

# **Comment Index**

# Seabrook Quarry Expansion Project, Digby County

Publication Date: July 13, 2023

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## Nova Scotia Mi'kmaq

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1	Kwilmu'kw Maw-Klusuaqn Negotiation Office (KMKNO)	June 22, 2023	



## **Public**

No public comments received.

Date:	May 26, 2023		
То:	Mark McInnis, Environmental Assessment Officer		
From:	Neil Morehouse, Manager, Protected Areas and Ecosystems		
Subject:	Seabrook Quarry Expansion Project, Digby County, Nova Scotia		
Scope of ro This review	eview: focuses on the following mandate: <u>Protected Areas</u>		
Technical Comments:			
This is the	expansion of an existing Quarry is not close to any protected areas.		
Summary of	of Recommendations: (provide in non-technical language)		
We have i	no comments on this project		

#### **Seabrook Quarry Expansion Project**

#### **COMMENTS:**

The federal environmental assessment process is set out in the <u>Impact Assessment Act</u> (IAA). The <u>Physical Activities Regulations</u> (the Regulations) under IAA set out a list of physical activities considered to be "designated projects." For designated projects listed in the Regulations, the Proponent must provide the Agency with an Initial Description of a Designated Project that includes information prescribed by applicable regulations (<u>Information and Management of Time Limits Regulations</u>).

Based on the information submitted to the Province of Nova Scotia on the proposed Seabrook Quarry Expansion Project, it does not appear to be described in the Regulations. Under such circumstances the Proponent would not be required to submit an Initial Description of a Designated Project to the Agency. However, the Proponent is advised to review the Regulations and contact the Agency if, in their view, the Regulations may apply to the proposed project.

The Proponent is advised that under section 9(1) of the IAA, the Minister may, on request or on his or her own initiative, by order, designate a physical activity that is not prescribed by regulations made under paragraph 109(b) if, in his or her opinion, either the carrying out of that physical activity may cause adverse effects within federal jurisdiction or adverse direct or incidental effects, or public concerns related to those effects warrant the designation. Should the Agency receive a request for a project to be designated, the Agency would contact the Proponent with further information.

The proposed project may be subject to sections 82-91 of IAA. Section 82 requires that, for any project occurring on federal lands, the federal authority responsible for administering those lands or for exercising any power to enable the project to proceed must make a determination regarding the significance of environmental effects of the project. The Agency is not involved in this process; it is the responsibility of the federal authority to make and document this determination.

The Proponent is encouraged to contact the Agency at (902) 426-0564 if it has additional information that may be relevant or if it has any questions or concerns related to the above matters.

Lachlan MacLean

Project Manager, Atlantic Regional Office Impact Assessment Agency of Canada / Government of Canada Lachlan.MacLean@iaac-aeic.gc.ca / Tel: 902-476-2732

Gestionnaire de projets, région de l'Atlantique Agence d'évaluation d'impact du Canada / Gouvernement du Canada Lachlan.MacLean@iaac-aeic.gc.ca / Tél. : 902-476-2732



## **Fisheries and Aquaculture**

Date: June 23, 2023

To: Mark McInnis, Environmental Assessment Officer, Nova Scotia Environment

and Climate Change

From: Lesley O'Brien-Latham, Executive Director, Policy and Corporate Services

Nova Scotia Department of Fisheries and Aquaculture

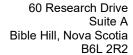
Subject: Seabrook Quarry Expansion Project, Digby County, Nova Scotia -

**Environmental Assessment** 

Thank you for the opportunity to review the Seabrook Quarry Expansion Project ("Project") documents.

Based on the information you provided, the Nova Scotia Department of Fisheries and Aquaculture ("Department") has the following comments:

- The Department's mandate includes the management of inland recreational fish populations such as Brook Trout, which could be impacted by the Project. Additional information would help the Department and the proponent understand any potential impacts on fish populations and fish habitats:
  - Plans to assess and monitor the potential impact to surface water flows in adjacent water courses.
  - Plans for the proponent to mitigate impacts should surface water flows be reduced.
- No impacts to commercial fishing or aquaculture activities are anticipated.
- Within a 25km radius of this project, there are 18 aquaculture sites: 7 (seven) issued marine shellfish licenses, 3 (three) issued marine finfish licenses, 4 (four) issued experimental shellfish licenses, 2 (two) proposed marine finfish licenses, 1 (one) issued rockweed lease, and 1 (one) land based licensed facility.





# **Agriculture**

Date: June 15, 2023

To: Mark McInnis, Environmental Assessment Officer

From: Heather Hughes, Executive Director, Policy and Corporate Services,

Nova Scotia Department of Agriculture

Subject: Seabrook Quarry Expansion Project

Digby County, Nova Scotia

Thank you for the opportunity to review the documents for the above-noted project.

No agricultural impacts are anticipated given that:

- The project is located on class 7 soil which is unsuitable for agriculture.
- The closest land being used for agricultural purposes is 1.8 km from the nearest quarry expansion boundary.
- According to submitted documents, Nova Construction will be increasing their footprint but not increasing their site activities.



## MEMO

**DATE:** June 15, 2023

To: Mark McInnis, Environmental Assessment Officer

**FROM:** Provincial Director of Planning, Planning Services Branch

SUBJECT: SEABROOK QUARRY EXPANSION PROJECT, DIGBY COUNTY

#### Comment:

As requested, the Department of Municipal Affairs and Housing (DMAH) has reviewed the Registration Documents provided by Nova Construction Company Limited for the environmental assessment of the Seabrook Quarry Expansion Project, Digby County. All of the components considered under DMAH's areas of mandate have been adequately addressed.

#### Scope of Review:

This review focuses on the following mandates: the Statements of Provincial Interest and engagement with municipalities.

#### **Technical Comments:**

Land surrounding the Seabrook Quarry is predominantly rural, including forestry, agriculture and commercial usage. Roxville and Seabrook are the closest communities to the Seabrook Quarry located approximately 2km to the west and east.

#### Statements of Provincial Interest:

- Drinking Water: There are no public drinking water supplies affected by the proposed development.
- Agricultural Land: The proposed site is forest covered with no high-value agricultural soils.
- Flood Risk: The area does not include mapped floodplains or areas that are known to be at risk from flooding.
- Infrastructure: The project does not involve municipal/public infrastructure.
- Housing: The project does not impact housing.

#### Summary of Recommendations (Provide in non-technical language):

There are no outstanding information and/or conditions. All components considered under DMAH's areas of mandate have been adequately addressed.



Date: June 19, 2023

To: Mark McInnis, Environmental Assessment Officer

From: Water Resources Management Unit, Sign-off by Krysta Montreuil, Manager, Water

Resources Management Unit, Sustainability and Applied Science Division

Subject: Seabrook Quarry Expansion Project, Digby County

## Scope of review:

This high level review focuses on the following mandate:

Surface water quantity and quality

- Groundwater quantity and quality
- Wetlands

#### **Technical Comments:**

## Surface water quality and quantity

There are gaps in the information provided in the Environmental Assessment Registration Document (EARD) to assess potential impacts to surface water quantity and quality. Specifically:

- Information provided in the EARD is doe not provide a clear understanding of site drainage patterns and associated impacts from the proposed quarry expansion. Limited information is provided on how water from groundwater dewatering will be managed and drained on site. As such, risks of the proposed expansion are not clearly understood, and adequacy of mitigations cannot be assessed.
- The EARD indicates the proposed expansion area spreads over two watersheds, and Figures 5.2-1 and 5.2-2 in the EARD show the existing quarry falls within one watershed, while the proposed expansion area is within a neighboring watershed. Limited information is provided on whether there will be surface runoff diversion between watersheds due to proposed quarry expansion, nor are the direction and/or location of site discharge provided for both existing quarry and proposed quarry expansion. As such, it is difficult to assess the level of detail required for a surface water quality monitoring program, and whether one should be established in surrounding water resources.
- Limited information is provided on whether the unnamed watercourse to the south of existing quarry site receives discharge from existing quarry operations, or whether this same watercourse, WC-2 and/or WC-3 will receive discharge from proposed quarry expansion area, regardless of whether the discharge is through overland flow or channelized flow.
- The EARD states no water will be discharged from the Project Area directly to a watercourse, wetland, or any other body of water at any time, and final discharge of surface runoff to a vegetated area will reduce suspended solids concentrations before the runoff leaves the Project Area or reaches a receiving

water body. This is contradictory with the Pre- and Post-Development Water Balance (Appendix E, EARD) which states the stream flow is not anticipated to change as a result of proposed quarry operation since primary source of supply to stream flow is anticipated to be gravity discharge from on-site sediment ponds, with ponds being supplied flow via runoff or pumped discharge depending on the phase of operations.

- Very limited information was provided on surface water management infrastructure and measures on the quarry site, erosion and sediment control, and surface water quality monitoring for the proposed expansion. The proponent commits to including these plans in support of their Industrial Application.
- The information and assessment provided in the Pre- and Post-Development Water Balance (Appendix E, EARD) is not sufficiently justified.
  - Water balance assessment was completed for WS-2 only, and stated that the pre- and post-development water balance conditions for WS-1 do not change from current conditions. With very limited information on whether there will be surface runoff diversion between WS-1 and WS-2 watersheds due to proposed quarry expansion, it is unclear that whether water balance assessment for only one watershed is sufficient to predict potential impacts to both watersheds due to proposed quarry expansion.
  - Very limited information was provided on validation of the selected water balance model (e.g., field monitoring data). As such, it is difficult to assess the confidence level of the water balance modeling results in predicting hydrological changes/impacts due to proposed quarry expansion.

## Groundwater quantity and quality

## Operating below the water table

The proponent is planning on operating below the water table. Based on limited monitoring well data the water table was reported as being 4m below ground surface (mbgs), with the anticipated quarry reaching 25mbgs. The proponent did not assess the impacts of going below the water table as a part of the EARD submission. Without this assessment being completed the risks to nearby potable water wells, watercourses, and wetlands cannot be quantified. As any changes to groundwater flow and water table elevation can negatively impact those receptors.

While water levels may rebound post closure of the site, the quarry is anticipated to be operating for 40+years, which constitutes a potentially significant impact on groundwater and its receptors. The zone of influence has not been assessed and any direct or indirect impacts of lowering the water table have not been evaluated or mitigated by the proponent. Monitoring alone does not avoid or mitigate impacts on the groundwater resource.

## Existing Monitoring Program

Four monitoring wells were installed in 2021 as a term and condition of their Industrial Approval outside of the current quarry footprint but within the proposed expansion footprint. Also, the depth of the current monitoring wells is shallower than the proposed expansion elevation (9m monitoring wells vs 25m total depth of quarry). The groundwater monitoring program should be updated to ensure impacts are not occurring outside of the predicted zone of influence, which has not yet been determined.

#### Baseline Data/water Quality

While one groundwater monitoring event occurred previously, this is not sufficient to represent baseline conditions. Additional groundwater monitoring should be completed, including determining seasonal water levels.

Sampling results assessing Acid Rock Drainage (ADR) from the quarry was not provided within the EARD. Instead, the EARD relies solely on provincial risk mapping, which states that ADR risk is low. Confirmation sampling is recommended throughout the life cycle of the project.

#### Water Wells/blasting

As there are known water supply wells located within 1 km of the project boundaries that could be affected by the activity, a baseline water survey for water supply well data should be completed prior to expansion. Pre blast survey should include all water wells within 800m of the site.

#### Wetlands

The EARD provided insufficient information on how the proposed quarry expansion project may impact the hydrology and function of adjacent wetlands.

The groundwater zone of influence has not been modeled in the EARD and therefore, an assessment of indirect impacts to wetlands is incomplete. It is unclear to what degree and extent hydrological and functional changes in wetlands may occur as quarry operations expand below the groundwater table.

Wetland field delineation occurred only within the Project Area, and adjacent wetlands that appear to be at a high risk of indirect hydrological alterations (WL1, 2 and 4) were not delineated and characterized and were based on a desktop review using the Nova Scotia Wetland Inventory. There are unknowns on the full extent of these wetlands and whether they are Wetlands of Special Significance.

#### **Summary of Technical Considerations:**

## Surface Water Quantity and Quality

The proponent should establish a surface water quantity monitoring plan with clear identification of site drainage patterns to collect necessary data for the proposed quarry discharge, and/or for any associated water resources receive the discharge (especially for WC-2, WC-3, and/or the unnamed watercourse to the south of existing quarry site, if they receive discharge from proposed quarry site, regardless of whether the discharge is through overland flow or channelized flow) to validate predicted hydrological changes and associated impact assessment. The plan should consider collecting data in the first few years during the proposed expansion to calibrate and validate the water balance model to support more reasonable and accurate prediction and assessment of impacts, and thus to support planning and implementation of mitigation measures over the lifespan (40 years) of the proposed expansion. It is recommended to factor climate change into the ongoing assessment. Water quality monitoring should also be included at appropriate locations (e.g. baseline/background location, site discharge locations and any watercourses such as WC-2 and WC-3, and/or the unnamed watercourse to the south of existing quarry site) and with sufficient frequencies to assess impacts from each phase of the proposed expansion including shutdown. Water quality monitoring should include total suspended solid (TSS) measurements in addition to, but not limited to those included in the EARD.

The proponent should plan sufficient environmental protection measures (e.g., surface water management, erosion and sediment control) to prevent/control sediment discharges into any water resources that may potentially receive site discharge (e.g., WC-2, WC-3, and/or the

unnamed watercourse to the south of existing quarry site). Any sediment pond (settling pond) that is to be constructed during quarry expansion should be designed by a qualified professional engineer or geoscientist licensed to practice in Nova Scotia, with details submitted to the Department for review and acceptance. Where appropriate, the design should include considerations on monitoring compliance during different phases of the proposed expansion (including shutdown).

#### Groundwater

Overall, the proponent did not adequately discuss how the quarry expansion may impact surrounding groundwater aquifer, nor did they provide details on how the impacts to the groundwater will be avoided or mitigated. The monitoring program provided is what was required as part of their current IA and was not updated/validated for the expansion of the project. Drawdown of the aquifer as a result of the quarry operating below the groundwater table has the potential to impact not only groundwater, but also wetland hydrology and adjacent watercourses. Additionally, the proponent did not adequately discuss management of surface water runoff, nor did they provide details on how the impacts to water quality will be avoided or mitigated.

Additional information to address the gaps identified during the Department's review of the EARD should be requested. It is recommended that the proponent evaluates the potential of the expansion to impact the surrounding groundwater resource and its receptors along with identifying appropriate mitigation measures.

#### Wetlands

In absence of an assessment of groundwater drawdown impacts to wetlands, it is difficult to predict the extent of impacts to wetlands. A groundwater zone of influence should be modeled to determine the potential extent of wetland impacts. The wetlands that may be potentially impacted should be field delineated within the growing season, including completion of WESP-AC to determine if any of the wetlands within the zone of influence may be a Wetland of Special Significance.

Wetland monitoring should occur within the lifespan of the quarry project to monitor hydrological, vegetation and functional changes to wetlands within the groundwater Zone of Influence. Before wetland monitoring begins, the proponent should consult with a NSECC Wetland Specialist to develop an appropriate wetland monitoring plan.



**Public Works** 

J.W. Johnston Building 1672 Granville Street 6<sup>th</sup> Floor Halifax, Nova Scotia Canada B3J 2N2

Date: June 20, 2023

To: Mark McInnis, Environmental Assessment Officer

From: Environmental Services, Nova Scotia Public Works

Subject: Seabrook Quarry Expansion Project, Digby County, NS

## Scope of review:

This review focuses on the following mandate: <u>Traffic Engineering and Road Safety Impacts for the Seabrook Quarry Expansion</u>

#### **Technical Comments:**

1. The proponent has indicated that the expansion of the existing quarry will be required to replace existing volumes to maintain quarry output in future years. These annual volumes are not anticipated to change significantly. The quarry has been in existence for a long time, and the existing accesses and transportation route will not be changing as a result of the expansion. The proponent has indicated mitigation measures regarding blasting, as well as prohibition within working within 30 m of a public highway as well, so there are no concerns with regards to this project.

nmary of Technical Considerations: (provide in non-technical language)		
None		



Date: June 20, 2023

To: Environmental Assessment Officer

From: Environmental Health Consultant, Sustainability and Applied science

Subject: Seabrook Quarry Expansion Project, Digby County, Nova Scotia

## Scope of review:

The focus of this Environmental Assessment Review is potential impacts on human health. In general, the scope of this review includes the assessment of the potential for the proposed undertaking/project to adversely affect human health in all phases of the project.

#### **Technical Comments:**

Provided best management practices are adopted for this project, and adherence to NSECC Approval(s) are achieved, no adverse public health impacts are expected to occur as a result of the project.



Date: June 21, 2023

To: Mark McInnis, Environmental Assessment Officer

From: Air Quality Unit (reviewed by Director, Air Quality and Resource Management)

Subject: Seabrook Quarry Expansion Project, Digby County, NS

## Scope of review:

This review focuses on the following mandate: Air Quality

## **Technical Comments:**

The Seabrook Quarry expansion project seeks to increase the footprint of the existing 3.99 hectare quarry to 35 hectares, extending the lifetime of the quarry for a further forty years. The expansion would continue to produce material for local construction, with operations proceeding under similar conditions to the current quarry: summertime production, daylight operation, and blasting once per year.

Under this proposal, the footprint of the quarry will extend to the north-west of the existing site. The EARD reports that the nearest off-site structure is in excess of 800m from the quarry, and that this buffer will be maintained as the quarry expands. A review of the location of the existing quarry shows that the site is located in woodland at some distance from identifiable receptors, and while the expansion would move activities towards receptors to the north-west, the distance to those receptors is in excess of one kilometre.

Air quality impacts may occur due to heavy vehicles travelling on unpaved roads, rock handling and exhaust emissions. The EARD indicates that existing mitigation methods will be used to limit air quality impacts from the site.

## Summary of Technical Considerations: (provide in non-technical language)

If approved, site management should continue to use dust management methods to limit air quality impacts, along with best operating practices e.g., no idling.

Date: June 21, 2023

To: Mark McInnis, Environmental Assessment Officer

From: Air Quality Unit (reviewed by Director, Air Quality and Resource Management)

Subject: Seabrook Quarry Expansion Project, Digby County, NS

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This review focuses on the following mandate: Noise

## **Technical Comments:**

The Seabrook Quarry expansion project seeks to increase the footprint of the existing 3.99 hectare quarry to 35 hectares, extending the lifetime of the quarry for a further forty years. The expansion would continue to produce material for local construction, with operations proceeding under similar conditions to the current quarry: summertime production, daylight operation, and blasting once per year.

Under this proposal, the footprint of the quarry will extend to the north-west of the existing site. The EARD reports that the nearest off-site structure is in excess of 800m from the quarry, and that this buffer will be maintained as the quarry expands. A review of the location of the existing quarry shows that the site is located in woodland at some distance from identifiable receptors, and while the expansion would move activities towards receptors to the north-west, the distance to those receptors is in excess of one kilometre.

Noise impacts may occur due to the excavation and movement of rock, including blasting and processing. The EARD indicates that existing mitigation methods will be used to limit noise impacts from the site.

## Summary of Technical Considerations: (provide in non-technical language)

If approved, the site management should continue to use noise management methods to limit noise impacts, along with best operating practices e.g., limiting the necessity for reversing and blasting.





Date: June 21, 2023

To: Mark McInnis, Environmental Assessment Officer

From: Climate Change Division

Subject: Seabrook Quarry Expansion Project, Digby County, NS

## Scope of review:

This review focuses on the following mandate: Climate change mitigation and adaptation

#### Technical Comments:

## **Adaptation**

Section 5.6.1.1 Climate includes a table with climate normals for Annapolis Royal for the period 1981-2010. The table includes both averages and extremes for temperature data, but only averages for precipitation. Understanding historical extreme daily precipitation amounts may also be helpful for site infrastructure design. Including a summary of extreme climate events would align with the recommendations in the Guide to Considering Climate Change in Environmental Assessments in Nova Scotia.

Section 9.0 Effects of the Environment on the Undertaking provides an overview of climate change trends for the area. While these trends are well characterized, the section does not reference any specific climate change projections. Reviewing localized climate projection data relevant to the lifespan of the Project may be helpful for planning; this information is readily accessible through the national climate data portal ClimateData.ca.

The registration document does not include a specific assessment of the climate change risk category, as per the *Guide to Considering Climate Change in Environmental Assessments in Nova Scotia*.

#### **Mitigation**

Greenhouse gas emissions sources and quantification have not been provided in the EA. The proponent does expect the emissions from the project to be less than 10 kilotonnes per year. The emissions are correctly expected to be negligible but not zero.

## Summary of Technical Considerations: (provide in non-technical language)

## **Adaptation**

Consider reviewing historical precipitation extreme amounts, in addition to the data already included in the climate normals table in section 5.6.1.1.

Recommend reviewing localized climate projection data available through Canada's national climate data portal (ClimateData.ca) to determine potential impacts to quarry operations and support mitigation measures.

Encourage the proponent to complete an assessment of the climate change risk category according to the *Guide to Considering Climate Change in Environmental Assessments in Nova Scotia*.

## **Mitigation**

The assertion that the GHG emissions will be negligible is correct however, it is recommended the proponent lists potential sources of greenhouse gases during its operations and provide some mitigation step that will be undertaken.



1701 Hollis St. PO Box 698 Halifax, NS B3J 2T9

Date: June 23, 2023

To: Mark McInnis, Environmental Assessment Officer

From: Department of Natural Resources and Renewables

Subject: Seabrook Quarry Expansion Project, Digby County, NS

## Scope of review:

This review focuses on the following mandate: Parks, Clean Energy, Mineral Resources Act and Regulations, required authorities and approvals from the Land Services Branch, biodiversity, species at risk status and recovery, wildlife species and habitat management and conservation, including Old Growth Forest.

#### **Technical Comments:**

## **Clean Energy Branch:**

No comments.

#### Parks Branch:

No concerns from a provincial park or designated protected beach program perspective.

#### **Land Services Branch:**

The Project does not include Crown lands and does not join Crown lands, so no authorizations/permits are required from the Land Services Branch.

#### **Geoscience and Mines Branch:**

The Seabrook Quarry site was visited on June 15th, 2023 by a geologist of the Nova Scotia Geological Survey.

The Branch is generally supportive of developing the province's natural resources provided that such development is undertaken in both an environmentally and socially responsible manner.

Note that construction aggregates are not considered a mineral under the Mineral Resources Act, and therefore do not require the issuance of either a Mineral Lease or a Non-Mineral Registration.

The Survey found a well-run and managed operation in a dense, volcanic sediment. The

stone initially resembles a greywacke but on close inspection with a hand lens consists of a very high degree (>75%) of a tight framework of dark greenish pyroxene that lends itself to the remarkable hardness, hence the superior engineering and insoluble chemical stability of this stone.

The pit stone is very stable with high benches owing to vertically jointed faces along the pit walls that display virtually no secondary iron in the fracture faces. There are no locally found occurrences of massive iron mineralization within the stratigraphy on the overall project footprint, thus acid rock drainage (ARD) is not expected to be a concern but should be monitored.

## **Biodiversity Branch:**

The Environmental Assessment Registration Document is missing some critical information and/or surveys that are necessary to complete a full risk assessment prior to creating a Wildlife Management Plan. The species codes for avifauna surveys that were provided do not align with Nova Scotia species, which prevents the interpretation of the results (e.g., data suggests that flamingos were present).

Detailed information on vegetation surveys was not provided and details are lacking around survey methodology and the qualifications of the surveyor(s). The information provided either within the body of the EARD or the Appendices does not provide sufficient information to properly assess the results. Further details on the survey methodology are requested.

Finally, surveys are lacking for some protected species and it is highly recommended that they be completed prior to the preparation of the Wildlife Management Plan using appropriate methodology and timing so as to ensure that risks are fully understood and mitigated.

## Summary of Technical Considerations: (provide in non-technical language)

## **Forestry Branch:**

No comments.

## **Geoscience and Mines Branch:**

The Proponent should:

- 1. Continually monitor the pit as the development progresses north, particularly at the extreme north extremity of the proposed development. There may be changes in the rock type into a more traditional North Mountain Basalt. The development proponent should be aware such a rock type change would change the engineering requirements as well as other characteristics of the pit and the stone and the proponent should monitor such changes as the pit progresses.
- 2. Recommended as part of potential mitigation and or avoidance planning:
  - a. Include within the mitigation plans a reference to mitigation of potential ARD runoff if iron is encountered in the pit, particularly at the pyroxene volcanic sediment-basaltic contact, if it is encountered.
- 3. Allow periodic controlled access to any mineral right holders that may continue to explore the area for economic mineralization such as zeolites.

## **Biodiversity Branch:**

The department offers the following recommendations:

It is the responsibility of the proponent to ensure compliance with federal and provincial legislation and regulations regarding resident, migratory and at-risk species and their habitats (e.g., Species at Risk Act, Migratory Birds Convention Act, Fisheries Act, NS Endangered Species Act, NS Wildlife Act, and their regulations).

Obtain all necessary permits as required under legislation related to wildlife and species at risk in order to undertake the project.

Should work commence prior to the development of a Wildlife Management Plan, the proponent should contact NRR (biodiversity@novascotia.ca) to discuss permits, particularly if the project has potential impacts on threatened or endangered species. The absence of effective mitigations may lead to breaches in prohibitions as per s.13(1) of the *Endangered Species Act*.

Provide digital way points and/or shapefiles for all Species at Risk, Species of Conservation Concern to NRR (those species listed and/or assessed as at risk under the *Species at Risk Act, Endangered Species Act*, COSEWIC, as well as all S1, S2 and S3 species) and all flora and fauna surveys. Data should adhere to the format prescribed in the NRR Template for Species Submissions for EAs and is to be provided within two (2) months of collection.

Prior to the development of a Wildlife Management Plan (WMP), field surveys should occur to address information gaps that prevent a full risk assessment to SAR or SOCC, which is necessary before appropriate mitigation measures can be developed. Methodology and timing must follow standard science-based protocols and must be of

sufficient scale and detail to inform the development of mitigation measures. These include:

- Provide all field survey methodology, survey conditions, and survey tracks to NRR (e.g., vegetation survey tracks, avifauna survey species key, etc.); Surveys should be completed by a qualified surveyor;
- Conduct Nightjar surveys due to potential risk to Common Nighthawk;
- Complete bat surveys prior to disturbance of wetlands and/or snags;
- At-risk lichen surveys as per the At-Risk Lichen Special Management Practice should occur prior to any clearing, grubbing, brush removal, and/or ground disturbance;
- Conduct herpetofauna surveys prior to and throughout expansion process;
- Old Growth presence/absence as defined in the Old Growth Forest Policy, including on private land.

Develop a Wildlife Management Plan (WMP) based on standard, science-based practices, which shall include:

- Communication protocol with regulatory agencies;
- Education sessions and materials for project personnel on Species at Risk, non-Species at Risk-wildlife, and other important biodiversity features they may encounter on-site and how to appropriately respond to those encounters. As part of daily operations staff should be trained to survey the site, identify issues, and consult as appropriate for solutions when wildlife is found to be utilizing artificial or existing habitat conditions during the operation of the site.
- It is recommended that the proponent ensures standard practices are established during development, construction, and operation of the site to prevent wildlife interactions that may result in entanglement, entrapment, or injury.
- General wildlife concerns (e.g., human-wildlife conflict avoidance);
- o Noise, dust, lighting, blasting, and herbicide use mitigation plans;
- Emergency response plans for accidental spills, pollution, chemical exposure, and fire;
- A blasting plan with a completed pre-blast survey, a blast monitoring plan, and a blast damage response
- Measures to protect and mitigate against adverse effects to migratory birds during construction and operation. This may include avoidance of certain activities (such as vegetation clearing) during the regional nesting period for most birds, buffer zones around discovered nests, limiting activities during the breeding season around active nests, and other best management practices.
- Mitigation measures to avoid and/or protect SAR/SoCC and associated habitats discovered through survey work or have the potential to be found on site, which include, but is not limited to Bank Swallow. Mitigation measures for bank swallows to ensure any stockpiles or banks have a slope of less than 70 degrees to deter bank swallow nesting in high disturbance areas;
- Details on monitoring and inspections to assess compliance with the WMP.

 NOTE: Review of the Wildlife Management Plan by NRR may reduce the risk of impacts to biodiversity.

Revegetate cleared areas using native vegetation or seed sources.

Develop and implement a plan to prevent the spread of invasive species both on and off site. The plan should include monitoring, reporting, and adaptive management components.

Provide a decommissioning and site reclamation plan and reclaim site at the end of project.

Describe the impacts of the project on landscape-level connectivity for wildlife and habitat (e.g., habitat fragmentation, loss of intact forested habitat, increased road density). An assessment of the cumulative effects of the project on landscape-level connectivity and habitat loss, and the measures proposed to mitigate those effects, is recommended.



Communities, Culture, Tourism and Heritage

1741 Brunswick Street 3rd Floor P.O. Box 456 Halifax, NS B3J 2R5

Date: June 22, 2023

To: Mark McInnis, Nova Scotia Environment & Climate Change

From: Coordinator Special Places, Culture and Heritage Development

Subject: Seabrook Quarry Expansion Project Digby County - EA Registration

Staff of the Department of Communities, Culture, Tourism, and Heritage has reviewed the Seabrook Quarry Expansion Project Digby County - EA Registration documents and have provided the following comments:

#### Archaeology

Staff reviewed the sections of the EA document pertaining to archaeology. Archaeological investigation for the Seabrook Quarry Expansion was conducted by Stantec Consulting under Heritage Research Permit A2022NS077. Two areas ascribed high potential for encountering archaeological resources were identified. According to the EA documents, these areas will be avoided or excavated if avoidance is not feasible:

- Avoidance of areas of elevated archaeological potential identified during the ARIA will be implemented.
- Where avoidance of areas of elevated archaeological potential is not practicable, archaeological shovel testing, as per the ARIA Guidelines, will be implemented prior to any clearing or other site preparation activities at these locations to determine if archaeological resources are present at these locations.
- Develop and implement a Heritage Resources Accidental Discovery Plan in the unanticipated event that heritage resources are discovered during project development.
- Consultation Work with NSCCTH's Special Places Coordinator and/or the paleontological staff at the Nova Scotia Museum to develop appropriate mitigation should any significant heritage resources be discovered during Project activities.

Given the two high potential areas will be avoided or tested, I have no concerns at this time.

#### **Botany**

Staff have reviewed the sections of the EA document pertaining to botany. Regarding the anticipated loss of several rare Swan's sedge (*Carex swanii*) plants from the site during development, collection of specimens and donation to a public or teaching herbarium would be an appropriate compensation measure.

The report did not consider any climate mitigation measures. Rather, they pointed out that their project is not *required* to report greenhouse gas emissions because they are likely to emit less than 10,000 tonnes per year (section 5.6.1.3). However, considering the long expected lifespan of the project, and the loss of 31 ha of forested land (along with its expected carbon storage and sequestration potential), the project will certainly have an impact on greenhouse gases. Note that, in the <a href="Nova Scotia guide to considering climate change in impact assessments">Nos ECC states that "all projects should assess their carbon footprint; review possible options to reduce greenhouse gas emissions; and assess any impacts the project may have on carbon sinks."</a>

#### **Palaeontology**

Staff have reviewed the sections of the EA document pertaining to palaeontology. The Seabrook Quarry Expansion Project document accurately describes the bedrock geology as North Mountain Basalt and Blomidon Formation. If there are excavations of Blomidon Formation bedrock it is possible that Triassic aged fossils might be encountered in the sandstone. If any significant fossils are seen during excavation, the museum can be contacted for additional information or advice.

#### Zoology

Staff have reviewed the sections of the EA document pertaining to zoology. The document highlights a several cases where there are SOCC/SAR species (almost exclusively avian species) that have been identified both within the study are, and outside the study area and in the vicinity of the project. It appears to be a reasonable assessment of the zoological setting for the site and immediate-adjacent area.

Pêches et Océans Canada Bedford Institute of Oceanography 1 Challenger Drive P.O. Box 1006, Station P500 Dartmouth, Nova Scotia B2Y 4A2

Date: June 22, 2023

To: Mark McInnis, Environmental Assessment Officer, EA Branch

From: Stacey Nurse, Hydro and Flows, Senior Regulatory Review Biologist, Fish and Fish

Habitat Protection Program

Subject: Seabrook Quarry Expansion Project, Digby County, Nova Scotia

## Scope of review:

Fisheries and Oceans Canada (DFO) is responsible for administrating the fish and fish habitat protection provisions of the *Fisheries Act* (FA), the *Species at Risk Act* (SARA), and the *Aquatic Invasive Species Regulations*.

DFO's review focused on the works outlined in the Seabrook Quarry Expansion Project Environmental Assessment Registration Document to potentially result in:

- the death of fish by means other than fishing and the harmful alteration, disruption
  or destruction of fish habitat, which are prohibited under subsections 34.4(1) and
  35(1) of the Fisheries Act;
- effects to listed aquatic species at risk, any part of their critical habitat or the residences of their individuals in a manner which is prohibited under sections 32, 33 and subsection 58(1) of the Species at Risk Act; and
- The introduction of aquatic species into regions or bodies of water frequented by fish where they are not indigenous, which is prohibited under section 10 of the Aquatic Invasive Species Regulations.

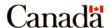
#### **Technical Comments:**

Watercourse and Wetland Identification and Characterization:

• The qualitative assessment methods used to characterize the watercourses (WC-2 & WC-3) are appropriate and help describe fish habitat in close proximity to the proposed project area; however, there was no assessment of fish and fish habitat related to the wetland (WL-2) in close proximity to the proposed expanded quarry operations. DFO will assume the contiguous wetland is fish habitat unless further information is provided that demonstrates that this wetland does not provide direct or indirect fish habitat.

#### Surface Water Quantity and Quality:

 There are a number of interconnected surface watercourses and a wetland in close proximity (44 to 86 m) to the proposed project area that may be indirectly



affected by the operations of the expanded quarry. The hydrogeologic assessment and water balance undertaken for identifying the potential project effects to surface water quantity are helpful; however, any predictions are subject to a high degree of uncertainty without baseline monitoring and operations monitoring to identify any indirect impacts to the surface water quantity and quality of the watercourses and wetland. The proponent has not taken into account how the proposed changes in groundwater flow may modify the thermal regime of the watercourses. Indirect effects, such as reduction in baseflow from groundwater, increased flow from surface runoff and changes in water temperature, could result in residual harm to fish or fish habitat.

- The water management plan addresses the quality of the water exiting the site; however, it does not address the overall possible reduction in baseflow for the project and the potential increase in surface runoff indirectly from any release site. These indirect impacts may also affect WL-2 that is contiguous with WC-2. Brook Trout were identified in both watercourses (WC-2 & WC-3) and are sensitive to changes in the natural flow regime and water temperature. These indirect impacts could result in residual harm to fish or fish habitat.
- The quarry expansion will occur below the water table and there are predicted baseflow reductions. This may result in a reduction in ecological flows below DFO guidelines (<a href="https://waves-vagues.dfo-mpo.gc.ca/Library/348881.pdf">https://waves-vagues.dfo-mpo.gc.ca/Library/348881.pdf</a>), which could result in residual harm to fish or fish habitat.

## **Blasting Mitigation**

 The proponent should implement DFO's Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters to mitigate impacts to fish and fish habitat in watercourses and wetlands in close proximity to the proposed expansion. If they are unable to follow these guidelines, then a *Fisheries Act* Authorization may be required.

## Summary of Recommendations: (provide in non-technical language)

DFO recommends the proponent:

- Further assess reduced baseflow predictions by implementing baseline monitoring to assess if there are likely to be any indirect impacts to the watercourses and wetland in close proximity to the proposed quarry expansion.
- Submit further information on potential direct and indirect impacts to fish and fish habitat associated with the proposed works; and
- Refer to DFO's website, <a href="https://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html">https://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html</a>, for further information on DFO's regulatory review process and for further measures to protect fish and fish habitat.

# Canadä

This information can be provided through the NSECC watercourse and/or wetland alteration approval process(es) and/or through submission of a DFO Request for Review application directly to DFO. DFO will then conduct a regulatory review of the proposed project under the *Fisheries Act*, *Species at Risk Act*, and Aquatic Invasive Species Regulations to determine if an authorization under the *Fisheries Act* and/or a *Species at Risk* permit is required.

Date: June 23, 2023

To: Mark McInnis, Environmental Assessment Officer

From: Nova Scotia Office of L'nu Affairs – Consultation Division Reviewed by Beata

Dera, Director of Consultation

Subject: Seabrook Quarry Expansion Project, Nova Scotia

#### Scope of review:

The following review considers whether the information provided will assist the Province in assessing the potential of the proposed Project to adversely impact established and/or asserted Mi'kmaw Aboriginal and Treaty rights.

#### **Technical Comments:**

Section 3.0 combines public engagement and Mi'kmaq engagement. OLA suggests Mi'kmaq engagement information be moved to section 6 and that section 6 be renamed to "Mi'kmaq of Nova Scotia". Information regarding Mi'kmaq engagement should receive its own sub-heading called "Mi'kmaq Engagement".

Section 6.2 Current Land and Resources Use contains information about the Mi'kmaq Ecological Knowledge Study (MEKS). OLA suggests that the MEKS have its own sub-heading within section 6. The sub-heading should be titled "Mi'kmaq Ecological Knowledge Study (MEKS)."

## **Summary of Recommendations:**

Crown consultation with the Mi'kmaq of Nova Scotia is ongoing for this project. The Mi'kmaq of Nova Scotia may provide additional information that informs the regulator in assessing the proposed project's potential impacts to established and/or asserted Mi'kmaw Aboriginal and Treaty rights and appropriate accommodation and mitigation measures. At this time, OLA is able to provide the following comments and recommendations:

6.2 Current Land and Resource Use

28 The EARD indicates that interviews were undertaken with Acadia First Nation and L'sitkuk community members for the Mi'kmaq Ecological Knowledge Study (MEKS) completed by Membertou Geomatics Solutions to document traditional use activities within the Project Area. On page 6-3, the EARD states that "As reported in the MEKS, no Mi'kmaw traditional use has been identified in the Project Area". This is inaccurate and the EARD should be revised to state that "As reported in the MEKS, no Mi'kmaw traditional usage has been identified in the Project Site".

The EARD incorrectly summarizes the MEKS, which is currently in draft form and under review by KMKNO and therefore not appended to the EARD for public viewing. The EARD incorrectly states that according to the MEKS, lobster, clam, and trout fishing, deer, rabbit, partridge, pheasant, and duck hunting, and sweetgrass gathering have occurred in the MEKS study area and that all of these activities "took place primarily in the Recent Past and Historic Past timeline categories".

The draft MEKS states that the above-noted hunting, fishing, and gathering activities occur in the current use category as well as the recent past and historical past categories. The draft MEKS states that "When analyzing timelines for fishing activities, current use activities were reported the most out of all the fishing use with approximately twenty-seven percent (~27%) of the quantifiable data collected as being utilized within the last 10 years (Current Use)."

The EARD only includes information on sweetgrass gathering but the draft MEKS states that 12 plants, including sweetgrass, are gathered within the MEKS study area in the current use category as well as the recent past and historical past categories.

OLA encourages the regulator to carefully consider the information contained in the draft MEKS. OLA advises the proponent to share the final approved MEKS with the Mi'kmaq of Nova Scotia, the Nova Scotia Department of Environment and Climate Change as well as OLA.

#### 5.2.1.5 Fish Species and Aquatic Species at Risk

According to the EARD, Brook Trout were confirmed present in two watercourses during electrofishing surveys. These watercourses are adjacent to the Project Area boundaries within the Local Assessment Area (LLA). According to the EARD, no watercourses or waterbodies are located within the Project Area, however surface runoff from the Project has the potential to pose adverse downstream effects to these adjacent watercourses. As determined by the EARD, 4 species at risk could potentially occur in the LLA area including American Eel and Atlantic Salmon. OLA is aware that Atlantic salmon, American eel, and Brook trout are species of interest to the Mi'kmaq of Nova Scotia. Potential impacts to fish and their habitat may potentially adversely impact Aboriginal and/or Treaty rights. OLA recommends that engagement with the Mi'kmaq on mitigation measures for potential impacts on possible fishing activities within the project area and adjacent to the project area, through a Mi'kmaq Communications Plan, be required if the EA is approved. OLA further recommends that the proponent engage the Mi'kmaq of Nova Scotia by sharing draft mitigation and monitoring plans for input from the Mi'kmaq.

## 5.4 Vegetation

According to the EARD, Black Ash are known to occur within 5 km of the Project Area. OLA is aware that Black Ash is a species of interest to the Mi'kmaq of Nova Scotia due its historical and cotemporary use for basket making and other items. Potential impacts to Black Ash and its habitat may potentially adversely impact Aboriginal and/or Treaty rights. OLA recommends that engagement with the Mi'kmaq on mitigation measures for potential impacts on possible traditional and current use activities within the project area and adjacent to the project area, through a Mi'kmaq Communications Plan, be required if the EA is approved.

## 5.8 Heritage Resources

Page 5-67 of the EARD states that "Consultation and engagement activities have been ongoing as part of the heritage resources component of the Project. During the background research for heritage resources, regulatory agencies and Mi'kmaq communities were contacted to gather information on potential heritage resources in the Project Area". OLA suggests removing the word "consultation" from this section.





Date: June 23, 2023

To: Mark McInnis, Environmental Assessment Officer

From: Paul Jones, District Manager, Yarmouth

Subject: Seabrook Quarry Expansion Project, Digby County

#### Scope of review:

This review focuses on the following mandate: <u>Environment ACT : Industrial Approval, Mobile Asphalt plant, Water Watercourse Alteration and Wetland Alteration</u>

#### **Technical Comments:**

## Activities in the Quarry:

EA did not identify complementary activities that would occur at the site, such as asphalt production. Depending on the location of the asphalt plant it would be conceivable that you could find two operating asphalt plants adjacent to each other impacting air quality.

#### **Ground Water:**

The depth GW at MW 1 indicates there is GW near the surface. It appears this well is in the general direction of progression of the quarry activities. Seemingly, the operation of the quarry will reduce the GW table in the quarry area. Should GW be encountered additional study and approvals will be required. GW elevation monitoring for the site should be conducted regularly and particularly when blasting. Elevation changes in any well should be reported to NSECC.

# Summary of Technical Considerations: (provide in non-technical language)

•	Complementary activities such as Asphalt Plants are required to have an active
	approval with NSECC.



75 Treaty Trail Truro, NS B6L 1W3

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June 22<sup>nd</sup>, 2023

Mark McInnis
Environmental Assessment Officer
Environmental Assessment Branch
Nova Scotia Environment and Climate Change
Email: mark.mcinnis@novascotia.ca

# RE: Consultation with the Mi'kmaq of Nova Scotia on the Seabrook Quarry Expansion Project, Digby County

Mr. Higgins,

I write in response to your letter dated May 24, 2023, requesting consultation under the *Terms of Reference for a Mi'kmaq-Nova Scotia-Canada Consultation Process* (ToR) as ratified on August 31, 2010, on the above noted project. We wish to proceed with consultation.

After review of the EA registration document, there are some concerns and questions relating to the project:

## **Environmental Assessment (EA) Registration Document**

#### 5.2 Fish Habitat

Due to the proximity of fish bearing watercourses to the project, the Mi'kmaq of Nova Scotia expect to be involved in the development of the Water Management Plan through review and comment.

Though the watercourses are not directly within the project area, there is potential for adverse effects due to the proximity of the project area. We expect to have additional water quality monitoring locations in Smalls lake, WC2 and WC3 and particulate monitoring stations situated near the watercourses. Additionally, it is recommended that a fish health study be implemented for the life of the project.

## 5.3 Wetlands

There are several wetlands located in close proximity to the project area, it is recommended that a Wetland Monitoring and Compensation Plan be developed for all wetlands within the LAA with input from the Mi'kmaq of Nova Scotia. Is there connectivity to the Wetland of Special Significance (WSS) with Post Brook? If so, the WSS should be included in the Plan.

#### 5.6 Atmospheric and Acoustic Environment

#### Air Quality

Please provide thresholds at which water application will be used to reduce dust. What monitoring is planned for dust particulate? What are the proposed monitoring locations off site?

Where are the current monitoring locations located? Have there been any exceedances of Air Quality from limits as outlined in the current Industrial Approval?

#### Noise

Will additional noise monitoring locations be established with the expansion? If so, where are the proposed locations? Where are the current monitoring locations located? Have there been any exceedances of Noise (concussion, ground vibration, etc.) from limits outlined in the current Industrial Approval?

Please provide the following documents for our review upon their completion:

- Surface Water Monitoring Plan
- Groundwater Monitoring Plan
- Wetland Compensation and Monitoring Plan
- Blast Monitoring Plan
- Wildlife and Vegetation Monitoring Plan
- Site Development Plan
- Contingency Plan
- Site Reclamation Plan

## **Archaeology**

Kwilmu'kw Maw-Klusuaqn Negotiation Office's (KMKNO) Archaeological Research Division (ARD) has reviewed the Archaeological Resource Impact Assessment (ARIA), A2022NS077, conducted by Stantec for the SEABROOK QUARRY EXPANSION PROJECT located in Digby County. The ARIA included a background study and a pedestrian survey. There was no subsurface testing. Two areas of high archaeological potential were "identified along the northern edge of the PDA (MPR-ARCH-007 & MPR-ARCH-008)" in association with Post Brook, which drains from Smalls Lake and empties into St. Mary's Bay during the field walkover (Stantec ARIA 2022, 8). The ARD can support, at this time, the recommendation that these areas of high archaeological potential "be avoided during in any future activities and development onsite unless future mitigation measures are taken (i.e., shovel testing at 5 metre intervals within the defined boundaries)" (Stantec ARIA 2022, 8).

Although the ARIA acknowledges that the PDA may have been "accessed at some points during the entirety of the Pre-Contact, Proto-Historic, and Historic periods [by Mi'kmaq] for hunting, fishing and gathering" it has been generally categorized as exhibiting "low potential for archaeological resources spanning the Pre-Contact Period through to the late Historic Period due to the absence of direct historical information of human use of this location" (Stantec ARIA 2022, 8). Whenever a landscape has been used for hunting (Stantec ARIA 2022, 8; Appendix B, 3-4), altered through historic industrial activity (i.e. logging), and there are waterways nearby, there is an elevated chance that cultural heritage may also be present. Any time there is a watercourse, named or unnamed, regardless of size or velocity, and whether there is terracing or not, there is a heightened probability of encountering Mi'kmaw archaeological heritage. Often, smaller streams or rivers were, and sometimes continue to be, used by Mi'kmaq on journeys by foot because they not only provide a safe and clear route of travel, but provide fresh water, plants to harvest, and a variety of aquatic resources or animals drawn to the water. We consider any

construction project that may exist in proximity to a water course or wetland to have elevated potential for encountering Mi'kmaw belongings, regardless of size or record of traditional use, such as animal or plant harvesting. The implications of the landscape outweigh the lack of historical information. The lack of archaeological evidence may reflect a lack of study.

The Maw-lukutijik Saqmaq (Assembly of Nova Scotia Mi'kmaw Chiefs) expects a high level of archaeological diligence with evidence-based decisions grounded in an understanding of the subsurface environmental data. The Assembly of Nova Scotia Mi'kmaw Chiefs expects subsurface data, adequate to eliminate concern for presence, protection, and management of Mi'kmaw archaeological and cultural heritage as part of assessment of potential in advance of any development. Disturbance is defined, for archaeological purposes, as the dislocation of soils and/or sediments, such as that by heavily treaded or tracked vehicles, as well as purposeful excavation by heavy equipment.

We consistently recommend in areas that will undergo impact, that subsurface testing be undertaken to confirm the presence of archaeological heritage. One cannot conclusively eliminate potential for Mi'kmaw archaeological heritage without subsurface testing, regardless of current landscape conditions. We wish to clarify that negative tests and negative evidence are considered relevant and important data, regardless of suspected disturbances or classifications of low potential to exhibit archaeological resources.

We would recommend that all areas impacted be subjected to shovel testing prior to any development (both high and low potential areas) to eliminate concern for presence, protection, and management of Mi'kmaw archaeological and cultural heritage as part of assessment. We strongly recommend subsurface data, adequate to eliminate concern for presence, protection, and management of Mi'kmaw archaeological and cultural heritage as part of assessment of potential in advance of any development. This is especially important in landscapes that will undergo significant permanent mechanical alteration. Without subsurface testing, the *evidence* of a lack of concern in impact areas does not exist. We wish to clarify that negative tests and negative evidence are considered relevant and important data.

The Mi'kmaw Nation in Nova Scotia has a general interest in all lands and resources in Nova Scotia as the Mi'kmaq have never surrendered, ceded, or sold the Aboriginal Title to any of its lands in Nova Scotia. The Mi'kmaq have a Title claim to all of Nova Scotia and as co-owners of the land and its resources it is expected that any potential impacts to Rights and Title shall be addressed.

Yours in Recognition of Mi'kmaw Rights and Title,

Director of Consultation Kwilmu'kw Maw-Klusuagn Negotiation Office c.c.:

Senior Archaeologist, Kwilmu'kw Maw-Klusuaqn Negotiation Office Gill Fielding, Nova Scotia Office of L'nu Affairs Krista Ogletree, Nova Scotia Environment and Climate Change

