	Regulation	Guideline
	Wildlife Management Zones Regulations (RRNWT (Nu) 1990 c W-17)	
	Wildlife Regions Regulations (NWT Reg (Nu) 108-98)	
Commissioner's Land Act (RSNWT 1988, c C-11)	Commissioner's Airport Lands Regulations (NWT Reg (Nu) 067-97)	
	Commissioner's Land Regulations (RRNWT 1990, c C-13)	
Safety Act (RSNWT 1988, c.S-1)	General Safety Regulations (RRNWT (Nu) 1990 c S-1)	
	Work Site Hazardous Materials Information System Regulations (RSNWT 1988, C 81 (Supp))	
Mine Health And Safety Act (SNWT (Nu) 1994, c 25)	Mine Health And Safety Regulations (NWT Reg (Nu) 125-95)	
Workers' Compensation Act (RSNWT, 1988, c. W-6)	Workers' Compensation General Regulations (Nu Reg 017-2010)	
Apprenticeship, Trade And Occupations Certification Act (RSNWT (Nu) 1988, c A-4)	Apprenticeship, Trade And Occupations Certification Regulations (RRNWT (Nu) 1990 c A-8)	
Labour Standards Act (RSNWT (Nu) 1988, c L-1)	Annual Vacations Regulations (RRNWT 1990, c.L-1)	
	Educational Work Experience Regulations (RRNWT 1990, c.L-2)	
	Employment of Young Persons Regulations (RRNWT 1990, c.L-3)	
	Labour Standards Meal Regulations (RRNWT 1990, c.L-4)	
	Notice of Termination Exemption Regulations (RRNWT 1990 c.L-5)	
	Pregnancy and Parental Leave Regulations (RRNWT 1990, c.8(Supp.))	
	Reciprocating Jurisdiction Order (RRNWT 1990, c.L-6)	
	Wages Regulations (RRNWT 1990, c.L-7)	
Electrical Protection Act (RSNWT (Nu) 1988, c E-3)	Electrical Protection Regulations (RRNWT 1990 c. E-21)	
Explosives Use Act (RSNWT (Nu) 1988, c E-10)	Explosives Regulations (RRNWT (Nu) 1990 c E-27)	
Petroleum Products Tax Act (RSNWT (Nu) 1988, c P-5)	Petroleum Products Tax Regulations (RRNWT (Nu) 1990 c P-3)	



## **ROADS MANAGEMENT PLAN**

Act	Regulation	Guideline
Fire Prevention Act (RSNWT (Nu) 1988, c F-6)	Fire Prevention Regulations (RRNWT (Nu) 1990 c F-12)	
Hospital Insurance And Health And Social Services Administration Act (RSNWT 1988, c T-3)	Territorial Hospital Insurance Services Regulations (RRNWT (Nu) 1990 c T-12)	
Public Health Act (RSNWT (Nu) 1988, c P-12)	Camp Sanitation Regulations (RRNWT (Nu) 1990 c P-12)	
	General Sanitation Regulations (RRNWT (Nu) 1990 c P-16)	
All-Terrain Vehicles Act (RSNWT (Nu) 1988, c A-3)	All-Terrain Vehicles Regulations (RRNWT (Nu) 1990 c A-1)	
Motor Vehicles Act (RSNWT (Nu) 1988, c M-16)	Large Vehicle Control Regulations (RRNWT (Nu) 1990 c M-30)	
	Motor Vehicle Registration And Licence Plate Regulations (RWT Reg (Nu) 054- 94)	
Public Highways Act (RSNWT (Nu) 1988, c P-13)	Highway Designation And Classification Regulations (NWT Reg (Nu) 047-92)	
Transportation of Dangerous Goods Act (1990. RSNWT (Nu) 1988, c 81 (Supp))	Transportation Of Dangerous Goods Regulations (1991, NWT Reg (Nu) 095- 91)	