Beaver Dam Mine Project Update
CEAA Reference No 80111

Beaver Dam Mines Road
Marinette, Nova Scotia

Atlantic Gold Corporation

GHD | 45 Akerley Boulevard Dartmouth Nova Scotia B3B 1J7 Canada

088664 | 18 | Report No 3 | December 13 2016

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1. Introduction

Atlantic Gold Corporation (Atlantic Gold), the proponent, is proposing an alternate option for a section of the haul road portion of its Beaver Dam Gold Mine Project in Marinette, Halifax County, Nova Scotia. The original haul road configuration was detailed in the following submission to the Canadian Environment Assessment Agency (CEA Agency) and posted on the CEA Registry on October 16, 2015:

- Beaver Dam Mine Project Description, GHD for Atlantic Gold, October 5, 2015.

The alternate option applies to the section of haul road known as the Moose River Cross Road, a former logging road connecting Route 224 and Mooseland Road. This option includes the construction of a new portion of haul road through an undeveloped environment and negates the use of a portion of the Moose River Cross Road and Route 224, other than a single crossing at the intersection with Beaver Dam Mines Road.

Baseline studies of the alternate section will follow an approximate 80 metre (m) wide corridor focused around the centre line of the alternate haul road configuration with additional width where appropriate to accommodate flexibility in future detailed engineering design. Figure 1 presents the study area for baseline investigations of the alternate section. Figure 2 presents the five sections of the original haul road configuration and compares Section 2 and Section 3A (Option 1) with the alternate haul road configuration as Section 3B (Option 2).

The overall project activities continue to meet the threshold for environmental assessment as per the following Federal and Provincial requirements:

- Section 16(c) of the Regulations Designating Physical Activities of the CEA Act (2012).
- Schedule A, Section B(a) of the Environmental Assessment Regulations of the Nova Scotia Environment Act (NSE Act) (2014).

Should the alternate haul road configuration be incorporated into the final project design, a Crown Lands Lease approval will be required in accordance with the Nova Scotia Crown Lands Act due to the land required being owned by the Nova Scotia Department of Natural Resources (NSDNR). A Crown Lands Right-of-Way approval may also be required. The alternate haul road option requires no additional federal approvals beyond those that were anticipated for the first proposed route and described in the original Project Description document.

The alternate haul road configuration has the potential to impact the environment, public, and First Nations peoples in much the same way as the original haul road configuration; therefore, the existing Guidelines for the Preparation of an Environmental Impact Statement (EIS) issued by the CEA Agency on January 19, 2016 should be sufficient to encompass the assessment of the alternate haul road configuration. As a result, revisions to this document are not anticipated to be required by the CEA Agency.

The Project Update described herein will provide details regarding the alternate configuration as compared to the original configuration and the potential implications of including this option into final project design. There have been no changes to the operational duration and production rate, and

regardless of haul road configuration, construction is anticipated to coincide with the overall project schedule. Should the alternate haul road configuration be incorporated into the final project design, reclamation options will be explored with NSDNR during development of the EIS and finalized as part of the provincial permitting process.

2. Haul Road Options

Two options were considered for a section of the haul road configuration. To determine the preferred option, the potential effects of the alternate haul road configuration on valued components were reviewed along with the outcome of stakeholder and Mi'kmaq engagement and the engineering feasibility review of proposed alternate haul route, including estimated costs and practical engineering considerations.

2.1 Option 1 - Original Haul Road Configuration

The original haul road configuration proposes to utilize existing roads for transport of crushed ore from the Beaver Dam Mine pit in Marinette to the processing facility at Touquoy Mine in Moose River. The route of the original haul road includes Option 1 on Figure 2 and can be divided into five sections; details are as follows:

- Section 1: Is 7.2 kilometres (km) of unsealed single lane private logging road with varying quality from the Beaver Dam Mine to Route 224 known as Beaver Dam Mines Road.
- Section 2: Is 5.1 km of sealed dual lane provincial collector road suitable for heavy traffic from the Beaver Dam Mines Road to Moose River Cross Road known as Route 224. This section is removed from the alternate haul road configuration.
- Section 3a: Is a 3.9 km portion of the Moose River Cross Road. This section is an unsealed single lane private logging road of varying quality along its length and will be removed from the alternate haul road configuration.
- Section 4: Is a 8.2 km portion of the Moose River Cross Road that ends at the intersection with Mooseland Road. This section is an unsealed single lane private logging road of varying quality along its length.
- Section 5: Is 11.3 km of sealed and unsealed dual lane provincial local road suitable for heavy traffic from the Moose River Cross Road to the Touquoy Mine processing facility known as Mooseland Road.

The total length of the original haul road configuration is 35.7 km. The Beaver Dam Mines Road and Moose River Cross Road require upgrades and widening to two lanes with improved alignments to provide gentler curves and gradients to achieve an operational design speed of approximately 70 km/h as per the original Project Description. A portion of Route 224 is adjacent and provides access to Beaver Lake Indian Reserve 17 (Beaver Lake IR 17), a satellite community of the Millbrook First Nation.

2.2 Option 2 - Alternate Haul Road Configuration

The alternate haul road configuration proposes to utilize the same existing roads for transport of crushed ore from the Beaver Dam Mine pit in Marinette to the processing facility at Touquoy Mine in Moose River, save for the elimination of 5.1 km of Route 224 and 3.9 km of the Moose River Cross Road, and the addition of approximately 4.0 km of newly constructed road. The exact route of the alternate haul road configuration is contingent on the assessment of baseline studies and engineering feasibility review. The general route of the alternate haul road configuration is presented as Option 2 on Figure 2 and can be divided into four sections; details are as follows:

- Section 1: Is 7.2 km of unsealed single lane private logging road with varying quality from the Beaver Dam Mine to Route 224 known as Beaver Dam Mines Road.
- Section 3b: Is 4.0 km of new construction from the Beaver Dam Mines Road and Route 224 intersection to the Moose River Cross Road through a greenfield environment. This section is an addition to the original haul road configuration and replaces Sections 2 and 3a of Option 1.
- Section 4: Is a 8.2 km portion of the Moose River Cross Road that ends at the intersection with the Mooseland Road. This section is an unsealed single lane private logging road of varying quality along its length.
- Section 5: Is 11.3 km of sealed and unsealed dual lane provincial local road suitable for heavy traffic from the Moose River Cross Road to the Touquoy Mine processing facility known as Mooseland Road.

The total length of the alternate haul road configuration is 30.7 km. The Beaver Dam Mine Road and Moose River Cross Road would require upgrades as noted above and a new road similar in design would need to be constructed through a greenfield environment.

2.3 Summary of Haul Road Configuration Changes

Should the alternate haul road configuration be incorporated into final project design, Sections 2 and 3a will be removed from the configuration and Section 3b will be added to the configuration. As a result, overall ore truck travel will be reduced by 5.0 km, there will be an increase in travel along private logging roads by 0.1 km, and all travel along Route 224 and through the Beaver Lake IR 17 will be eliminated. The only use of Route 224 would be a crossing at Beaver Dam Mines Road. No existing residences would be passed with the alternate haul route, i.e., Option 2.

3. Alternate Haul Road Configuration Potential Implications

The potential implications of the alternate haul road configuration are addressed by the existing Guidelines for the Preparation of an EIS issued by the CEA Agency on January 19, 2016. As a result, revisions to this document are not anticipated and therefore the implications discussed herein will reference those assessment requirements.

3.1 Environmental Implications

The environmental implications of incorporating the alternate haul road configuration into the final project design are the same as those already being assessed for the original haul road configuration and mine pit/infrastructure area; however, the scale of implications for a new construction through a greenfield environment as oppose to upgrading an existing road may have the potential to be greater. Baseline information for the following valued components has been collected for the existing project components and will be assessed for the alternate haul road configuration:

- Atmospheric Environment
- Geology and Geochemistry
- Topography and Soil
- Wetlands
- Migratory Birds and their Habitat
- Groundwater and Surface Water
- Fish and Fish Habitat
- Species at Risk
- Ecosystems

3.2 Public and Aboriginal Implications

The public and aboriginal implications of incorporating the alternate haul road configuration into the final project design focuses on the elimination of Route 224 from the haul road route and on the construction, operation, and reclamation of the new section of the haul road.

On a regional scale, Route 224 is a major connector road servicing traffic requirements between Sheet Harbour and Upper Musquodoboit. It provides the residents of Sheet Harbour with relatively quick access to the interior of the province and is one of the main commercial connector roads for goods delivered to and from the site. On a local scale, the portion of Route 224 that is part of the original haul road configuration runs adjacent and provides access to Beaver Lake IR 17; several residences belonging to this community abut Route 224. Incorporating the alternate haul road configuration into the final project design would mitigate haul road truck traffic and Beaver Lake IR 17 interaction.

Baseline information for the following valued components has been collected for the existing project components and will be assessed for the alternate haul road:

- Aboriginal Peoples
- Archaeological and Heritage Resources
- Socio-Economic Implications

3.3 Regulatory Implications

The overall project activities continue to require an environmental assessment as per the following Federal and Provincial requirements:

- Section 16(c) of the Regulations Designating Physical Activities of the CEA Act (2012).
- Schedule A, Section B(a) of the Environmental Assessment Regulations of the Nova Scotia Environment Act (NSE Act) (2014).

Based on the results of appropriate desktop and field studies, supplemental information may be required for applications already being prepared to obtain permits and/or approvals in accordance with the following Acts and their regulations:

Federal Legislation

- Canada Wildlife Act and Regulations
- Canadian Environmental Protection Act and Regulations
- Fisheries Act and Regulations
- Migratory Birds Convention Act and Regulations
- Transportation of Dangerous Goods Act and Regulations
- Species at Risk Act

Provincial Legislation

- Environment Act and Regulations
- Dangerous Good Transportation Act and Regulations
- Endangered Species Act and Regulations
- Crown Lands Act and Regulations
- Labour Standards Code
- Mineral Resources Act and Regulations
- Occupational Health and Safety Act and Regulations
- Wildlife Act and Regulations
- Special Places Protection Act and Regulations

Should the alternate haul road configuration be incorporated into the final project design, a provincial Crown Lands Lease approval will be required and a provincial Crown Lands Right-of-Way approval may be required in accordance with the Nova Scotia Crown Lands Act.

4. Management of Potential Implications

The management of potential implications outlined in Section 3 will follow methodology previously utilized to assess the original haul road configuration and mine pit/infrastructure area. The EIS

being prepared for the project will include a summary of changes, if any, that have been made since the submission of Project Description to the CEA Agency on October 5, 2015. This approach remains in alignment with that provided in the Guidelines issued by the CEA Agency on January 19, 2016.

4.1 Management of Environmental Implications

The potential effects of the alternate haul road configuration will be assessed based on desktop and field studies as per the Guidelines to ensure that all valued components identified in Section 3.1 will be scoped in the environmental assessment. The EIS will present effects that the alternate haul road configuration may have on those valued components and provide mitigation measures to minimize those effects.

4.2 Management of Public and Aboriginal Implications

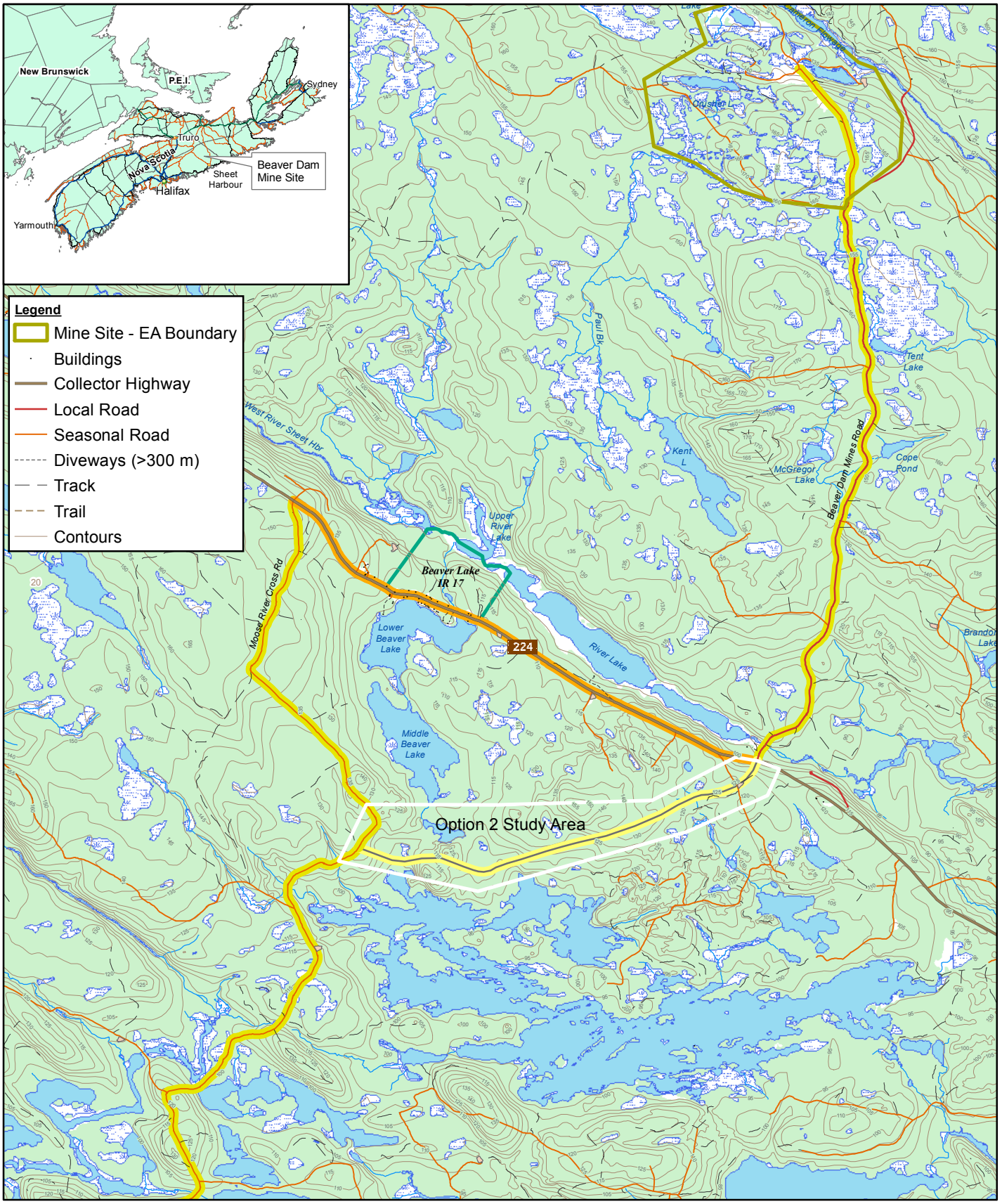
Public information and indigenous engagement sessions were conducted to engage the community and the Mi'kmaq of Nova Scotia in the assessment of valued components. Information pertaining to all valued components identified in Sections 3.1 and 3.2 were available for discussion during these sessions. The EIS will incorporate and document comments from the community and Mi'kmaq engagement completed as part of the assessment process.

4.3 Management of Regulatory Implications

Should the alternate haul road configuration be incorporated into final project design, the majority of regulatory implications will remain the same; however, as the land scoped for the alternate haul road configuration is owned by NSDNR, a provincial Crown Lands Lease approval will be required and a provincial Crown Lands Right-of-Way approval may be required in accordance with Nova Scotia Crown Lands Act.

5. Conclusion

GHD developed this Project Update for Atlantic Gold based on a high-level review of desktop resources and field studies on the alternate haul road configuration. The collection of this baseline information, engagement of community and the Mi'kmaq of Nova Scotia and assessment of environmental effects that will be documented in the EIS is consistent with the requirements in the Guidelines issued by the CEA Agency on January 19, 2016. A review of the haul route options will be provided in the EIS and the recommended option will be presented in the EIS based on the assessment of desktop and field studies on the valued components in consideration of the comments from the community and the Mi'kmaq.



Source: Service Nova Scotia

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Coordinate System:
NAD 1983 CSRS UTM Zone 20N

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HAUL ROAD OPTION 2 LOCATION

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FIGURE 1

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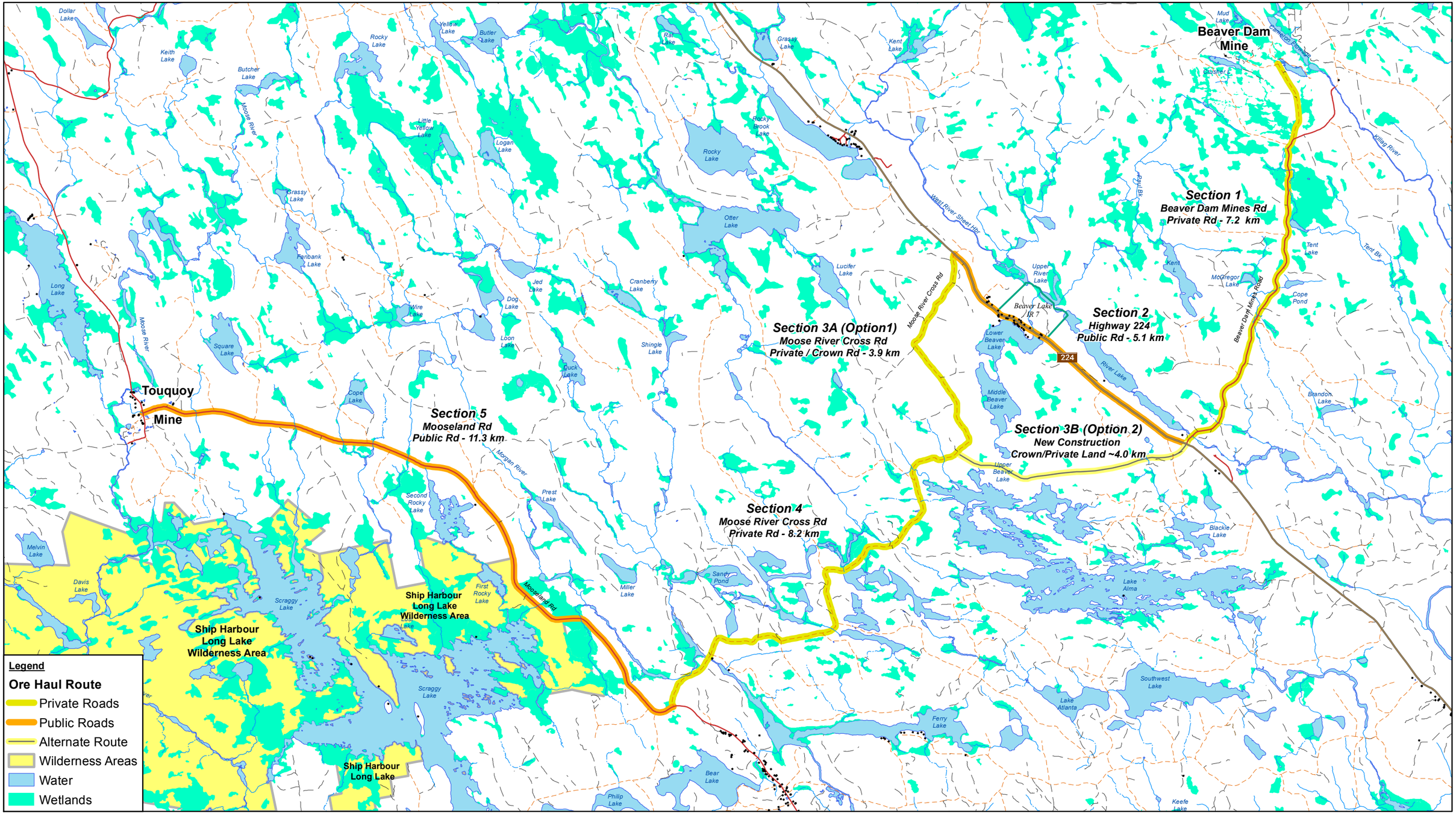

Source: Service Nova Scotia (Water, Wetlands, Roads), NS Environment (Protected Areas), Atlantic Gold (Route)

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NAD 1983 CSRS UTM Zone 20N

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HAUL ROAD CONFIGURATION

FIGURE 2

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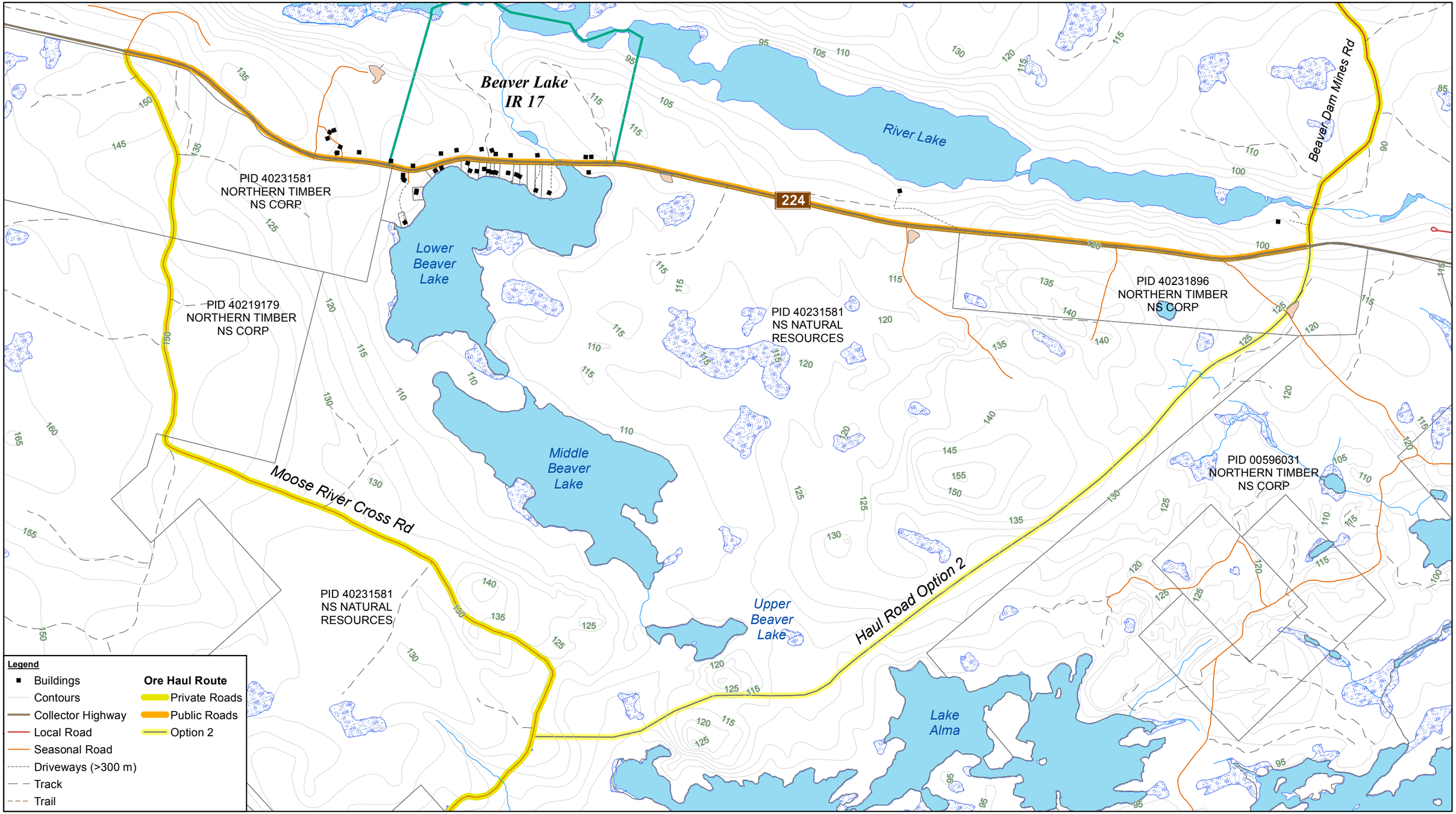

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HAUL ROAD OPTION 2 DETAIL

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FIGURE 3

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