

## **Appendix 5**

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### **Road Management Plan**

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**AGNICO EAGLE**

**AMARUQ EXPLORATION ACCESS ROAD**

# Road Management Plan

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**MARCH 2017**

**VERSION 2**

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**DOCUMENT CONTROL**

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Version	Date	Section	Page	Revision
1	March 13, 2015		All	Amaruq Exploration Access Road Management Plan
2	March 31, 2017		All	Update to reflect current monitoring and status of the road. Add details on blast, ARD, water quality monitoring, inspection.

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## EXECUTIVE SUMMARY

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The Road Management Plan (RMP) applies to the Amaruq Road and covers its construction, operation and closure phases. The RMP Version 1 was prepared as a companion document to the water licence application to the Nunavut Water Board by Agnico Eagle. Version 2 of the RMP will serve as a reference document for the monitoring and inspection of the Amaruq Road. Other plans prepared for the Amaruq road include an Emergency Response and Spill Contingency Plan and a Conceptual Closure and Reclamation Plan.

The Amaruq access road will not be publicly accessible rather only used by Agnico Eagle exploration division and employees of its contractors. Agnico Eagle will educate all its employees and those of its contractors on road safety before they first drive the road. Daily traffic on the Amaruq road will transport equipment, supplies, fuel and personnel.

The RMP presents mitigation measures and protocols to be implemented during construction and operations to protect wildlife, prevent permafrost degradation, control surface runoff and sedimentation. Agnico Eagle will put in place operational procedures for daily operation and maintenance of the road including, if deemed necessary, dust suppression, snow removal and de-icing. Unmanned gates will be installed at both ends of the road. There will be occasions when access to the Amaruq road needs to be curtailed for short time periods for special reasons, such as bad weather, unsafe road conditions, maintenance activity on the road, heavy project related truck traffic, movement of oversized loads, and/or presence of large numbers of caribou on or adjacent to the road. The road could also be temporarily closed in the event of an incident, accident or other event requiring mitigation or response. Typically, these short-term closures will be required to ensure safety.

Protocols for accidents and anticipated use of police services are presented. Agnico Eagle has an establish, Emergency Response Team based at the Meadowbank Project with trained first responders based at the Amaruq Exploration site whose combined responsibilities in part will include responding to emergencies on the road in a timely manner. Agnico Eagle will also report all reportable scale incidents to the appropriate Government authority.

The Amaruq road will be decommissioned and reclaimed by Agnico Eagle if exploration on the Amaruq property fails to find sufficient ore resources to support mining, or Agnico Eagle fails to obtain the necessary authorizations to proceed. Closure and reclamation of the road would be initiated within a year following the completion of closure and reclamation of the Amaruq camp and exploration sites.



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## ACRONYMS

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AANDC	Aboriginal Affairs and Northern Development Canada
Agnico Eagle	Agnico Eagle Mines Limited
ARD/ML	Acid Rock Drainage/Metal Leaching
ATV	All-Terrain Vehicle
CLARC	Community Lands and Resources Committee
DFO	Department of Fisheries and Oceans Canada
GN	Government of Nunavut
HTO	Hunters and Trappers' Organization
INAC	Indian and Northern Affairs Canada
IOL	Inuit Owned Lands
KIA	Kivalliq Inuit Association
NIRB	Nunavut Impact Review Board
NLCA	Nunavut Land Claims Agreement
NTI	Nunavut Tunngavik Incorporated
NPC	Nunavut Planning Commission
NU	Nunavut
NWB	Nunavut Water Board
RCMP	Royal Canadian Mounted Police
RMP	Road Management Plan

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## 1 INTRODUCTION

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### 1.1 Project Description

The Amaruq Exploration property is a 408-square kilometre exploration property located on Inuit Owned Land approximately 150 kilometres north of Baker Lake and approximately 50 kilometres northwest of the Meadowbank mine. Agnico Eagle purchased exploration rights to the Amaruq property from Nunavut Tunngavik Incorporated in April 2013.

The Amaruq Exploration Access Road was screened by NIRB on November 4<sup>th</sup>, 2015 and a Type 8BC-AEA1525 License was issued by the NWB on November 9<sup>th</sup>, 2016. The road is an important link to fuel and supplies for the advancement of the Amaruq Exploration project. Ultimately the rapid construction of the road will allow Agnico Eagle to conduct year round exploration drilling at the Amaruq exploration project, to continue to aggressively drill the inferred deposit, to begin building an exploration ramp in 2018, and to continue to assess the feasibility of the future mine site.

The Amaruq Road is approved to be a 6.5 metre (m) wide exploration sized road that is 64.134 km in length, and will connect the Meadowbank mine site, north of Vault Pit operations, to the Amaruq Exploration site. The road, once complete, will have 11 bridges, 28 corrugated round culverts to pass watercourse crossings and many other localized drainage culverts to prevent erosion, reduce thaw susceptibility and washout of the road during freshet. The bridges and round culverts will allow normal river and stream flow, and fish migration at road water crossings.

The Amaruq Road will have 12 borrow/hard quarry areas and with short spur roads along the road. Agnico will also use the Vault Pit as a Quarry and be a private road constructed on Crown Land and Inuit Owned Land by Agnico Eagle. To accommodate two way traffic on the road, pullouts will be spaced approximately every 400m on one side of the road.

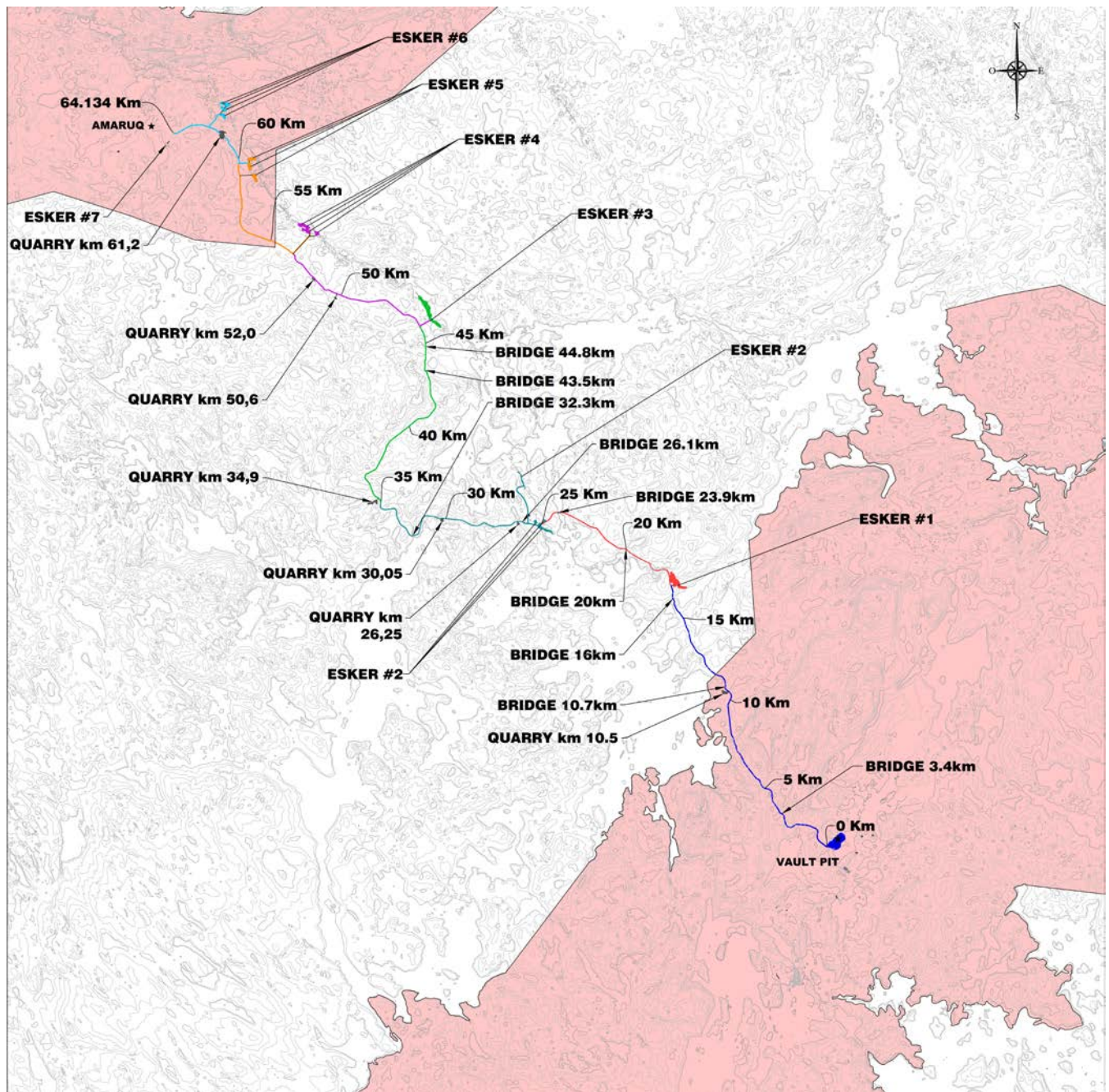
Safety will be emphasized in the use of the road, all road users, Agnico Eagle employees and contractors will undergo a road use orientation before being allowed to use it.

The routing of the Amaruq road is shown on Figure 1 below; it was selected to minimize possible effects of construction and operations on the environment. Considerations included the overall length of the road, a desire to minimize the number of water crossings, the availability of borrow material along the route, acid rock drainage/metal leaching (ARD/ML) potential of borrow and waste rock materials, and avoidance of archaeological resources.

Unmanned gate will be installed at both ends of the road. It will be closed during periods of bad weather, in the event of a serious road accident, during periods of major road maintenance and, if supported by consultation, when more than 50 caribou are near the road. The Amaruq Road will not have public access.

The road will be constructed, inspected, and maintained by Agnico Eagle. Consequently, Agnico Eagle has sole responsibility for the construction, operation, and decommissioning of this road, including the road bed, bridges, culverts, open bottom arch culverts and borrow pits used in the construction of the road.

Figure 1 Amaruq road Design.



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## 2 REGULATORY SETTING

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### 2.1 Land Tenure

The Amaruq road will largely be located on Crown Land administered by Aboriginal Affairs and Northern Development Canada (AANDC) with approximately 38 percent of the road located on Inuit Owned Lands (IOL) administered by the Kivalliq Inuit Association (KIA). Approximately 14 kilometres of the road from its southeast end is located on Inuit Owned Land as is approximately 10 kilometres at its northwest end. In-between is Crown Land. The surface ownership of IOL encompassing the road right-of-way was transferred to the KIA when the Nunavut Land Claims Agreement (NLCA) came into effect. Land and environmental management in this area are generally governed by the provisions of the NLCA.

The proposed Amaruq road is constructed under land use permits issued by AANDC for crown land, and the KIA for IOL. Leases will follow the completion of construction and a legal survey of the road right-of-way. The width of the land leases is 30 m for the length of the road, wide enough to accommodate the 6.5 metre road width plus associated pull offs that will be found approximately every 400 metres.

### 2.2 Permitting Regime

The list of permits and authorizations for the road is presented in Table1.

Table 1. Approvals and Authorizations for the Amaruq Road

Authorization	Authority	File #	Basis
Conformity determination with Keewatin Regional Land Use Plan	Nunavut Planning Commission	<u>AEM Amaruq Access Rd / Quarry KVRW1501-KVCA15Q02 / N2015F0026 / 8BC AEA May 15 CD (July 17, 2015)</u>	Allows Project to proceed to screening
Article 12, Environmental Screening/ Assessment	Nunavut Impact Review Board	11EN010	Allows Project to proceed to authorizations to build and operate the road
Type B Water License	Nunavut Water Board	8BC- AEA1525	Allows for use of water and disposal of waste in constructing, operating and closing the road
Right-of-way Lease	Kivalliq Inuit Association	KVRW15F01	Allows lease right-of-way for completed and surveyed road across IOL
Quarry Permit	Kivalliq Inuit Association	KVCA15Q02	Borrow pits proximal to the right-of-way for obtaining material to build the road.
Land Use Permit	Aboriginal Affairs and Northern Development Canada	N2015F0026	Allows construction of the road across crown land
Right-of-way Lease	Aboriginal Affairs and Northern Development Canada	66H/08-02-1	Allows lease right-of-way for completed and surveyed road across Crown Land.
Quarry Permit	Aboriginal Affairs and Northern Development Canada	66H/08-01-1	Various borrow/quarry pit sites proximal to the right-of-way for obtaining material to build the road.
Fisheries Authorization	Department of Fisheries and Oceans	Letter of Advice issued to Agnico by DFO on March 14, 2016	A Project Authorization will not be required as there is no harm to fish or fish habitat. Agnico Eagle intends to follow DFO operational statements for the installation of clear span bridges and culverts.
Navigable Determinations	Waters Transport Canada	Not navigable and therefore Not Applicable	The determination by Agnico Eagle if streams and rivers crossed by the Road are navigable. The report on navigability will be sent to Transport Canada.

### 3 RELATED DOCUMENTS

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Environmental management documents that provided input to the Road Management Plan (RMP) include the following:

- Emergency Response and Spill Contingency Plan; and
- Conceptual Closure and Reclamation Plan.

The Road Management Plan will be in effect for the construction, operation, and closure phases of the road. It will also be in effect during any periods of temporary closure of the Amaruq Access Road and the Exploration Site.



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#### 4 MEASURES TO PREVENT PERMAFROST DEGRADATION

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The Amaruq road has been designed with a minimum fill thickness to maintain permafrost conditions within the subgrade soils. To the greatest extent possible, the road is constructed in the winter when the subgrade soils are frozen in order to prevent insulation of thawed subgrade soils. The rough base will be advanced at the full road width. The majority of the watercourse crossing culverts and bridge construction would also be installed in the winter and in accordance with the letter of advice from DFO. Once the rough base and stream culverts are installed, the remainder of the construction will be 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:

- The road alignment avoids, where possible, fine-grained, poorly drained, ice-rich, frost susceptible soil conditions due to susceptibility to thaw related settlement;
- Regions of high ground relief (higher elevations) were 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 is placed directly over the existing soil layer without cutting, stripping, or grubbing to avoid disturbing the subgrade soils;
- Only thick drifted snow will be removed before the road fills are placed;
- Road fill used will be dependent on the underlying ground conditions; these are:
  - soils very susceptible to freeze and thaw induced settlement where thawing of the near-surface sub-grade is expected to result in significant strength loss and excessive settlements. The road fill thickness in this situation will be a minimum of 1.5 metres plus sub-base<sup>1</sup>, and will employ the use of geogrid, woven geotextile and expanded polystyrene to protect the soil;
  - soils relatively susceptible to freeze and thaw induced settlement where thawing of the near-surface sub-grade is expected to result in significant strength loss and excessive settlements. Where appropriate, the road fill thickness in this situation will be a minimum of 1.5 metres plus sub-base and may also employ the use of geogrids and woven geotextiles over the soil; and
  - soils relatively unsuceptable to freeze and thaw settlement where thawing of the near-surface sub-grade is expected to result in minimal strength loss and tolerable

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<sup>1</sup> The thickness of the sub-base will be variable and will in part be dependent on the topography of the ground surface where the road is to be constructed.



settlements. In this situation the thickness of the roadbed will be a minimum of 0.9 metres plus subbase.

- To prevent insulation of thawed subgrade soils, to the greatest extent possible the road will be constructed in the winter when the subgrade soils are frozen.

The Amaruq road and its shoulders will be inspected weekly (at a minimum) during the summer period 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 will be repaired using granular material obtained from a borrow/quarry pit. Agnico Eagle will maintain stockpiles of such material in select borrow/quarry pits that will remain open following completion of the road.

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## 5 BORROW PIT MANAGEMENT

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### 5.1 Quarry and Borrow Pit Extraction Methods (including blasting)

Quarries consist of rock material that is typically extracted by digging, cutting, or blasting and yields large stones that may then need to be crushed (INAC 2009). Borrow pits consist of fine grained fill materials, such as sand or clay that are normally used at a nearby site (INAC 2009).

Table 2 presents the quantities of material and/or area approved in the current AANDC and KIA Quarry Leases. As per the AANDC lease, Agnico is authorize to take all the material (borrow and hard rock) in an approved areas (ha) and for KIA lease, Agnico is authorize for a determined quantity of material.

Quarry operations will use explosives. The design, size, and shape of the blasts are planned with safety being the foremost consideration. A predetermined pattern of drill holes are drilled to a depth not exceeding the overall depth of the quarry and filled with explosives. Prior to a blast, a notice is sent to all employees to inform of the blast location and time. All personnel and equipment are moved to a safe distance from the blast area. The blast fragments (i.e., the blasted rock) is then loaded into haul or dump trucks using either a loader or a hydraulic shovel. The truck drives to the end of the road (or other construction area) where the rock is dumped. The rock is then pushed into place using a dozer. This sequence is called a “drill, blast, load, haul, dump” sequence.

Some rock can be moved to a crusher to produce aggregate of various sizes. The crusher is located as far from water as possible and where it is best shielded from the prevailing wind, preferably behind a high wall in a quarry so as to reduce the quantity of wind-blown dust and to have as much dust as possible fall within the boundaries of the quarry.

Wherever possible, borrow pit material will be ripped using a dozer. This loosens the material and allows it to be picked up using a loader or a hydraulic shovel. Standard drill and blast procedures may be used in instances where ripping is not possible. The sequence of steps under this circumstance follows that for rock quarries.

Approved ammonia management procedures at the Meadowbank Mine will be adopted to ensure blasting practices monitor explosive quantities and blast performance to optimize the blasting practices while reducing impacts to nearby water quality from blast residue. Agnico also monitor each blast to make sure that the vibration and sound cause by the blast will not cause any adverse impact to a fish habitat. Agnico will follow the Meadowbank Blast Monitoring Program (March, 2017).

Table 2 Amaruq Road Borrow and Quarry Pits authorized along the road

ID Number	Amaruq Road KM	Surface Area (ha)	Volume (m <sup>3</sup> ) <sup>1</sup>	Land Ownership <sup>2</sup>	Location	
					UTM Zone 14 W	
Easting (m)						
Northing (m)						
Vault Open Pit – Waste Rock						
Vault Open Pit		Not Applicable		Meadowbank Gold Mine (IOL)	640141	7221038
Borrow Pits – Esker Material						
Quarry KM 10.5*	10.50	3.9		IOL	635418	7227577
Esker 1	16.76	44.5		CL	633379	7232759
Esker 2a, b, c	25.00	68.6		CL	626649	7235662
Esker 2 d	25.68	38.8		CL	626649	7235662
Quarry KM 26.25*	26.25	1.3		CL	626069	7236015
Quarry KM 30.05*	30.05	1.8		CL	621441	7236099
Quarry KM 34.90*	34.90	5.7		CL	617989	7236966
Esker 3	46.06	112.6		CL	621825	7247508
Esker 4	53.67	68.3		CL	614953	7250442
Quarry KM 50.60*	50.60	1.1		CL	616168	7247090
Quarry KM 52.00*	52.00	1.0		CL	615075	7248018
Esker 5	59.79	11.62	195,000	IOL	611936	7253888
Esker 6	62.25	7.149	111,000	IOL	610689	7256058

<sup>2</sup> CL=Crown Land, IOL= Inuit Owned Land.

\* Volume and area are estimated as the final Lease still not received for this 6 quarries.

With the onset of winter, ramps will be built to the top of some eskers to obtain access to the borrow pit. Ramps will be necessary for esker borrow pits 2, 3 and 4. The following summer the aggregate material will be allowed to thaw and subsequently be stripped using a dozer or loader. It should be possible to strip two layers over the summer period, each to a depth of approximately one metre. The material will be piled in mounds to allow drainage. Subsequently the mounded material will be easily handled at all times of the year<sup>2</sup>. If access to the esker borrow pits is delayed, other procedures will be used to access road building materials at all times of the year.

<sup>2</sup> This procedure will be used if time allows.

## 5.2 Borrow Pits Mitigation Measures

The ranking of mitigation options is as follows:

- **Avoidance** – using an alternate site to avoid the adverse effect all together. This is the most desirable;
- **Minimization** – taking actions to minimize and/or contain effects to the maximum extent possible during engineering design, construction, operation and closure;
- **Rectification** – taking actions to rehabilitate or restore the affected environment after the fact; and
- **Compensation** – this is used as a last resort to offset adverse environmental effects. This is the least desirable.

Best management practices will employ the following general mitigation measures for the borrow pits:

- Minimize the surface area of borrow pits;
- Locate borrow pits in well drained areas;
- Where possible, maintain the floor of the borrow pits slightly above the elevation of the surrounding area to promote natural drainage patterns, to avoid creating ponds, and to prevent permafrost degradation in borrow pits;
- Prevent erosion and sedimentation through appropriate control measures such as silt fences;
- Carry out ARD/ML testing and water quality monitoring in support of mitigation measures;
- Protect archeological resources and mitigate as deemed appropriate by GN cultural and heritage department;
- If deemed necessary, maintain air quality through dust control/suppression;
- At the request of the NIRB and local stakeholders, as a safety measure, flag borrow areas and refuelling areas; and
- Use progressive reclamation in closing borrow pits that are no longer needed.

Where mitigation measures are not proving effective, adaptive management will be employed to address shortcomings.

## 5.3 Acid Rock Drainage and Metal Leaching

Geochemical testing was carried out to assess the chemical composition of the potential building material, its potential to generate acid rock drainage (ARD), and its potential to leach metals into the receiving environment upon exposure to ambient conditions. Sampling and testing prior to use of any borrow pit significantly reduced the risk of ARD/ML. Avoiding the use of undesirable or questionable road building materials ranks this mitigation measure as highly desirable.

Initial testing of borrow/quarry pit materials was completed and found that the esker and quarry sample show no potential to generate acid drainage. Further, based on criteria devised by MEND

2009, “...all samples are classified as non acid generating”. For waste rock from the Vault open pit, the analysis determined that, “...total sulphur content <0.2% is recommended as an appropriate criterion for selecting non potential acid generating Vault material for use in road construction.”

Leach tests of the esker samples was carried out on samples collected. Metal concentrations did not exceed the Metal Mining Effluent Regulations criteria. There were exceedances of Canadian Environmental Quality Guidelines (CEQG) for the protection of aquatic life for some samples. The parameters are namely As, Cu, and Pb. It was found that:

*“Exceedances in leachates from laboratory tests do not necessarily imply non-compliance of contact water quality. The quality of drainage water will depend on a number of factors that are difficult to reproduce in static leach test such as the SFE test, including, but not necessarily limited to, material exposure, drainage patterns and site climate, which affect the ratio of leaching solution to solid material and water-rock contact time. Rather the results discussed underline the propensity of the till material to release metals in dissolved form when in contact with water.*

The marginality of exceedances for some parameters is discussed and that they are not expected to be a concern to receiving water quality. . Additionally, water quality monitoring will be carried out in confirming that the road building materials are not negatively affecting nearby water quality. Agnico put a procedure in place: AMQ-ENV-PRO-Borrow Pits ARD Sampling.

However, to confirm that the best available road building materials are being used in constructing the road, additional measures will be used while the quarries and borrow pits are operational. Visual examinations of the quarry/borrow material for sulphur species and additional testing for ARD/ML will be conducted during construction of the roads. Each Esker/Quarry pits extracting less than 1 million metric tons (~ 400,000 m<sup>3</sup>) will require a minimum of 26 samples, distributed representatively between the bedrock material and the granular material. Sampling will be completed by the drillers representative. It will be the responsibility of Engineering and Environment to plan the sampling campaign before using the expected removed material from any esker/Quarry, make sure the samples are taken in compliance with this procedure and the number of samples required is reach. Rock will be tested for ARD and metal leaching. The Meadowbank assay lab will prepare a certain quantity of representative samples to be sent for analysis to an external lab. External lab analysis will include ABA, Bulk Metal, WRA and SFE.

Results from the accredited lab will be sent to Environment coordinator for record. Comparison of the Assay lab versus External lab results will be done to ensure compliance or any major differences between both laboratories.

If ARD/ML materials are found, these materials will not be used for construction and the area will be covered with a minimum two metre thick layer of non-acid generating borrow material to encapsulate it below the active layer.

#### 5.4 Management of Water Originating from Borrow Pits

While ARD/ML testing is a measure to avoid using questionable road building materials, water quality monitoring of seeps from borrow pits provides information on possible impacts on the environment should the water reach any nearby water bodies. A buffer of at least 31 m of undisturbed land is maintained between borrow pits and water bodies, and best management practices will prevent direct drainage. However, any significant seeps originating from the borrow pits that are likely to reach receiving waters will be sampled and analysed for a full suite of water quality parameters<sup>3</sup>. Any problematic water will be directed away from water bodies, or held if possible in accordance with the Type B license. If necessary, silt curtains will be used to control suspended sediments in water seeping from the borrow pits.

Although erosion is not expected to originate from water flow from borrow pits, any evidence of erosion will be repaired by placing rip-rap over the affected area, and measures will be taken to reduce the velocity of the water with, for example, silt curtains and/or small dikes.

#### 5.5 Management of Archaeological Resources at Borrow Pits

It is Agnico Eagle's intent to avoid archaeological resources in constructing the road wherever possible; this is the preferred mitigation measure. Archaeological surveys were completed along the AWAR alignment, its buffer zone, over the footprint of selected quarries and borrow pits, and the immediate area. Although the goal is to protect archaeological sites identified at any borrow pit or on the road right-of-way, however, if any site identified cannot realistically be avoided, Agnico Eagle has applied for a Culture and Heritage permit to mitigate the site(s). With the appropriate approvals by the GN, this work was complete in the summer of 2016.

If in the future, any potential archaeological site is identified during the operation of any quarry/borrow pit, work will stop, a professional archaeologist will be consulted, and CH will be informed of the discovery. All equipment will remain within the boundaries of the quarries/borrow pits to ensure any nearby archaeological site is not inadvertently damaged.

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<sup>3</sup> Physical Parameters: pH (field and laboratory), temperature (field), alkalinity, bicarbonate, carbonate, electrical conductivity, hardness, hydroxide, ion balance, total dissolved solids, total suspended sediments

Nutrients: NH<sub>4</sub>, NO<sub>3</sub>, NO<sub>2</sub>, PO<sub>4</sub>

Major Ions: Ca, Cl, Mg, K, Na, SO<sub>4</sub>

Trace Metals: Al, Sb, As, Ba, Be, B, Cd, Cr, Cu, Fe, Pb, Li, Mn, Hg, Mo, Ni, Se, Ag, Sr, Sn, Ti, U, V, Zn

Before any new quarry/borrow pit is selected, it will be surveyed for archaeological resources by a professional archaeologist registered in Nunavut. Sites with archaeological resources present will not be selected if there is a similar site devoid of archaeological resources nearby.

### 5.6 Ground Ice and Permafrost Protection

The selected borrow pits sites are on well-drained esker deposits. All eskers have positive topography rising above the local setting. These types of granular deposits were selected because they are largely free of ground ice, thereby minimizing possible thaw settlement, which can result in erosion, slumping of side slopes, and an altered landscape that extends beyond the borrow pit.

Should permafrost degradation become evident, the area will be monitored and, if necessary, stabilized by covering the affected land with 1.0 to 1.5 m of granular material. This reclamation effort would allow the permafrost to move up into the material covering the area and stop any further permafrost degradation or prevent further melting of any ground ice. Inspections of borrow pits will continue after their closure at the end of construction.

Any significant seeps originating from the borrow pits as a result of ground ice, permafrost melting, or from precipitation events will be monitored if the water is likely to reach receiving waters<sup>4</sup>.

### 5.7 Wildlife Management in Borrow/Quarry Pits

The Nunavut *Wildlife Act and Regulations* will apply as raptors nesting close to the AWAR and quarries/borrow pits may be disturbed, or raptors may nest in the quarries and/or borrow pits upon the completion of their use. Environmental Department will complete inspections in borrow/quarry pit on a weekly basis to make sure there is no raptor nest and before any work conducted in these borrow/quarry pits. If a nest is discovered, all work will be suspended.

Land animals may also be disturbed by the quarrying activities. The quarries and possibly the borrow pits in some instances will require the use of explosives. The activities will have to comply with the *Explosive Use Act and Regulations*, and the *Mine Health and Safety Act and Regulations*. See Section 7.1 for procedure for blast into borrow/quarry pits. No blast will be held if there is any wildlife near the area to be blasted in accordance with the criteria of the decision tree presented in Section 11.

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<sup>4</sup> Shallow, standing water will not be collected as it poses little risk to the receiving environment.

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## 6 TRAFFIC MANAGEMENT ON ACCESS ROADS

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### 6.1 Traffic Management on the Amaruq road - Management of Agnico Eagle Traffic

All required fuel, supplies, equipment and workers for the Amaruq Exploration Site will be transported via the Amaruq road. All drivers transporting these materials and personnel will either be Agnico Eagle employees or employees of contractors directly hired by Agnico Eagle. In order to operate vehicles on the Amaruq road, they must possess a valid driver's license from a Canadian province or territory for the appropriate class of vehicle. Agnico Eagle will educate all its employees and all its contractor's employees on road safety rules during the safety induction training that occurs before they first drive the road. The safety rules<sup>5</sup> developed for the road will apply to Agnico Eagle employees and Agnico Eagle contractor employees. The Amaruq road will be closed for public use.

All Agnico Eagle and contractor's vehicles that travel routinely on the road will be equipped with a radio set to the requisite road frequency. Consequently, traffic on the road will always have radio contact with security, and other Agnico Eagle and contractor traffic. This system will be used to report any unusual conditions along the road such as location of other vehicles, presence of wildlife on the roadway, presence of non-Agnico Eagle traffic such as snowmobiles or ATVs crossing the road, any special road conditions, any special weather conditions, etc.

#### 6.1.1 Intersection of Amaruq Road with Vault Haul Road

The southeastern end of the Amaruq road will start from the Vault haul road. Haul traffic from the Vault pit will have the right-of-way. This intersection will have a stop sign on the Amaruq road along with warning signs requiring vehicles on the road to stop and give way to the mine haul trucks on the Vault haul road. Drivers will have to stop and look both ways before proceeding on the road.

#### 6.1.2 Other Access Control Procedures

There will be occasions when access to the Amaruq road needs to be curtailed for short time periods for special reasons, such as bad weather, unsafe road conditions, maintenance activity on the road, heavy operational related truck traffic, movement of oversized loads, and/or presence of large numbers of caribou on or adjacent to the road. The road could also be temporarily closed in the event of an incident, accident or other event requiring mitigation or response. Typically, these short-term closures will be required to ensure safety. During these times, the gates at both ends of the road will be closed.

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<sup>5</sup> See the Section 9 for complete details on safety measures proposed for the Amaruq road.



Agnico Eagle will also work with the GN, KIA and HTO to establish a one kilometre no shooting zone on both sides of the Amaruq Road to ensure that project workers and all other road users are not inadvertently exposed to the risk of accidental shooting. Consultation will also continue with HTO for ATV Crossing along the Amaruq road.

### 6.1.3 Projected Amaruq Traffic on the Amaruq road

The amount of traffic on the road will be highly dependent on the level of activity at the Amaruq Exploration Site and the time of year, (e.g. more traffic can be expected following the arrival of supplies and materials by sea). Weather will also directly influence use of the road (e.g. virtually no traffic is to be expected when the weather is bad). Additionally, overall traffic can be expected to increase should the level of exploration increase at the Amaruq Exploration Site. Table 3 provides a first estimate of the projected traffic under present exploration activities. Agnico Eagle and contractor vehicles expected to use the road will include, but not be limited to, pick-up trucks, cube vans, buses, fuel trucks, tractor-trailers, snowplows and graders.

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.

Table 3. Estimated Average Daily Traffic on the Amaruq road

Type of vehicle # of vehicles	Winter		Summer	
	Week Days	Weekends	Week Days	Weekends
Pick-up Trucks	8-8	2-4	10-14	4-8
Cube Vans	2	1	3	1
Passenger Vans/Buses	1	0	2	1
Fuel Trucks <sup>1</sup>	1	0	1	0
Transport Trucks <sup>2</sup>	1	1	Up to 10	1

<sup>1</sup>Transport of fuel will be continuous, year round. A fuel truck will carry on average 45,000 litres.

<sup>2</sup>Transport of dry goods, which arrive annually via the sea lift, will largely take place over a 4-month period, from August to November.

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## 7 INSPECTION AND MAINTENANCE OF THE AMARUQ ROAD

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Inspection precedes maintenance. Agnico Eagle recognizes that a good inspection program will lead to the early identification of areas of the road where improvements are necessary. The early resolution of any deficiencies will result in less ongoing maintenance and repair of the driving surface and to water crossings.

Agnico Eagle has sole responsibility for the ongoing inspection and maintenance of all of the components of the Amaruq road, including the roadbed, bridges, circular corrugated culverts, and the borrow pits used in the construction and maintenance of the road. Agnico Eagle will apply the experience that it has gained from the ongoing operation of the Meadowbank All-weather Access Road, which has now been in operation since 2010. This experience will be applied in the planning of the day-to-day operation, inspection and maintenance of the Amaruq road. Agnico Eagle will have a road supervisor who will be responsible for the ongoing road inspection and maintenance of the road.

The road supervisor will conduct periodic inspections (minimally on a weekly basis) of the road to ensure that the road is maintained for safe travel of personnel, equipment, and supplies. These inspections will be recorded and any deficiency recorded will be followed up by a corrective plan. These periodic inspections will include an inspection of the bridge abutments and a visual observation of the road surfaces to assess the status of the road's foundation. The department of Environment will also conduct at least one weekly inspection of the road to verify visual water crossing quality, quarry, wildlife, storage of material in respect to the current license.

During the summer period, the road surface will be maintained with gravel being spread as required and regular grading of the road. In the fall, winter and spring time the maintenance will be adjusted according to the weather conditions. Snow clearing along the road will be done to ensure that the road can be operated safely. The manner in which the snow is cleared will also take into account the road configuration to ensure that snow accumulation will not cause any particular problem during the freshet.

The entire road will be 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 will evaluate and monitor the accumulation to determine why water is accumulating in these areas. Based on these evaluations and to avoid erosion or washing out of the road, the road supervisor will take 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, Reparation and Operation

Construction of the road will be completed under winter conditions as much as possible when there is no water to cause sedimentation problems. However, surface dressing may extend into summer. Should this occur, this last step in road construction by itself will have negligible effects. Various mitigations and best practices that will be followed during road construction to control sedimentation are as follows:

- No in-water work will take place from May 1 to July 15, to protect fish spawning and nursery periods of local fish populations; this would apply to all stream crossings (work will be in compliance with DFO letter of advice and Amaruq Exploration Access Road Pathways of Effects Analysis);
- Sediment and erosion control measures will be 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 will be left in place until all disturbed areas have been stabilized;
- All disturbed areas will be physically stabilized as soon as possible following construction using rock and/or vegetation;
- Machinery used near stream crossings or working will arrive on-site in a clean condition and be maintained free of fluid leaks to keep contaminants out of the drainage basin;
- The equipment will be re-fueled, serviced, and washed away from the stream crossings to prevent deleterious substances from entering the water. Fuel, lubricants, hydraulic fluids, etc., will not be stored within 31 m of the high water mark of any waterbody, and will be kept in an area where spillage can be contained, and in a manner inaccessible to all wildlife; and
- An emergency spill kit will be 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.

During the operational and reparation phase, routine periodic inspections of the road will continue to be conducted as discussed previously. 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.

## 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 event 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 pipe or corrugated culverts have been installed in the right location with respect to the watercourse and that their capacity is adequate to ensure that the culvert(s) pass the water under all hydraulic conditions. In most cases for circular, corrugated culverts, they will be installed in multiples 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 will be inspected to confirm that they are in good state to accommodate the rapid spring thaw that is seen in the north. During the freshet period, crossings inspections will be performed daily (mid-May thru June) and weekly during the remainder of the ice-free period prior to fall freeze-up (July through October) by the road supervisor and/or an environmental department. An annual geotechnical inspection of the road will be conducted by a qualified engineer.

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;
- At the request of DFO, annually during the springtime, measure and inspect flows at the embedded culvert km 11.1 to ensure small bodied fish passage; 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 abutments and their foundations as they will be vulnerable to scour 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 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 scour 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.

#### 7.2.3 Culvert Location Inspection

Following their installation, the circular, corrugated culvert crossings will be visually inspected to confirm they have been properly executed and installed. Depending on when the permits to construct the access road are received, these culverts will initially be installed during winter conditions and thus it is possible that a culvert will not be sited correctly to pass all water through the road, which results in excessive water ponding against the road. The intent is to check for such conditions during the first snow melt and after rain events so that if deemed necessary, adjustments can be made accordingly. Although a conservative estimate of culverts has been proposed, if deemed necessary following inspections additional culverts may be installed in locations that may not optimally route water flows.

### 7.3 Snow Removal and Snow Management

Sections of the road are expected to experience snow drifts because of strong winds over the winter period. As much as possible, this snow will be cleared to the downwind side of the road 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 circular culverts, and bridges. In the case of culverts, snow will be removed from both ends but not from the inside.

### 7.4 Dust Suppression

The amount of dust generated along a road is dependent on the material source used to surface the road, dryness of the road surface, the number of vehicles, weight and speed, and maintenance of the driving surface. Regular grading of the road combined with the addition of granular material from the eskers to the driving surface will be needed. This will improve road safety and also reduce the amount of dust. Dust will also be mitigated by maintaining posted speed limits.

In sections of the road 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 is potentially impacting traditional land use, fish habitat and/or water quality, the road supervisor will arrange 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. Based on the experience and monitoring data of the Meadowbank AWAR from Baker Lake to the mine site, use of chemical dust suppressants is not expected for the exploration access road. However, if there are safety concerns, chemical dust suppressants will be only used as a last resort and only in accordance with the Environmental Guidance for Dust Suppression published by the Government of Nunavut Department of Environment (GN 2014).

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## 8 ROAD SAFETY

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Agnico Eagle security personnel along with Agnico Eagle's road supervisor will monitor activity on the Amaruq road through radio contact with drivers on the road, and through periodic patrols of the road. All Agnico Eagle and contractor vehicles that routinely travel on the road will be equipped with a radio set to the requisite road frequency. Consequently, all traffic on the road will always have radio contact with security and other road traffic. This system will be used to report any unusual conditions along the road such as the location of other Agnico Eagle and contractor vehicles, presence of wildlife on the roadway, presence of snowmobiles, any unsafe practices noticed, any special road conditions, any special weather conditions, etc.

The same safety rules that will apply to all users of the Amaruq road, these are:

- Maximum speed limits of 50 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 road, and no harassment of wildlife is allowed;
- All hunting activity must avoid shooting across the road and should respect a safe shooting of 1 Km;
- Hunting is not allowed within 1 km of Meadowbank mining areas or the Amaruq Exploration Site;
- Traditional land users (i.e. hunters on ATVs or snowmobiles) crossing the Amaruq road on identified ramps must yield to Amaruq Exploration Road Traffic;
- Amaruq Exploration Road Traffic approaching traditional land use crossings or ramps must be vigilant of the potential use by ATVs or snowmobiles to ensure users protection and safety;
- Vehicles are not to park on the travel surface of the road but pull off the road at a safe location such as passing pullouts to prevent accidents (passing pullouts are spaced approximately every 400 metres along road's length); and
- Signs will be posted warning of an upcoming gate.

Agnico Eagle will hold public information sessions in Baker Lake at the same time as the Meadowbank AWAR information session on an annual basis. The rules of the road and safety considerations will be presented at these sessions, and modified if necessary based on broad and frequent consultation.

Agnico Eagle will place an emergency spill response station approximately half way between Meadowbank and Amaruq. The station will have the necessary spill response supplies to address any spills that occur along the road in an emergency situation.

## 8.1 Road Signage

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

English and Inuktitut signs will be posted at the eastern and western ends of the road, at an appropriate mid-point to advise road operators that they are in a potentially hazardous area due to the presence of truck traffic.

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

A list of road signage is presented in Table 4.

Table 4. Road Signage

Element	Location
Safety precautions and users advice	At the eastern and western ends of the road, and at an appropriate mid-point along the road
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
Traditional Land use crossing signs	At the crossing approach for road operators and well-marked stop signs at crossing approaches for ATV or snowmobile operators
Jurisdiction	Sign announcement at the land boundaries when entering/leaving Crown Land or IOL
Flexible delineators (flags)	Nominally at 100 to 200 m intervals
Kilometres markers	Nominally at 1 km intervals
Quarry sign	At the quarry/borrow pits entrance



## 8.2 Policing of Road Safety Rules

As a privately operated road, responsibility for “policing” will not fall under the RCMP. Responsibility for all operating and maintenance activity on the road will rest solely with Agnico Eagle. All Agnico Eagle employees and its contractors who will use the road will be required to take road safety training before being allowed to venture out on the road. Further, Agnico Eagle will concentrate on maintaining awareness among Agnico Eagle employees and contractors on the safe use of the road.

Agnico Eagle will use its road supervisor and site security to monitor what is occurring on the road. They will monitor activity on the road through periodic patrols of the road, and in conversation with drivers on the road at the time. Agnico Eagle will monitor speed limit infractions by direct observation of drivers seen to be driving too fast and by recording the time taken to drive between the Amaruq camp and Meadowbank. Agnico Eagle will also rely on radio contact with all company and contractor vehicles on the road to monitor unsafe conditions or activity. Agnico Eagle does not have any special policing powers and cannot issue tickets or use other methods to address unsafe operation. Agnico Eagle can record unsafe practices, warn the person causing the infraction, and in severe or repeated cases of violation, remove all privileges for future access to the road by an offending driver.

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

However, it is worth noting that 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.

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## 9 ACCIDENTS, SPILLS, MALFUNCTIONS AND EMERGENCY RESPONSE

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Emergency response is reactive, while prevention reduces the frequency of emergency responses. Agnico Eagle's emphasis will be on prevention, while at the same time keeping resources close at hand in order to respond to emergencies on the road in a timely manner.

Three possible causes of road emergencies are the road, vehicles and people. The interplay of these three elements leads to either safe use of the road or emergency responses. Agnico Eagle is fully responsible for the design, construction and maintenance of the road. Agnico Eagle will ensure that its vehicles and those of the contractors are in good working order before they venture out on the road. As well, Agnico Eagle will train its employees and contractors on road safety far more than any legal minimum.

Agnico Eagle will lead by example in road safety. Agnico Eagle will train road users in road safety, shaping good driving practices and influencing behaviour on the road. Emphasis will be placed on the use of seat belts; observing posted speed limits; improving visibility for others by wearing reflective clothing at all times; dealing with driver inexperience, etc.

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

### 9.1 Accidents and Malfunctions

Agnico Eagle understands that accidents can occur, but the prevention and proposed mitigation measures along the roads, emergency response planning, training, and preparation will substantially reduce the risk, frequency, and severity of such incidents. Such unfortunate events are inevitable, no matter how much effort is devoted to preventing them. However, mitigation measures and response plans will be developed that can be applied to reduce the frequency and severity of such events. The types of events considered likely are as follows:

- Vehicle collisions that may result in personal injury and spillage of potential harmful materials such as fuel, lubricating fluids, antifreeze, etc.;
- Contact between vehicles and wildlife that may result in harm to wildlife, personal injury and spillage of potentially harmful materials, etc.;
- Single-vehicle accidents that may result in personal injury and spillage of potentially harmful materials;
- Risk of people getting stuck on the road in bad weather such as in heavy snow or whiteout conditions, or due to mechanical breakdown; and
- Spills of harmful materials onto the land or into water.

In an effort to prevent these occurrences, the road will be closed under poor weather or road conditions. Furthermore to improve the response in the event of an incident or accident, emergency responders will be available at Meadowbank and at Amaruq, an emergency spill response sea can will be installed midway along the road and will be fully stocked with emergency response equipment and the road supervisor will have an emergency spill response kit in their vehicle.

All employees will be responsible to report, mitigate and clean up small spills. In the case of a larger spill, spill response will be implemented by the ERT based at Meadowbank and the environmental staff, who will advise, document, and report on initial response and clean-up actions. The Spill Contingency Plan will be activated in responding to a spill.

Agnico Eagle emergency response team (ERT) personnel are tasked with responding to any vehicle accident resulting in personal injury or spillage of harmful material. Agnico Eagle will initiate extraction and transport to medical assistance at the Amaruq camp or the Meadowbank mine. In the event of serious injuries, the person or persons will be evacuated by air to the Baker Lake medical centre or a Winnipeg medical facility. The procedures in place in the Emergency Response Plan will be followed.

Agnico Eagle will report all reportable scale incidents to the appropriate Government authority (e.g., Mines Inspector, RCMP, Nunavut Water Board (NWB), NU Spill Line, Environment and Climate Change Canada, GN Department of Environment, Fisheries and Oceans Canada (DFO), KIA and Hamlet of Baker Lake).

The following actions are to be taken in the event of an accident on the road (including snowmobiles):

- Check the condition of people involved in the accident and provide immediate first aid if appropriate;
- Call the Amaruq 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 pulloff 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 Amaruq 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 made on a timely basis to the KIA, the Baker Lake HTO, and the GN Conservation Officer in Baker Lake. Any animal carcasses will be removed from the scene of the accident and will be incinerated or delivered to the GN officer.

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.

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## 10 WILDLIFE MANAGEMENT

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Wildlife is expected to occasionally be observed on or immediately next to the road. Caribou and other wildlife will have the right-of-way at all times. In case of problems (e.g. aggregations of caribou), the environmental department will be in charge of managing the situation and, with the collaboration of the security department, will advise road users by patrolling the road. Site personnel will notify and be notified by dispatch radio if any wildlife is observed on the road or if extra vigilance is needed along a specific area of the road.

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

- Vehicular traffic speeds on the road will be limited to 50 km/h;
- Where large aggregations of caribou (i.e., 50 or more) are observed within 100 m of a road, at the discretion of the Environment Department and Road Supervisor or Mine General Foreman, vehicle movements may be suspended until animals have moved away from the road;
- Caribou and all wildlife will be given right-of-way on the road: vehicles must stop until the animal is off the road;
- Locations of large aggregations of animals must be reported to the road supervisor who will inform all potentially affected employees and the environmental representative;
- All incidents between vehicles and wildlife must be 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 will be investigated by the road supervisor and the Environment Department, and measures taken to avoid re-occurrence 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 Agnico Eagle Project Environmental Coordinator(s) will contact the GN Conservation Officer in Rankin Inlet. The carcass will be removed from the road disposed following GN Conservation Officer direction.

Please refer to Figure 2 for more details on mitigation and monitoring of caribou.

### 10.1 General Wildlife Monitoring Program

Once the road is operational, Agnico Eagle will implement a monitoring program to record on a systematic basis the prevalence of wildlife seen along the road consistent with the approved Meadowbank Terrestrial Ecosystem Monitoring Program. The program will focus on caribou, muskoxen, bears, wolves, migratory birds, and raptors.

Once the road is constructed, the program as envisioned will consist of a periodic ground survey of wildlife observed along the road. At minimum frequency would be weekly and will increase to twice weekly during migration periods. The survey will be an extension of existing monitoring surveys and will log type of wildlife observed, estimate of numbers, and nearest kilometre marking along the road. The data would be collected, aggregated and presented in the annual report, consistent with the Meadowbank AWAR monitoring.

Survey along the road will include:

- two observers for construction and operational surveys;
- Continue to work with the GN DOE on caribou collaring data interpretation to ensure the protection of the caribou using real-time caribou collaring data, and
- Work with the GN and other experts to develop new and innovative ways to monitor wildlife in addition to road surveys (i.e. setting up transects of motion sensing cameras along the road near identified caribou trails)

#### 10.1.1 Ungulate Monitoring

The adaptive management flow chart for caribou mitigation and monitoring is presented in Figure 2. It summarizes the actions that will be followed and frequency of monitoring to ensure the protection of caribou during the construction and operations of the Amaruq exploration access road. Furthermore, *Caribou Protection Measures*<sup>6</sup> from relevant agencies will be adhered to. Consideration will be made for project interactions with muskox that may potentially cause changes to muskox during breeding.

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<sup>6</sup> NPC, KIA and GN have respective caribou protection measures that Agnico Eagle will adhere to.

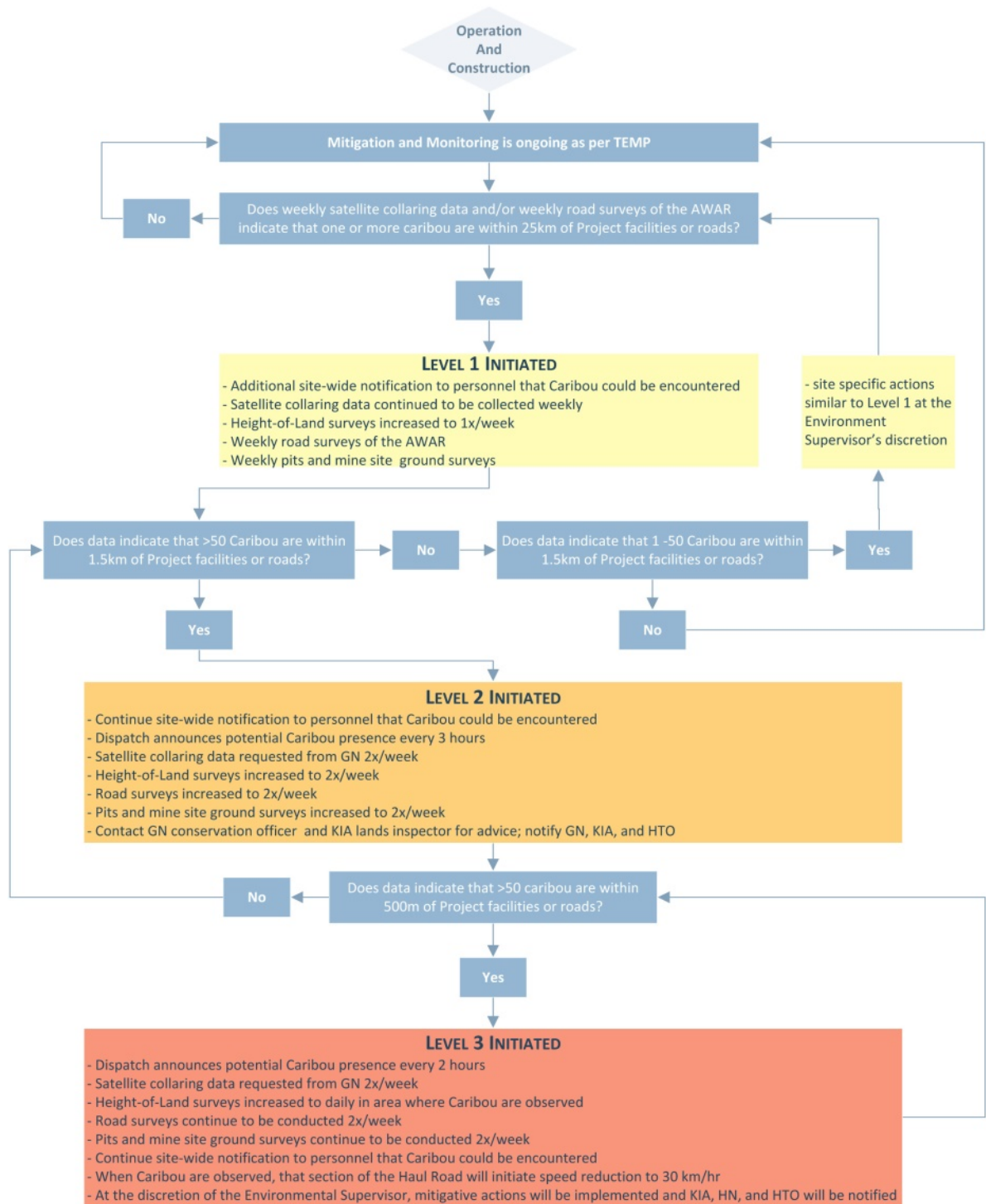


Figure 2. Adaptive Management for the Protection of Caribou in Proximity to the Amaruq Exploration Access Road

### 10.1.2 Predatory Mammal Monitoring

Following discussions with the HTO/ Elders, in response to NIRB concerns and after additional field data was collected in 2015, Agnico has adjusted the borrow areas of various eskers to avoid cultural sites and avoid wolf dens. Furthermore, Agnico Eagle will commit to avoiding the active wolf den areas during denning season (May 1<sup>st</sup> to October 1<sup>st</sup>). Agnico Eagle will also conduct additional pre-construction surveys of the eskers to ensure wildlife protection. Between Oct 2<sup>nd</sup> and April 30<sup>th</sup> (wolf territorial migration with Caribou, and late winter den establishment), Agnico will operate in the esker borrow areas and during this period of time there will be minimal restrictions for operations. Agnico Eagle will continue to hire local wildlife monitors to conduct road surveys along the Amaruq Road and will include surveys of the eskers and potential denning sites during construction and during operations. There are no active Grizzly Bear dens, Wolverine dens or Fox dens found in the eskers and no such dens are expected to occur within the access road and borrow area footprint.

The adaptive management flow chart for predatory mammals and monitoring is presented in Figure 3. It summarizes the actions that will be followed and frequency of monitoring to ensure the protection of predatory mammals (such as wolves) during the construction and operations of the Amaruq exploration access road.



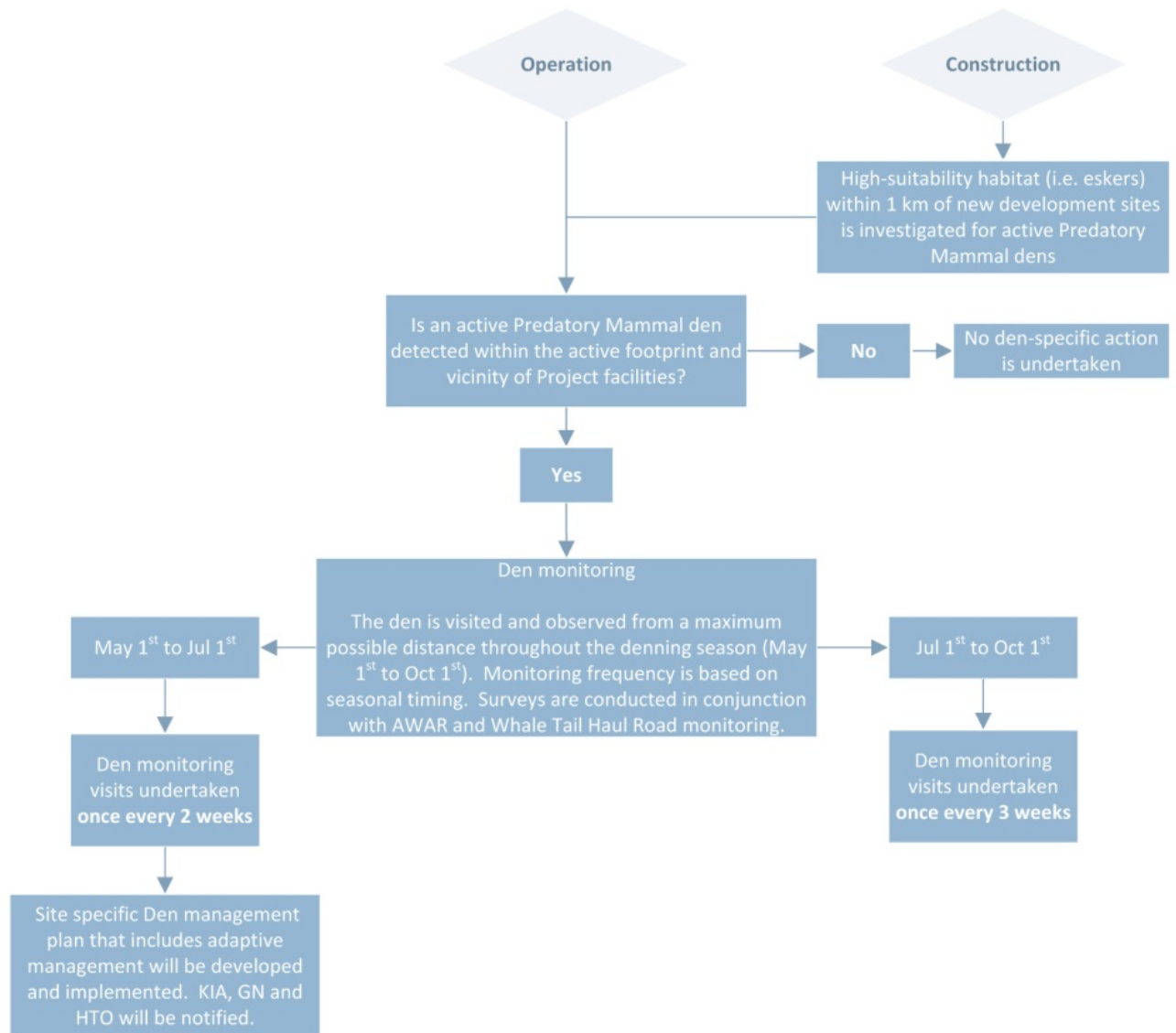


Figure 3. Adaptive Management for the Protection of Predatory Mammals in Proximity to the Amaruq Exploration Access Road

### 10.1.3 Raptors

The adaptive management flow chart for raptors and associated monitoring is presented in Figure 4. It summarizes the actions that will be followed and frequency of monitoring to ensure the protection of raptors birds during the construction and operations of the Amaruq exploration access road.

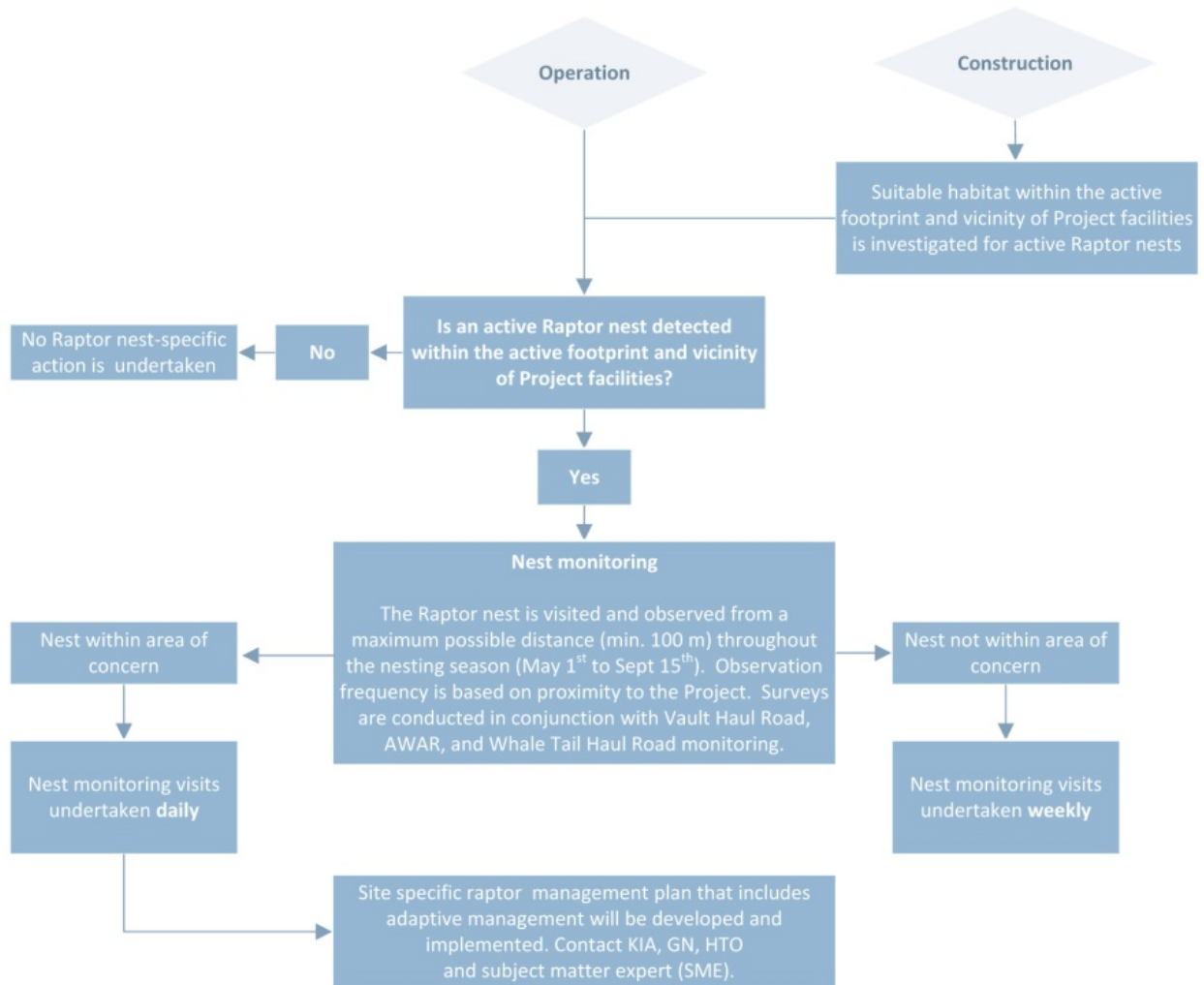


Figure 4. Adaptive Management for the Protection of Predatory Mammals in Proximity to the Amaruq Exploration Access Road

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## 11 CLOSURE AND RECLAMATION

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The Amaruq road will be decommissioned and reclaimed by Agnico Eagle. Closure and reclamation of the road would be initiated within a year following the completion of closure and reclamation of the Amaruq camp and exploration sites.

Progressive reclamation will, in some instances, lead to borrow pits being reclaimed after they are no longer needed. As described in the Conceptual Closure and Reclamation Plan, the road should be the last exploration component to be closed and reclaimed.

Decommissioning of the road will be accomplished by loosening compacted surfaces, flattening side slopes, removing all culverts, and bridges, and other potential obstructions to drainages paths. The objective will be to make the road surface impassable by vehicular 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 roadbed utilizing 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. It is anticipated that, in this way, the abandoned road will not be useable by wheeled vehicles (i.e. 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 that currently exists.

Road decommissioning 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 located adjacent to the roadway that remained open following road construction. 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, 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 bearing, the timing of work will have to be restricted to within the designated Fisheries and Oceans Canada fisheries work window. All in-stream works will be carried out using best management practices for erosion and sediment control.

Decommissioning of the road will start from the Amaruq road end of the road and progress southeast towards the Meadowbank mine. Stream crossings will be rehabilitated as they are encountered during the progression of the work.

### 11.1 Reclamation of Borrow/Quarry Pits Sites

All borrow pit sources developed during the construction of the road will be selected to generate only non-acid generating/low metal leaching materials. Water quality monitoring and testing will be undertaken periodically during the construction and operational period of the road to measure the quality of water draining from the open borrow pit sites and from the road base materials.

The borrow pits will have gently sloping walls and be designed for positive drainage wherever possible. With prudent initial design, the borrow pits should require little reclamation following completion of the road. Loose material will be pulled to the floor of the borrow pit and the entrance blocked.

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

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## 12 REFERENCES

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